

**“A STUDY OF THE EDUCATIONAL ASPIRATION,
SELF-CONCEPT AND INTEREST IN RELATION TO
ACADEMIC ACHIEVEMENT OF GIRLS IN THE
SECONDARY SCHOOLS OF EAST KHASI HILLS
DISTRICT IN MEGHALAYA”**

BY

ELIZABETH



THESIS SUBMITTED

**IN FULFILMENT OF THE REQUIREMENT OF THE DEGREE
OF DOCTOR OF PHILOSOPHY IN EDUCATION**

DEPARTMENT OF EDUCATION

NORTH -EASTERN HILL UNIVERSITY

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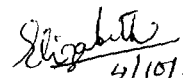
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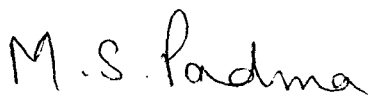
In loving memory
of
My father Upa (Late) L. Vumgin

**The North – Eastern Hill University
October 2000**


I Elizabeth hereby declare that the subject matter of thesis is the record of work done by me, that the contents of this thesis did not form basis of the award of any previous degree to me or to the best of my knowledge to anybody else, and that the thesis has not been submitted by me for any research degree in any other University/Institute.

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4/10/2000
(ELIZABETH)

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CHAPTER – I

INTRODUCTION

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INTRODUCTION

1.1.0. Importance of Education

The immense potential of education in the development of an individual and in the promotion of a society has been widely accepted. An educated person is expected to be more rational in his thinking and be able to fulfill the political, economic, and cultural functions in a better way. This would help in improving his quality of life. Education has been recognized as a major instrument which societies can use to direct the process of change and development towards desired goals. Education plays a vital role in the programme of nation building. Investment in education has been emphasized a great deal in bringing about meaningful development in any country, more so in developing countries which are trying hard to accelerate the pace of their progress. It is an input for the human resource development where manpower and money have been harnessed to hasten the process of development. In other words, education is the backbone of a nation because it plays a vital role in the development of human potentials and thus, the development of the country as a whole. In a developing country like India, there is an undeniable problem of scholastic underachievement and failure. This is leading to a cause of great concern to educationists, teachers, counsellors, and policy planners, in fact to all who are interested in the promotion of education. According to Foster and Rosenzweig, education contributes to economic and social development through increased national income and individual earnings. Further, apart from the direct

monetary returns, schooling also produces externalities, which benefit society at large. (Tyagi, 1991)

In the recent past the concern of education has shifted from economic development to human development by emphasizing the development of people's capabilities in terms of improved health, knowledge, and skills, besides its contribution towards the growth of income. Schooling has a close link with the development of these capabilities. It enlarges people's choice in terms of the use people make of their acquired capabilities – for leisure, productive purposes or for being active in cultural, social and political affairs. There can be no doubt that the quality and extent of development in these areas are linked with quality and the direction of education at all levels – primary, secondary and higher.

Considering the significant role of education and its importance as a fundamental prerequisite for participation in various developmental activities of the society, it is essential to provide equal educational opportunity for both boys and girls. The Universal Declaration of Human Rights (1948) regards Education as one of the basic rights of every human being. As stated by Kalbach (1991) in "Women and Development", the Constitution of UNESCO (United Nations Educational Scientific Cultural Organization) also directs its efforts to achieve "the ideal of equality of educational opportunity without regard to race or sex or any distinction, economic or social". Coming to our country, Article 45 of the Constitution of India makes a provision to provide free and compulsory education for children upto the age of 14 years. It may be expected that this would bring in equal opportunity for all children to get education.

1.2.0. Importance of Women Education

Education has also been considered as the most important factor for determining the status of women in the society. It is found to be both a cause and consequence of the improved status of women. The importance of education of women gets highlighted when one looks into the role to be played by women in nation building. This role goes much beyond the responsibilities assigned to them in tasks related to household maintenance, childcare, etc. But still there are several constraints which the society imposes on a woman, the consequence of it being shown in the field of women education. Some of these social constraints are educational inequalities, restricted job opportunities, unemployment and underemployment, dual responsibilities of home-making and occupational duties (for employed women), cultural prejudices prevailing against women in almost all sections of our society, and so on. These indicate the magnitude of the task if women are to be brought in the main stream of national life in all the spheres and to provide equal opportunities for women.

It is realised that women's education is a single cure for many societal ills and also is a main way to bring about social empowerment of women. If one takes the literacy figures as any indication of how various factors, be they personal, governmental, or societal, have helped the females in getting education, it is noted that over the years the progress is painfully slow.

These figures are shown in table below:

Table – 1: Trends in Indian Literacy Figures of Females

Year	% of literate male to total male population	% of literate female to total female population.
1901	9.83	0.69
1921	12.21	1.81
1931	15.59	2.93
1951	27.16	8.86
1961	40.40	15.34
1971	45.95	21.97
1981	56.37	24.89
1991	64.13	39.29

(Source: Census of India, 1991).

The above figures, though not any creditable for males, reveal that women are lagging behind men quite markedly. This highlights the efforts required to bring the vast majority of women in India under the fold of education. It is rightly said that women and men share many aspects of living together, collaborate with each other in complex and ubiquitous ways and yet end up – often enough – with very different rewards and deprivations.

The significance of the education of women can not be overemphasized. Various Commissions and Committees have studied this aspect and have made recommendation for the educational development of girls. The Education Commission (1964-66) in its recommendation towards equalization of educational opportunity emphasized the need of bridging the wide disparity between the education of boys and girls at all stages and in all sectors of education. Stressing

further the need of women education, the Commission Report also comes out with the remark that the role of women outside the home has become an important feature of the social and economic life of the country, and in the years to come, this will assume large proportions affecting the majority of women. It will, therefore, be necessary to pay attention to the problems of training and employment of women. The National Policy on Education (1986) while dealing with education for equality, states that "The New Policy will lay special emphasis on the removal of disparities and to equalise educational opportunity by attending to the specific needs of those who have been denied equality so far". The policy has identified women as one among the different sections of the society who have been denied equal opportunity for education.

Education 'in favour' of women has been recognized as an urgent need because they are amongst the groups that are 'unreached', a term used in the Jomtein (Thailand) conference on 'Education For All' (EFA) in 1990. Women's equality and empowerment have been incorporated as goals to be worked for through education, in the National Policy on Education (NPE) 1986 updated in 1992. It shifts emphasis from equalization of educational opportunity to education for women's equality.

Despite the Commissions, Committees and other attempts through the policy, education still remains a very weak area for women. The rate of literacy is still very low and seems to be moving very slowly. The socio-cultural prejudices and practices do not seem to break or change perceptibly. Hence, society can not change for better unless girls are educated, and girls can not get educated unless the society changes its feeling towards girls. Ice has to be broken with a firm hand. It needs drastic measures and not slow actions. Chords and emotions have to be pulled to

make a vibrant disturbance in the society necessitating consequential changes. This means to strengthen our efforts in the area of attitudes, that is, to develop positive attitudes towards girls and their education (Padma, 1998)

The present study is undertaken in Meghalaya, one of the seven states comprising the North- Eastern Region of India. The position with regard to the status of education in general and that of girls in particular is not any much different from the rest of the country. To facilitate a better comprehension of the report of the research undertaken, a brief picture of the study area is described further.

1.3.0. Study Area

The state of Meghalaya is situated in the North Eastern Region of India. It attained its full-fledged statehood on 21st January 1972. It is bounded on the north by Goalpara, Kamrup, Nagaon and Karbi Anglong districts of Assam State and on the east by the districts of Cachar and North Cachar Hills, also of the state of Assam. On the south and west lies Bangladesh. Meghalaya lies between 20°1`N and 26°5`N latitude and 85°49`E and 92°52`E longitude

At present, there are seven (7) administrative districts. They are (1) The East Khasi Hills District, (2) The West Khasi Hills District (3) Ri-Bhoi District (4) Jaintia Hills District (5) East Garo Hills District (6) West Garo Hills District, and (7) The South Garo Hills District. The state is predominantly inhabited by the tribes – the Khasis, the Jaintias and the Garos. The district-wise population break-up is given in Table-2.

Table – 2: District-wise Population break-up (Meghalaya)

Sl. No.	District	Headquarters	Area (sq.km)	Population	Percentage
1	East Khasi Hills District	Shillong	2748	537906	30.31
2	Ri-Bhoi District	Nongpoh	2448	127312	7.17
3	West Khasi Hills District	Nongstoin	5247	220157	12.40
4	East Garo Hills District	Williamnagar	2603	188830	10.64
5	West Garo Hills District	Tura	3714	403027	22.71
6	South Garo Hills District	Baghmara	1850	77073	4.34
7	Jaintia Hills District	Jowai	3819	220473	12.42
	Meghalaya		22429	1774778	

(Source: Basic Facts of Meghalaya, Published by The Directorate of Information and Public Relations, Meghalaya).

The state of Meghalaya has a total area of 22,429 sq.kms. with 7(seven) Districts and a total population of 17.75 lakhs of which 18.69 percent live in towns and 81.4 percent live in about 5500 villages, according to the 1991 census. As many as 85.5 percent of the total population belong to scheduled tribes, 0.51 percent to scheduled castes and 14 percent belong to other categories. The principal languages in Meghalaya are Khasi and Garo with English as the official language of the State. Over the years the literature in the Khasi and Garo languages has developed. These

languages have emerged in the list of Modern Indian Languages. Now both Khasi and Garo languages are taught as one of the subjects of study upto the postgraduate level (Basic Facts of Meghalaya).

Meghalaya is basically an agricultural state with about 80 percent of its total population depending entirely on agriculture for their livelihood. The state is unique in being the only state in the region with a predominantly matrilineal culture. All the three major groups are governed by the matrilineal principle of descent and inheritance. A woman enjoys high status and is accorded high respect in the state. Women are the custodians of the family property and of the rites and ceremonies. Thus women in the society of Meghalaya enjoy a high status as compared to their sisters in patrilineal societies.

Even with the high status being enjoyed by women in the society as said earlier, the percentage of literacy could be taken into consideration as an indicator of the disparity between the two sexes in the field of education. The following Table-3 provides a picture of the disparity between the two sexes in Meghalaya with respect to their literacy.

Table-3: Male-Female Literacy, Disparity (1971-1991) Meghalaya

Year	Male	Female	Disparity
1971	34.12	24.56	9.56
1981	37.89	30.08	7.81
1991	53.12	44.85	8.27

(Sources: (i) Statistical Handbook, Meghalaya, 1987.

(ii) Statistical Handbook, Meghalaya, 1993)

Considering the three decades between 1971-1991, it is evident that though male and female literacy rates have increased over the period, there is an undeniable continuance of gender disparity as shown in the table above.

Taking literacy at the District level, the Male-Female literacy percentage in Meghalaya (1981 and 1991) is provided for consideration in Table.

**Table-4: Male – Female Literacy Percentage in Meghalaya (1981 and 1991)
District-wise**

Sl. No.	District	1981			1991		
		Total	Male	Female	Total	Male	Female
1	East Khasi Hills District	43.73	46.95	40.30	64.57	63.13	61.86
2	Ri-Bhoi District	-	-	-	39.92	43.88	35.72
3	West Khasi Hills District	31.97	34.08	29.74	50.52	52.98	47.94
4	East Garo Hills District	33.50	39.01	27.66	48.36	54.70	41.70
5	West Garo Hills District	25.91	32.04	19.55	38.64	46.10	30.31
6	South Garo Hills District	25.04	31.31	18.74	42.88	51.28	34.02
7	Jaintia Hills District	24.50	24.63	24.39	35.32	34.37	36.31
	Meghalaya	39.95	44.26	35.41	49.10	53.12	44.85
	India	43.67	56.50	29.85	52.21	64.13	39.29

* *Ri-Bhoi District was a part of East Khasi Hills District.*

Source : (1). Census of India, 1981, Series.14 – Meghalaya, Part-II A&B Groups, Population tables & Primary census abstract.

(2). Census Data Collected by NIC, Planning Commission, GOI (Data Computed by the SRC, NEHU.

It may be seen that the East Khasi Hills District stands out to be having highest total literacy percentage as well as female literacy percentage when compared to all other districts.

With regard to urban - rural literacy rate, Meghalaya was found to have high literacy rate in the urban area (81.74%) than in rural area (41.05%) as per 1991 census. This clearly indicated that there is a distinct variation between the rural - urban structure of population in Meghalaya. The State was found to have the highest literacy percentage in the urban centre of Shillong (83.68%). The importance of the East Khasi Hills District is also being highlighted in its having headquarter Shillong which also serves as the State Capital.

Recently, the National Sample Survey Organisation (NSSO) published its findings on the literacy rates of the country including its states, furnishing statistical data upto December 1997. As per the report of NSSO, Meghalaya's literacy rate in 1998 December was 77 percent, i.e. an increase of 27.9 percent from 49.1 percent (1991). This increase of 27.9 percent (1991-1998) is the highest increase registered among all the states of India.

The community plays a significant role in setting up and in the maintenance of schools in the State. Some secondary schools are self-supporting schools and others have sprung under the local organizations and some are sponsored either by Missions or local churches. A good number of schools are raised on the initiative of the people themselves. The State Government plays a promotional role in supplementing the efforts of community by extending liberal maintenance grants to the recognized schools either under Deficit or Ad-hoc Grant-

in-aid system. At present, there are four types of secondary schools in Meghalaya. They are (a) Government schools, (b) Deficit schools, (c) Grant-in-aid schools or Ad-hoc schools, and (d) Unaided schools. The main responsibilities of framing the curriculum and conducting of Board Examinations lie with the Meghalaya Board of School Education (MBOSE).

The study was conducted in the East Khasi Hills District of Meghalaya. The earlier East Khasi Hills District was bifurcated in 1992 with the formation of Ri-Bhoi District being carved out of it. The present East Khasi Hills District has an area of 2748 sq.kms. and a population of 5,37,906. It is a hill district and is predominantly inhabited by the scheduled tribes. It may also be noted that usually girls in the region do not get discriminated in getting education. A large number of girl students appear every year in the High School Leaving Certificate (HSLC) Examination conducted by the MBOSE. Though the number of students appearing shows an increasing trend, the number of successful ones does not seem to be in proportion. It is also felt that the gaps in this regard between the schools in urban and rural areas are not getting narrowed down. This calls for a closer look into the situation.

Several variables influence the academic achievement of students. Some of the important ones are educational aspiration, self-concept, and interests that one has. A look into all these variables along with educational achievement seems to be of importance to all those who are concerned with education in general, and education of girls as well as tribals, in particular.

Before going further, a brief presentation is made regarding each of these variables.

1.4.0. Variables Studied

The present study has dealt with four variables, namely, Academic achievement, Educational aspiration, Self-concept, and Interest. Each one of these variables are discussed below.

1.4.1. Academic Achievement

In general usage of the term, academic achievement refers to the level of educational accomplishment of a person in various subjects taught in educational institutions. The term has been defined by different persons in various ways. Some of the definitions are given below:

Any Dictionary meaning of the term 'achieve' would be 'to accomplish', 'to attain successfully' and so on. This is true in the field of education as the term is referred with respect to the success in the school subjects. According to Micheels and Karnes (1950), the term 'achievement' means relative accomplishment in a specific area or work. Both Stagner (1962) and Strangin (1963) define achievement as the degree of proficiency or progress made by pupils in the mastery of school subjects. A similar idea is given by Crow and Crow (1969) that achievement refers to the extent to which a learner gets profit from instructions in a given area of learning, i.e., achievement is reflected by the extent to which skill or knowledge has been acquired by a person from the training imparted to him.

Saxena and Dwivedi (1979) consider that the term 'scholastic achievement' refers to the attainment or accomplishment (what a person has done) in the field where a subject receives some instruction or training. It is personal motive as well. In the words of Verma and Upadhyay (1981), 'Achievement is the

attainment or the accomplishment of an individual in some or particular branch of knowledge after a certain period of training. The achievement score of a student indicates towards the future success of the individual'.

Analysing the definitions mentioned above, we can conclude that academic achievement refers to the level of proficiency attained in academic work or as formally acquired knowledge in school subjects which is often represented by marks obtained by students in examination. It reveals the level of educational accomplishment in various subjects taught in educational institutions. Besides, being the criterion of promotion into the next classes, academic achievement is an index of future success in life and determines the pattern of one's living. In view of this, the factors which play an important role in determining an individual's academic achievement need to be studied.

As Singh (1976) has pointed out, academic achievement is a very complex variable, a resultant of diverse factors of different kinds, both intellectual and non-intellectual, acting and interacting in a variety of ways. Educational aspiration, self-concept and interest are some of these factors which are considered to be having an influence on academic achievement. These get promoted in an individual as a result of various influences, which a subject is exposed to. In view of this, it will be of importance to undertake a systematic search into these three variables in relation to academic achievement.

1.4.2. Educational Aspiration

Aspiration refers to the goal a person sets for himself in a certain task. It denotes how a person expects or aspires to perform on a given task and how actually does he perform. It is the goal setting behaviour as well as the process of attaining,



and it involves the capacity to pursue the goal in difficult task and circumstance.

There are various explanations of the term 'aspiration' as given by different persons.

A compilation of some definitions is given below.

According to Hoppe (1930), level of aspiration represents a person's expectations, goals, claims, or his future achievement in a given task. Frank (1935) opined that level of aspiration is the level of future performance in a familiar task which an individual expects to achieve knowing his level of past performance in that task. Sharma and Gupta (1980) express that the 'level of aspiration' is a psychological construct, which reflects a cognitive type of motivation in the individual.

In defining aspiration, English and English (1958), Good (1959), Oxford Dictionary (1972), Webster's Dictionary (1976), Webster's New Collegiate Dictionary (1983), A Concise Psychological Dictionary (1985) focus similarly on aspiration as 'a desire to achieve' or 'accomplish something'.

Hurlock (1973) describes aspiration 'as the goal the individual sets for himself or herself in a task which has intense personal significance for him/her or in which he/she is ego-involved'. According to Encyclopedia of Psychology (Volume 1, 1972), "the level of aspiration is the possible goal (score) an individual sets for himself in his performance". In the International Dictionary of Education (1978) it is said that 'aspiration refers to ambitions of an individual, in educational usage seen as academic, social and occupational, and concerned with performance, prestige and status'. It also defines level of aspiration as standard of achievement, which a pupil sets for himself/herself in academic, social and other aspects of behaviour. The same definition is given in Dictionary of Education (1989). Stacy and Demartino (1958)

and Eysenck (1972) share a similar view as level of a possible goal which an individual sets for himself and attempts to achieve it.

Concluding from the various definitions, aspiration can be defined as the goal an individual sets for himself or herself in a task which has intense personal significance for him/her or in which he or she is ego-involved. It deals with the degree of performance a person expects of himself in a specific situation. It is a strong desire or determination in choosing goals and undertaking some particular activities.

1.4.3. Self-Concept

A person's self is the sum total of all that he can call his. The self includes a system of ideas, attitudes, values and commitments. Self-concept is the way one sees himself and the set of characteristics he associates with himself. It is important for understanding and predicting the many facets of human behaviour, which is a vital component in the process of education. A compilation of how some persons have viewed self-concept is put forth further.

According to Raimy (1943), self-concept is the map that each person consults in order to understand himself, especially during moments of crisis or choice. The self includes all that a person embraces in words, 'I', 'me', 'mine' and 'myself'. It is within each person, the core and substance of his experience as human being. An individual self-concept according to Coleman (1969) is his picture or image of himself, his view of himself as distinct from other things and persons. The self-image incorporates his perception of what he is really like (self-identity) and his worth as a person (self-evaluation) as well as his aspirations for growth and accomplishment (self-ideal). Self is an individual's material possession almost in the

same category as his worldly goods. Shavelson et al. (1976) refers self-concept in broad terms to a person's perception of himself or herself. The characteristics of self-concept according to Shavelson are: (i) it is structured and organised; (ii) it is multifaceted, i.e., several different categories may be formed, viz., school, workplace, social acceptance, physical attractiveness, peer group, intellectual ability; and (iii) the categorical structure of self-concept can be described hierarchically on a dimension of generality. International Dictionary of Education (1978) defines self-concept as the term used in studies of personality to describe in simple terms, the picture or image a person has of himself or herself. According to the Encyclopedic Dictionary of Psychology (1983) self-concept is one of many terms (self-identity, self-ideal, perceived self, phenomenal self) relating to self-perception. International Dictionary of Psychology (1989) defines self-concept as the way some one sees himself. All these definitions emphasize on self-perception or how one sees himself or herself in explaining self-concept.

In another definition Jersild (1954) defines that self-concept is a composite of thoughts and feelings which constitute a person's awareness of his individual existence, his perception of what he has, his conception of who he is, and his feeling about his characteristics, qualities and properties. Individual self-concept according to Copersmith (1967) is the personal judgement of worthiness that is expressed in the attitudes the individual holds towards himself. Mouly (1973) defines self as the sum total of all that he can call his. The self includes, among other things, a system of ideas, attitudes, values and commitments. According to Byrne (1974), self-concept is the total collection of attitudes, judgements and values which an individual holds with regard to his behaviour, his ability, his body, his worth as a

person; in short, how he perceives and evaluates himself. The Concise Psychological Dictionary (1985) defines self-concept as a relatively stable and more or less conscious phenomenon, emotionally experienced as a unique system of the individual's ideas about himself, basing on which he interacts with other people and develops an attitude towards himself. It is an attitude towards himself involving the cognitive, emotional and the evaluative aspects.

Deo (1985) conceives self-concept as a system of attitudes towards oneself. Just as a person forms attitudes as a result of experiences which he organizes into a self-consistent system and defends against threats and attacks, so the person also forms attitudes towards himself. Self-concept consists of all the perceptions, feelings, attitudes, aspirations and values of oneself concerning oneself.

Deo's explanation encompasses the views expressed by various psychologists and seems to be comprehensive in nature.

1.4.4. Interest

Interest is an innate or an acquired feeling which prompts an individual to spontaneous activity. It is the driving force that causes us to react in selective ways to various aspects of our environment. It determines the stimuli to which we pay attention and the situations in which we like to operate. The quality and intensity of behaviour in any situation is largely determined by the nature and strength of our interests relevant to that situation. The term 'interest' has been defined and explained in many different ways. Some of these are given below:

Berdie (1946) has viewed interest as factors that attract individuals to or repel them from objectives, persons or activities. Expressing a similar meaning, the Encyclopedia of Psychology (1972) puts interest as the term used to designate a

concept pertaining to factors within an individual which attract or repel him from various objects, persons, and activities within his environment.

Ross (1955) says that 'a thing that interests us is just something that concerns us or matters to us'. William James (1976) discusses interest as a form of selective awareness or attention that produce meaning out of the mass of one's experiences. Strong (1976) speaks of 'interest' as 'likes' and labels 'dislikes' as 'aversions'.

In the words of Bingham (1937), 'interest is a tendency to become absorbed in an experience and to continue with it, while an aversion is a tendency to turn away from it to something else'. In the opinion of Collins and Drever (1948), when certain objects or certain lines of action have a special appeal for an individual, we speak of the individual as having an interest in such objects or lines of action. According to Gates (1958), 'interests are based on one or more needs which have become associated with certain kinds of expression and are directed towards certain objects which satisfy the need'. Klausmeier (1971) describes interest as 'the tendency to give selective attention to one activity or activities rather than to others'. Sawrey and Jelford (1977) have expressed that interesting objects and experiences are those which have satisfied or which promise to satisfy motives. According to International Encyclopedia of Education (1990), the doctrine of interest in education is a shorthand expression for a number of different motives which focus in the recognition of the necessity of discovering points of genuine and intimate contact between the subject matter of instruction and the vital experience of pupils, an experience that exists and operates independently of attempts to master the subject matter. The Encyclopedia and Dictionary of Education (1991) writes that

the fundamental quality of interest is conative – the impulses towards the fulfillment of desire, the reaching forward to some purpose.

The definition given by Crow and Crow (1979) is as follows: “Interest may refer to the motivating force that impels us to attend to a person, a thing or an activity or it may be the effective experience that has been stimulated by the activity itself”.

In conclusion, it may be said that the term interest designates a concept pertaining to factors within an individual, which attract or repel him/her from various objects, persons and activities within his/her environment.

1.5.0. Problem Under Study

Promotion of academic achievement is one of the important aims of an educational system. Teachers, parents, schools, in fact all those who are linked with the educational system in one way or the other make every effort to see that students achieve more and more. This has drawn greater attention as the world is becoming more competitive and global.

Achievement of girls is of a greater concern to educationists as the importance of education of girls is being realised and attempts are made by the concerned authorities to see that girls achieve to their optimum level. Apart from external efforts, factors like aspiration to achieve, and their own judgement of what they are capable of also contribute towards achievement. Since the knowledge and vocations are getting diversified, the interests in different fields or areas in students also promote them to achieve higher. Though several other factors may also contribute towards achievement, it was felt that the variables – educational aspiration, self-concept and interest in different areas play a significant role in one’s

academic achievement, particularly of girls in the tribal region of North-East India in general, Meghalaya in particular. Since no work was done in this direction, it was felt that a study has to be undertaken to fill the research gap, and hence the present study.

1.6.0. Statement of the Problem

The problem under study reads as: “*A Study on the Educational Aspiration, Self-Concept and Interest in relation to Academic Achievement of Girls in the Secondary Schools of East Khasi Hills District in Meghalaya*”.

1.6.1. Conceptual Definitions of the Terms used

- (i) **Academic achievement:** It is the level of proficiency attained in academic work or formally acquired knowledge in school subjects which is often represented by marks obtained by students in examination.
- (ii) **Educational aspiration:** It is the goal an individual sets for himself or herself in a task which has intense personal significance for him/her or in which he/she is ego-involved.
- (iii) **Self-concept:** It is a system of attitudes towards oneself. It consists of all the perceptions, feelings, attitudes, aspirations and values of oneself concerning oneself.
- (iv) **Interest:** The term designates a concept pertaining to factors within an individual, which attract or repel him/her from various objects, persons and activities within his/her environment.

1.6.2. Operational Definitions of the Terms used

- (i) **Academic achievement:** It is the marks obtained by students in the H.S.L.C. Examination (Class-X) conducted by the Meghalaya Board of School Education (MBOSE).
- (ii) **Educational aspiration:** It is the score obtained on the Educational Aspiration Scale (EAS) Form P developed by Sharma and Gupta (1980) to measure the educational aspiration.
- (iii) **Self-concept:** It is represented by the score obtained on the Self-Concept List (SCL) developed by Pratibha Deo (1985) to measure the self-concept
- (iv) **Interest:** It is represented by the score obtained on the Sodhi and Bhatnagar Interest Inventory (SBII) for girls (1985) to measure interest in different areas.

1.7.0. Objectives of the study

The objectives of the study are as follows:

- (i) To study the academic achievement of girls in the secondary school final examination.
- (ii) To find out the educational aspiration of secondary school girls and its relationship with their academic achievement.
- (iii) To find out the self-concept of secondary school girls and its relationship with their academic achievement.
- (iv) To find out the interest of secondary school girls in different areas and the relationship of each with their academic achievement.

1.8.0. Hypotheses

The following hypotheses have been framed with reference to the objectives (ii), (iii) and (iv)

- (i) There is no significant relationship between educational aspiration and academic achievement of secondary school girls
- (ii) There is no significant relationship between self-concept and academic achievement of secondary school girls.
- (iii) There is no significant relationship between each of the different areas of interest and academic achievement of secondary school girls.

The above three are the major hypotheses tested in the study. But the sample was further split as rural - urban, tribal – non-tribal, girls studying in co-education schools – girls studying in girls only schools, urban tribal – rural tribal, and girls from the schools belonging to four types of school management. Also achievement was considered as total marks, as well as the marks in different school subjects. For testing the differences with reference to all the above classifications, suitable separate hypotheses were framed. These hypotheses are provided while presenting the analysis of data in Chapter – IV

1.9.0. Delimitation of the Study

In Meghalaya, the secondary schools are affiliated to different Boards like the Meghalaya Board of School Education, Central Board of Secondary Education and others. But except a handful of secondary schools, all are affiliated to MBOSE and hence, they send their students to the H.S.L.C. Examination (Class-X)

conducted by MBOSE. Since the study use (class X) Examination marks as an indicator of achievement, the study is delimited to only schools affiliated to MBOSE.

CHAPTER – II

REVIEW OF RELATED LITERATURE

- 2.1.0. Introduction
- 2.2.0. Studies on Educational Aspiration and Academic Achievement
- 2.3.0. Studies on Self – Concept and Academic Achievement
- 2.4.0. Studies on Interest and Academic Achievement
- 2.5.0. Other Related Studies

CHAPTER – II

REVIEW OF RELATED LITERATURE

2.1.0. Introduction

It is essential to make an intensive and extensive perusal of the relevant research studies in order to obtain an adequate background for the planning the procedure of this study. After going through the literature, below is a presentation made of selected studies which are found to be related with the present research work. These studies have been grouped under the following headings so as to get a meaningful background to the present research.

- (i) Studies on Educational Aspiration and Academic Achievement
- (ii) Studies on Self-concept and Academic Achievement
- (iii) Studies on Interests and Academic Achievement
- (iv) Other Related Studies

2.2.0. Studies on Educational Aspiration and Academic Achievement

One does come across several research reports on aspiration in relation to academic achievement. Some of the investigators have found positive relationship between aspiration and academic achievement, whereas some have found no relationship. Following are the studies, which have reported these different results.

Focusing on the variable aspiration as an important predictor of academic achievement, Shivappa (1980) attempted to investigate the factors affecting the academic achievement of high school pupils. The important findings of the study indicated educational aspiration as one of the factors that contributed to

predicting academic achievement of pupils. Further, with reference to urban high school pupils, educational aspiration was also considered important for predicting the academic achievement. It was also revealed that next to IQ, educational aspiration made the greatest contribution in predicting academic achievement in the case of the rural high school pupils. Tiwari and Morbatt (1980) studied the effect of anxiety and aspiration on academic achievement. The finding revealed that high level of aspiration promotes achievement. Similarly, Das (1986) studied peer influence and educational aspiration of secondary school students in relation to their academic achievement. The findings of the study revealed that educational aspiration was a powerful predictor of academic achievement with a contribution of 8.58 percent of variance. Another study, Gupta (1987) also came up with similar findings. The researcher investigated into the relationship between locus of control, anxiety, level of aspiration, academic achievement of secondary students. The study was a descriptive survey with composite characteristics of inter-group comparison, correlational and predictive studies. The sample consisted of 670 students. The study reported that the level of aspiration is significantly related with academic achievement for the total sample. Level of aspiration was found to be a good predictor of academic achievement.

Several correlational studies were also carried out in relation to educational aspiration and academic achievement. Gates and Jersild (1948) have pointed out that level of aspiration is closely related to success and failure in college and that it may represent a goal or desire to improve the performance. In an investigation carried out by Muthayya (1961) a significant relationship between past performance and aspiration was found. It was observed that the past performance

determines the height of succeeding aspiration level. Bisht (1972) found a positive relationship between attainment and level of educational aspiration. A related study was conducted by Menon (1973) as a comparative study of personality characteristics of over-achievers and under-achievers of high ability. The study reported that educational aspiration was strongly associated with high achievement, particularly for girls. Kuppuswamy (1974) has stated that achievement in school is closely related to level of aspiration. In the study by Shivappa (1980) educational aspiration turned out to be positively significant for the success of high school girls in the standard-X examination. Again, Chaplin (1968) found that children having higher level of aspiration had higher academic achievement.

Kulkarni and Arya (1970) in their All India Survey of Achievement in Mathematics for primary, middle and high school students found that students with higher aspirations performed better. Sewell and Hauser (1972) noted that aspirations have the strongest relationship to educational attainment. In another study carried out by Estebon and his associates (1972), it was concluded that level of aspiration and performances are interdependent.

Some researchers have investigated upon how educational aspiration and academic achievement get affected by each other. Hoppe (1930) proposed that success or failure at any task is related to the level of aspiration and the level of achievement. Child and Whiting (1954) carried out a study to collect evidences from everyday life in order to confirm validity of certain experimental conclusions about level of aspiration. The data were obtained from 151 undergraduate students. The analysis of results confirmed the following generalization at various level of statistical significance. They found firstly, that success generally leads to a rise in

the level of aspiration and failure to a lowering down. Secondly, the stronger the success, the greater is the probability of a rise in level of aspiration, the stronger the failure, the greater is the probability of a lower level of aspiration. Thirdly, shifts in level of aspiration are in part a function of changes in the subject's confidence in his ability to attain goals. Fourthly, the results ensure that failure is more likely to lead to withdrawal in the form of avoidance of setting a level of aspiration than success. Lastly, they found that effects of failure in level of aspiration were more varied than those of success. The study by Uniyal and Shukla (1973) indicated that level of aspiration determines the limit of academic achievement. The investigation of Sharma (1978) studying the personality attributes of 1000 undergraduates who failed to make academic achievement to the expected level, found that unrealistic level of aspiration adversely affect the academic achievement. A similar report was also given by Nagose (1984) as a result of his study of divergent abilities, level of aspiration and scholastic achievement on a sample of 429 Junior college students drawn from Commerce, Science and Arts stream. The finding of this study also reported that unrealistic level of aspiration adversely affected scholastic achievement.

Although all the studies mentioned earlier reported a correlational, predictive and interdependent aspects between educational aspiration and academic achievement, there are some investigations whose findings are not in line with the earlier research findings as discussed before.

Some studies like Gould and Kaplan (1940), Holt (1946), Red, McCary and Johnson (1962), Robert (1962), Schultz and Ricciutti (1954), however, do not

support the relationship between aspiration and academic achievement. Dowd (1952) compared 19 achievers and 16 non-achievers of high ability college freshmen and found no significant difference in respect of their level of aspiration. Similarly, Muthayya (1962) holds that high-achievers and low-achievers in scholastics do not significantly differ in aspirational levels.

Further, Rao (1975) also did not find any aspirational difference among students with varied levels of achievement. In another study on self-concept, level of aspiration and mental health as factors of academic achievement by Sharma (1981) it was concluded that the level of aspiration did not influence academic achievement. In a study by Sharma (1985) level of aspiration has not been found to have significant bearing on academic achievement.

2.3.0. Studies on Self-Concept and Academic Achievement

Having a positive self-concept is valued as desirable. It is considered as a potential mediating influence leading to other desired outcomes such as academic achievement. Self-concept is supposed to be a facilitating or a limiting factor in school achievement. Further, achievement is supposed to influence self-concept also. It is, therefore, expected that there will be a relationship between self-concept and academic achievement of students.

The existence of a relationship between self-concept and school achievement is supported by a large body of research. Reeder (1955) found that children achieve lower in terms of their potential if they have a low self-concept. In another study, Campbell (1967) reported that for the students of fourth, fifth and

sixth grades, there was a positive relationship between performance on Coopersmith's Scale for self-esteem and achievement scores. Bhatnagar (1969) conducted a study to describe the self-concept of bright-achievers and non-achievers on the basis of self-concept items which differentiated between the two groups. The findings of this study have revealed that negative self-concept characterizes low achievement and positive self-concept characterizes adequate achievement.

Studies made by Morgan (1952), Brim (1954), Holland and Astin (1962) have shown that there exists a significant relationship between self-concept and academic achievement of college students. Purkey (1970), in his review of research upto 1970, concluded that a significant relationship existed between self-concept and school achievement, noting that the unsuccessful student as opposed to his/her successful peers was characterised by low self-concept. Ramkumar Vasantha (1969) studied the relationship between the self-concept and achievement of college students, and the influence of certain variables on that relationship. The study found a positive relationship between self-concept and achievement. Further, it was found that low and high achievers classified on residential area and community could be differentiated on self-concept scores. Goswami (1978) showed that self-concept had a positive relationship with academic achievement. The study by Shah (1978) found a positive relationship between self-concept and achievement. Yet another study which also yielded a similar conclusion was that of Sharma (1979).

Savicky (1980) studied relationship between self-concept and achievement. He found a significant relationship between achievement and self-concept of female gifted students. Srivastava (1981) found self-esteem and academic

performance to be correlated. He also concluded that high self-esteem students might perceive their low achievement performance as a threat and set back to their inflated self-evaluation. Robinson (1981) found a moderate correlation between self-concept and achievement. Investigation by Sharma (1981) on self-concept, level of aspiration and mental health as factors of academic achievement found that self-concept and academic achievement are related positively and significantly. Hansford and Hattie (1982) found that general self-concept and achievement are correlated. Pal and Tiwari (1984) found that high scholastic achievers surpass low scholastic achieving counterparts in self-concept. In a study of Flemish Secondary School Children, Stas and De Wever (1985) found correlations between school achievement and various sub-scales of a Flemish Version of the Tennessee Self-concept Scale to be ranging between 0.04 and 0.32.

Some more recent studies also support the existence of the relationship between self-concept and academic achievement. In a study by Skaalvik and Hagtvet (1990), it was found that there was a correlation between general self-concept and school achievement and it ranged from 0.12 to 0.26. In another investigation, Misra (1992) explored the effect of self-concept on achievement motivation and academic achievement in relation to sex of students. The findings revealed that students with high self-concept performed better in academic achievement than students with low self-concept.

On the other hand, Spivack (1956) found that there was a zero correlation between academic achievement and self-acceptance. Mitchell (1959) observed that the self-rejecting women did as well in school as those who were self-

accepting. Torrance (1954), Fedler et al. (1958), Holland and Nichols (1964), McIntosh (1967) also reported absence of relationship between self-concept and academic achievement. In still another study, Mintz (1975) reported that total self-concept was a poor predictor of achievement for the sixth grade students. Howard (1977) reported that the high school students' achievement was not related to their self-concept. Conducting a study on college students Carey (1977) and Saunders (1978) revealed that there was no correlation between self-concept and achievement. Dean(1977) conducted a study on related groups of prospective secondary school teachers and found that there was no significant relationship between self-concept and teacher effectiveness. Nguyen (1978) found that pupil self-report about self-concept revealed negligible relationship with their achievement. Nichols (1978) also reported that for 5th grade students there existed no significant correlation between academic achievement and self-concept as measured by the Piers - Harris Children's Self-concept Scale. Wylie(1979) rejected the existence of a general self-concept and achievement relationship. This result supports Maruyama, Rubin and Kingsbury's (1981) study, which indicated that there was no causal link between self-concept and achievement. West et al.(1980) pointed out that a relationship between self-concept and achievement has not always been found. Shanmugasundaran (1983) carried out an investigation to identify and assess the influence of certain factors on the academic achievement of undergraduate students. The sample consisted of 620 students of high and low achievers. As a result of his investigation he concluded that high and low achievers did not differ significantly in their self-concept. As reported by Orr and Dimur (1995), in a study conducted at Israel on 14 to 17 year old adolescents, a correlation of 0.45 was found between school achievement and

academic self-concept, while no significant correlation was found between general self-concept and school achievement.

2.4.0. Studies on Interest and Academic Achievement

A good number of studies have been undertaken to investigate the relationship between interest and academic achievement. Singh (1965) studied the interest patterns of successful students in different courses of study at the secondary stage. It was found that under 'literary course of study', successful students were marked by a high score on the scientific and a low score on the business and clerical interests. Successful students in the 'scientific course of study' scored higher on the outdoor and lower on the business and clerical interests. The interest patterns of successful students under the 'agriculture course of study' were marked by a high score on the outdoor and a low score on the business and clerical interests.

In a study by Saxena (1972) on interests, need patterns and adjustment problems of over and under-achievers, it was reported that achievement in an area was found to require interests in associated activities; having interests at random did not discriminate between over - and under-achievers or from one stream of study to another. Menon (1973) aimed at studying the relationship between under-achievement and personality characteristics and areas of interest like outdoor, clerical, scientific, medical, aesthetic and social service. It was found that over achieving girls of high ability showed stronger interest than under-achieving girls in aesthetic, social and mechanical activities and less in outdoor, persuasive and clerical activities. Sidhu (1974) found that individuals tended to do better in

specialization of their liking. The study further found that after getting scientifically obtained information about their interest, the students tended to devote themselves whole-heartedly to the courses selected in the light of their interests. Indian Psychological Abstracts (1974) referred to study by Chatterji, Mukherjee, Manjula, Mitra and Banerjee who found that high achievers scored higher than the low achievers groups in scales like outdoor and sports, whereas the low achievers scored higher in literary, scientific, medical, technical, craft and household scales. Samal (1977) found the trend of relationship between academic success and interest, and suggested that success in any curricular subjects required interest in related vocational areas.

2.5.0. Other Related Studies

Human experiences differ in quality and depth under the impact of divergent environmental conditions. The environment where a child grows up has an influence on the overall development into an adult member of a society. Several literature seems to support the view that the physical features of a place has an influence on the educational provisions and subsequently on achievement and other variables. Keeping this in view the following research findings are mentioned regarding rural-urban environment and its impact on several variables related to the present study.

Martens (1954) found that town school students were higher in different abilities like Arithmetic, language and vocabulary. Sanders, Osborne and Greene (1955) observed that urban groups markedly excelled rural groups in standardized

measures of school achievement. Students from urban backgrounds were found better than students from rural backgrounds. Investigators like Mishra (1962), Saxena (1961-62), Nichols and Davis (1964) and Chopra (1968) have found that achievers tend to come from urban background. Singh (1967) revealed that urban and rural girls differed significantly with regard to vocational interests in literary, constructive, aesthetic, agricultural, social service and household vocations but on interest in scientific, commercial and persuasive areas they were found to be equal. The urban girls were most interested in persuasive vocations and rural girls in household vocations, while both groups of girls were least interested in agricultural vocations. In another investigation, Naik (1969) found a significant difference between urban and rural girls in the interest area of social service. Menon (1972) also found that urban residence was related to high achievement. Jai Prakash (1972) in a comparative study on urban, rural and tribal higher secondary students of Madhya Pradesh with reference to their general mental ability and interest patterns discovered that the interest in literature, science and technical aspects were affected by areas of residence. The study by Sharma (1975) showed that rural adolescent boys were interested in agricultural and teaching professions, while urban adolescent boys were interested in medical and engineering professions.

Pandey (1981) and Puri (1984) studied the influence of environment as a factor to promote academic achievement among students. Pandey concluded that an urban atmosphere was more conducive to better achievement than a rural environment. Puri brought out that the effect of environmental facility on both general academic achievement and achievement in English language was significant.

In a study entitled "Achievement Norm Study of elementary school children of Tamil Nadu with special reference to certain school factors and student composition", Doraiswamy (1985) found that the performance of students in urban areas was better than that of students in rural areas. Tomar (1985) found that rural - urban residence was a determinant factor in the occupational interests of adolescents. Misra (1986) also reported that the academic achievement of the rural students was lower than the achievement of the urban students.

Ajeh (1993) carried out an investigation on ecological correlates of academic achievement in school students in the River State Nigeria. The study examined the academic achievement of one thousand three hundred and seventy eight secondary school students according to their environment. The results of the study confirmed the view that students in urban areas perform better than those in rural areas. The finding implies that there is a significant difference in academic achievement of students in the different locations.

On the other hand, McCormick (1932) found that urban - rural background had no bearing on grades. In contrast, Singh (1976) found that academic achievement is significantly and inversely related to urbanization; students having a rural background tend to achieve higher than the students having an urban background.

Considering tribal and non-tribal students several studies like Muthayya (1974), Saxena, Srivastava and Kapoor (1978), Gokulanathan (1979), Seth and Srivastava (1979), suggest that tribal and non-tribal subjects differ in several socio-

psychological characteristics. The study of Aruna (1981) conducted in Karnataka revealed that the academic achievement of scheduled caste / scheduled tribe students studying in standard VII was significantly lower than that of general population. It further reported that the academic achievement of SC and ST students studying in rural schools was inferior to that of their counterparts in urban schools.

Studies have also been made to investigate the relation of co-education with academic achievement. Oliver (1958) found that co-education in rural area and separate classes in urban area were advantageous from the point of view of academic success. Sutherland (1961) studied large groups of boys and girls from different schools and found that girls from girls' schools were more likely to succeed than girls from co-education schools. According to Riordan (1985, 1990) single-sex schools are more effective learning environments, especially for young women. Bauch (1988) wrote that students in single-sex schools consistently outperform students in mixed-sex schools in Mathematics, Science and Reading ability.

CHAPTER – III

METHODOLOGY AND PROCEDURE

- 3.1.0. Introduction
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3.1.0. Introduction

The present study concerns itself with the analysis of the achievement of girls in the HSLC Examination (Class-X examination) in relation to certain variables. The study also has looked into the relationship between academic achievement and educational aspiration, self-concept and interests. The details of the methodology adopted in collecting the required data are presented further in this chapter.

3.1.1. Population and Sample

The population for the study included all the secondary schools catering to girls in the East Khasi Hills District of Meghalaya. As per the list obtained from the Educational offices, the total number of such schools happened to be 123, out of which 18 happened to be girls only schools and 105 happened to be co-educational schools. These schools were located in both the rural and urban areas. They also belonged to different types of management, namely, Government, Deficit, Grant-in-aid and Unaided. The list of these schools is provided in Appendix - A.

The distribution of these schools is shown in Table 5.

Table 5: Showing the Distribution of secondary schools in the population

Area	Types of secondary schools	Type of Management				Total	
		Govern-ment	Deficit	Grant -in-aid	Unaided		
Urban	Girls only	1	11	4	1	17	Urban total =73
	Co-Education	-	19	24	13	56	
Rural	Girls only	-	1	-	-	1	Rural total = 50
	Co-Education.	-	10	39	-	49	
Total		1	41	67	14	123	

It was decided to include about 30 percent of the population of schools in the sample as it was felt that this number would be sufficient for the purpose of the study. Keeping the different strata into consideration, the sample of schools was drawn taking care not to exclude any stratum where there is a school. Random sampling technique was used in drawing the schools in each stratum. The number of schools thus selected is shown in Table 6.

Table – 6: Number of Schools included in the Sample.

Area	Types of Secondary Schools	Type of Management				Total	
		Government	Deficit	Grant-in-aid	Unaided		
Urban	Girls only	1	4	1	1	7	Urban total =22
	Co-education.	-	3	9	3	15	
Rural	Girls only	-	1	-	-	1	Rural total = 16
	Co-education.	-	3	12	-	15	
Total		1	11	22	4	38	

All the girl students studying in class X in these schools and from whom data could be obtained on the variables Educational Aspiration, Self-concept and Interest and further who appeared for the HSLC Examination were taken to form the sample for the study.

Table-7 below shows the number of girls forming the sample.

Table - 7: Number of girls included in the Sample (N=558).

Area	Type of School	Type of Management				Tribal	Non-tribal	Total	
		Govt-	Defi -cit	Grant -in- aid	Unaid -ed				
Urban	Girls only	33	194	6	47	225	55	280	Urban Total =426
	Co-edu.	-	33	54	59	99	47	146	
Rural	Girls only	-	19	-	-	18	1	19	Rural Total =132
	Co-edu.	-	46	67	-	113	-	113	
Total	37	33	292	127	106	455	103	558	

It may be seen from the above Table that -

- (1) Total number of girls from urban schools = 426
- (2) Total number of girls from rural schools = 132
- (3) Total number of girls from girls only schools = 299
- (4) Total number of girls from Co-education schools = 259
- (5) Total number of Tribal girls = 455
- (6) Total number of Non-Tribal girls = 103
- (7) Total number of Tribal girls from urban schools = 324
- (8) Total number of Tribal girls from rural schools = 131
- (9) Total number of girls from government schools = 33
- (10) Total number of girls from Deficit schools = 292
- (11) Total number of girls from Grant-in-aid schools = 127
- (12) Total number of girls from unaided schools = 106

3.3.0. Sources of Data and Tools Used

- (i) The scores obtained by girls on the Educational Aspiration Scale (EAS) Form P developed by Sharma and Anuradha Gupta(1980) was used as a measure of educational aspiration.
- (ii) Self-Concept List (SCL) developed by Deo (1985) was used to measure the self-concept of girls.
- (iii) Sodhi and Bhatnagar Interest Inventory (SBII) for Girls was used to measure interest in different areas.
- (iv) Total marks obtained by girls in the High School Leaving Certificate (H.S.L.C) Examination (class-X Examination) conducted by the Meghalaya Board of School Education (MBOSE) was taken as the scores of Academic Achievement.

For certain detailed analysis, the marks obtained in the different subjects, namely, English, Science, Mathematics, Social Science, Modern Indian Language (MIL) and Health Education were also noted.

The details regarding the tools Educational Aspiration Scale (EAS) Form P, Self-Concept List (SCL), and Sodhi Bhatnagar Interest Inventory (SBII) for girls are presented further.

3.3.1. Educational Aspiration Scale (EAS) Form P

The Educational Aspiration Scale (EAS) Form P developed by Sharma and Gupta (1980) was used as a tool for measuring the educational aspiration. The Scale is developed in Hindi. Since the students in Meghalaya find it difficult to answer in Hindi, the Scale was needed to be presented in English. For this purpose

the instructions and all the items included in the scale were first translated into English by two experts. This translation was subsequently subjected to thorough scrutiny (i.e. cross-checking of word and sentences) by a person who is an expert in both English and Hindi languages. This translated version was tried out on class-X girl students of a high school (in Meghalaya) which was not included in the sample used for the data collection. The purpose of this was to find out whether the students felt any difficulty in understanding and answering the items. It was found that there was no difficulty on this count.

EAS Form P has been designed for measuring the level of educational aspiration of secondary school pupils regardless of their grade or age. It has been developed by taking into consideration the variables operating in the past and present so far as setting the level of educational aspiration in the future is concerned. It is a self-explanatory scale that can be successfully administered in a group situation. About 20 to 25 minutes are required to administer the scale though there is no time limit. The scale consists of 45 items designed in a paired comparison form. A copy of the translated English version of Educational Aspiration Scale (EAS) Form P, which has been used in the present study, is provided in Appendix - B.

There is no right or wrong answer. The subject has to compare between a pair of statements given in each of the items, and weight one of this two by putting a cross - mark against it. Scoring key has been prepared for EAS by the help of 5 judges. Two category responses have been admitted. Either the response would be scored as 1 or as 0. The maximum score is 45 whereas the minimum is 0. A copy of the scoring key is provided in Appendix - C.

The reliability coefficient of EAS (Form P) is 0.98 by test - retest method and 0.803 by odd - even method.

The scale has been validated against scholastic achievement (Board examination) and the validity coefficient happens to be 0.692.

3.3.2. Self-Concept List (SCL)

The Self-Concept List (SCL) is developed by Deo (1985). It is based on self-reporting technique. It consists of 90 words which cover almost all the important aspects of personality. These 90 words are divided into positive, negative and neutral classes. It covers the dimensions of intellectual, emotional, character, social and aesthetic characteristics. SCL is presented in the form of a rating scale on a 5-point scale ; the five points being - 'very much like this', 'much like this', 'uncertain', 'not much like this' and 'not at all like this'. The weightages for positive words for the five points are 4,3,2,1 and 0 respectively and for a negative word also the weightage is the same. The composite score is obtained by subtracting the total negative score from the total positive score. The neutral words are to be ignored in the scoring. There is no time limit for SCL though usually subjects take about 25 to 30 minutes to complete their responses. A copy of SCL is provided in Appendix - D. Appendix - E indicates the positive, negative and neutral items.

The reliability coefficient of the tool by test-retest method, when found by taking a time interval of 15 days happened to be 0.89. Taking different time intervals from fifteen days to three and half months, the coefficient of correlation ranged from 0.62 to 0.86. The correlation between consistency scores ranged from 0.84 to 0.98 indicating a high degree of consistency. This suggests that the SCL

gives a stable and reliable measure of self-concept. Deo (1985) claims the validity of the tool by calculating the convergent and discriminant correlations.

3.3.3. Sodhi and Bhatnagar Interest Inventory (SBII) for girls

The Sodhi and Bhatnagar Interest Inventory (SBII) for girls was used to find out the interests of the girls in the study. SBII consists of 136 items measuring eleven interest areas, namely, Literary, Outdoor, Mechanical, Scientific, Persuasive, Social Service, Artistic and constructive, Clerical, Administrative, Teaching, and Home - management. This Inventory can be administered individually or in-group. It usually takes about 25 to 30 minutes to administer to the students. The number of items that measure the different interest areas are given in Table 8.

Table 8: Number of Items in the SBII to measure Different Interest Areas

Sl. No.	Name of the Interest Area	Sl. No of the items in the SBII	Total no. of Items
1.	Literary	10, 27, 30, 37, 43, 50, 65, 66, 93, 98, 105, 125, 131, 133, and 136	15
2.	Outdoor	6, 7, 15, 32, 42, 47, 74, 108, 111, 113, 116, 117, 124, 126, and 135.	15
3.	Mechanical	8, 25, 35, 36, 51, 57, 73, 76, 82, 84, 92, 96, 103, 122, 123, 132, and 134.	17
4.	Scientific	17, 20, 22, 41, 45, 58, 68, 70, 79, 81, 83, 90, 91, 97, 99, 100, 101, and 115.	18
5.	Persuasive	29, 48, 54, 69, and 130	5
6.	Social Service	3, 14, 21, 26, 31, 46, 56, 75, 87, and 121	10
7.	Artistic and Constructive	1, 9, 19, 23, 33, 40, 53, 72, 102, 118, 119; and 129	12
8.	Clerical	4, 34, 49, 77, 80, 94, and 110	7
9.	Administrative	18, 39, 44, 55, 60, 62, 63, 78, 86, 104, 107, 109, 120, and 127	14
10.	Teaching	2, 5, 13, 16, 38, 61, 85, 88, 106, 112, 114, and 128	12
11.	Home-management	11, 12, 24, 28, 52, 59, 64, 67, 71, 89, and 95	11
		Total =	136

Reusable type of booklet of SBII was used and the students could indicate their responses by putting a cross on one of the three squares indicating 'Yes', 'No', '?', against every item, on a separate answer sheet.

The SBII provides scoring stencils for each interest area made on transparent papers which has to be put on each answer sheet in order to find out the score of that particular area for each student. The SBII provides a score of two (2) for the answer 'Yes', zero (0) for 'No' and one (1) for '?' which stand for 'neutral'. Thus the total score of each student in each area can be found out.

The authors of the Inventory claim content validity. Validity of the Inventory against teacher ratings for the different areas of interest has been established by calculating biserial coefficients of correlation, which ranged from 0.448 to 0.656. All these coefficients are significant at 0.01 level.

The test-retest reliability for the Inventory has been established. The reliability coefficient range from 0.592 to 0.866 for the different eleven areas. The split-half reliability was found to ranged from 0.780 to 0.896. All the values of reliability coefficients are significant at 0.01 level. A copy of the SBII is provided in Appendix - F.

3.4.0. Try-out of the Tools EAS, SCL, and SBII

It was decided to know whether there would be any difficulty felt by the students in giving responses on the above mentioned three tools. Also it was felt to find out whether there would be any difficulties in the administration of these tools. For this purpose the three tools were tried out on 26 girl students (of which 17 were tribal and 9 were non-tribal) of class-X appearing for the MBOSE examination. All the students belonged to a high school that was not included in the sample of schools for the data collection. It was found that there were no problems in understanding the contents and no difficulty in responding to the items. Hence, the three tools were accepted for use in the present study.

3.5.0. Data Collection

To start with, formal permission from the heads of secondary schools under study was secured by the investigator to administer the tools to the class X girls. Before the tools were administered, the investigator met the subjects and established rapport. The students were requested at the very outset, to participate

heartily and sincerely in responding to all the tools. To make the investigation successful, efforts were made to impress the students and they were told that their cooperation was most essential in this regard. The students were also assured that the results would be used only for research purpose and it would be kept confidential.

All the three tools were administered on the same day one after the other with a brief break in between. Before the administration of any tool, the directions to be followed in responding to the same were given explicitly. Only after making sure that every student understood the directions clearly, the students were asked to respond on the tool. The sequence of the administration of the tools followed was EAS, SCL and SBII. The whole programme of administration took about one and half-hours.

The procedure was followed the same in all the schools.

Regarding the data on academic achievement, the investigator waited till the MBOSE conducted the H.S.L.C. (Class-X) examination and the results were sent to the respective schools. The marks obtained by the students in the sample were noted from the school records.

3.5.0. Analysis of Data

The data were analyzed keeping in view the objectives of the study.

The details of this analysis are presented in Chapter IV.

CHAPTER – IV

ANALYSIS OF DATA, RESULTS AND DISCUSSION

- 4.0. Introduction
- 4.1.0. Academic Achievement
 - 4.1.1. Analysis of Total Achievement
 - 4.1.2. Analysis of Achievement in English
 - 4.1.3. Analysis of Achievement in Science
 - 4.1.4. Analysis of Achievement in Mathematics
 - 4.1.5. Analysis of Achievement in Social Science
 - 4.1.6. Analysis of Achievement in Modern Indian Language (MIL)
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- 4.2.0. Educational Aspiration and Academic Achievement
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- 4.4.0. Interest in Different Areas and Academic Achievement
 - 4.4.1. Analysis of Interest in Literary Area
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 - 4.4.4. Analysis of Interest in Scientific Area
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 - 4.4.6. Analysis of Interest in Social Service Area
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 - 4.4.8. Analysis of Interest in Clerical Activities Area

- 4.4.9. Analysis of Interest in Administration Area
- 4.4.10. Analysis of Interest in Teaching Area
- 4.4.11. Analysis of Interest in Home – Management Area
- 4.5.0. Summary of results
- 4.6.0. Discussion of results

CHAPTER IV
ANALYSIS OF DATA, RESULTS AND DISCUSSION

4.0. Introduction

This chapter presents the details of the data analysis. Also it presents the results of the study and the discussion of the results. The presentation is made in accordance with the objectives of the study. To facilitate an easy reading, the objectives of the study are once again presented as under:

- (i) To study the academic achievement of girls in the secondary school final examination.
- (ii) To find out the educational aspiration of secondary school girls and its relationship with their academic achievement.
- (iii) To find out the self- concept of secondary school girls and its relationship with their academic achievement.
- (iv) To find out the interest of secondary school girls in different areas and the relationship of each with their academic achievement.

The raw data obtained in the study are presented in Appendix –G.

4.1. Academic Achievement of Girls in the Secondary School Final

Examination

As stated earlier in the previous chapter, the total marks obtained by the sample in the H.S.L.C Examination (Class X) conducted by MBOSE formed the data for analysis of academic achievement of girls. The data have been analysed taking

total marks, marks obtained in each of the school subjects, namely, English, Science, Mathematics, Social Science, Modern Indian Languages (MIL) and Health Education, separately.

4.1.1 Analysis of Total Achievement

Mean and Standard Deviation were calculated for the total marks.

$$N = 558$$

$$M = 483.06$$

$$SD = 112.81$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.1.1.1. Difference between Urban girls and Rural girls in their total Achievement

Hypothesis 1: It states, " There is no significant difference between urban girls and rural girls in their total achievement".

To test this hypothesis t- test was employed. The details of the analysis are as follows:

<u>Urban girls</u>	<u>Rural girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 495.27$	$M_2 = 443.65$
$SD_1 = 112.51$	$SD_2 = 104.86$

$$t = 4.45$$

The obtained value of $t = 4.45$ is significant at 0.01 level. Therefore, there is a significant difference between urban girls and rural girls in their total achievement at 0.01 level.

Further, it is seen that the mean total achievement score of girls from urban schools is significantly greater than that from rural schools.

4.1.1.2. Difference between Tribal girls and Non-tribal girls in their total Achievement

Hypothesis 2: It states, "There is no significant difference between tribal girls and non-tribal girls in their total achievement."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 482.72$	$M_2 = 484.57$
$SD_1 = 108.71$	$SD_2 = 129.49$

$$t = 0.13$$

The obtained value of $t = 0.13$ is not significant.

Therefore, there is no significant difference between tribal girls and non-tribal girls in their total achievement.

4.1.1.3. Difference between girls studying in Co-education schools and Girls only schools in their total Achievement

Hypothesis 3: It states, "There is no significant difference between girls studying in co-education schools and girls only schools in their total achievement."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education Schools</u>	<u>Girls only Schools</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 460.67$	$M_2 = 502.45$
$SD_1 = 117.80$	$SD_2 = 104.30$
$t = 4.41$	

The obtained value of $t = 4.41$ is significant at 0.01 level.

Therefore, there is a significant difference between girls studying in co-education schools and girls only schools in their total achievement at 0.01 level.

Further, it is seen that mean total achievement scores of girls studying in girls only schools is significantly greater than that from girls studying in co-education schools.

4.1.1.4. Difference between Tribal girls from urban area and from rural area in their Achievement.

Hypothesis 4: It states, " There is no significant difference between tribal girls from urban area and from rural area in their total achievement".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal-urban</u>	<u>Tribal-rural</u>
$N_1 = 324$	$N_2 = 131$
$M_1 = 498.48$	$M_2 = 443.72$
$SD_1 = 105.97$	$SD_2 = 104.86$
$t = 5.03$	

The obtained value of $t = 5.03$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls from urban areas and rural areas in their total achievement at 0.01 level.

Further, it is seen that mean total achievement scores of tribal girls from urban area is significantly greater than that from rural area.

4.1.1.5. Differences among the different Management types of schools in their total Achievement.

Hypothesis 5: It states, "There is no significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided, in their total achievement."

To test this hypothesis F-test was employed .The details of the analysis are as follows:

Table 9: Details of analysis of total Achievement scores for the different Management types of schools

<i>Particulars</i>	<i>Government</i>	<i>Deficit</i>	<i>Grant-in-aid</i>	<i>Unaided</i>
Sum of scores (ΣX)	15140	141758	51309	61340
Sum of squares of scores (ΣX^2)	7220000	71113288	21977689	36984952
Mean	458.79	485.47	404.01	578.68
SD	91.11	88.63	99.15	118.51
N	33	292	127	106

Table 10 presents the summary of ANOVA for total achievement scores of girls from Government, Deficit, Grant-in-aid and Unaided schools.

Table 10: Summary of ANOVA for total Achievement scores of girls from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of squares (SS)	Mean squares (MS)	F
Between groups	3	1783956.68	594652.23	62.10
Within groups	554	5304830.37	9575.51	
Total	557	7088787.05		

The obtained value of F is significant at 0.01 level.

Therefore, there is a significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their total Achievement.

Since the obtained value of F was significant, t-tests were carried out to find out which of the pairs differ significantly.

(i) t-test between Government schools and Deficit schools

Government schools

Deficit schools

$N_1 = 33$

$N_2 = 292$

$M_1 = 458.79$

$M_2 = 485.47$

$SD_1 = 91.11$

$SD_2 = 88.63$

$t = 1.60$

The obtained value of $t=1.60$ is not significant. Therefore, there is no significant difference between the mean total achievement scores of girls from Government schools and Deficit schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government schools</u>	<u>Grant-in-aid</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 458.79$	$M_2 = 404.01$
$SD_1 = 91.11$	$SD_2 = 99.15$

$$t = 3.02$$

The obtained value of $t = 3.02$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean total achievement scores of girls from Government schools and Grant-in-aid schools at 0.01 level.

Further, it is seen that the mean total achievement score of girls from Government schools is significantly greater than that from Grant-in-aid schools.

(iii) t - test between Government schools and Unaided schools

<u>Government schools</u>	<u>Unaided schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 458.79$	$M_2 = 578.68$
$SD_1 = 91.11$	$SD_2 = 118.51$

$$t = 6.12$$

The obtained value of $t= 6.12$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean total achievement scores of girls from Government schools and unaided schools at 0.01 level.

Further, it is seen that the mean total achievement score of girls from Unaided schools is significantly greater than that from Government schools.

(iii) t - test between Deficit schools and Grant-in-aid schools

<u>Deficit schools</u>	<u>Grant-in-aid schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 485.47$	$M_2 = 404.01$
$SD_1 = 88.63$	$SD_2 = 99.15$

$$t = 7.98$$

The obtained value of $t = 7.98$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean total achievement scores of girls from Deficit schools and Grant-in-aid schools at 0.01 level.

Further, it is seen that the mean total achievement score of girls from Deficit schools is significantly greater than that from Grant – in - aid schools.

(v) t-test between Deficit schools and Unaided schools

<u>Deficit schools</u>	<u>Unaided schools.</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 485.47$	$M_2 = 578.68$
$SD_1 = 88.63$	$SD_2 = 118.51$

$$t = 7.38$$

The obtained value of $t = 7.38$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean total achievement scores of girls from Deficit schools and Unaided schools at 0.01 level.

Further, it is seen that the mean total achievement score of girls from Unaided schools is significantly greater than that from Deficit schools.

(vi) t-test between Grant-in-aid schools and Unaided schools.

<u>Grant-in-aid schools</u>	<u>Un-aided schools</u>
$N_1 = 127$	$N_2 = 106$
$M_1 = 404.01$	$M_2 = 578.68$
$SD_1 = 99.15$	$SD_2 = 118.51$

$$t = 12.05$$

The obtained value of $t = 12.05$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean total achievement score of girls from Grant-in-aid schools and Unaided schools at 0.01 level.

Further, it is seen that the mean total achievement score of girls from Unaided schools is significantly greater than that from Grant-in-aid schools.

The t-values as obtained above are summarised below:

Table 11: Summary of the t-values obtained for the differences between mean total Achievement scores of school types

Management Types	t	Significance Level
Between Government and Deficit schools	1.60	n.s.
Between Government and Grant-in-aid schools	3.02	0.01
Between Government and Unaided schools	6.12	0.01
Between Deficit and grant-in-aid schools	7.98	0.01
Between Deficit and Unaided schools	7.38	0.01
Between Grant-in-aid and Unaided schools	12.05	0.01

Comparing the mean total achievement scores for the different management types, it can be concluded as follows.

| Unaided schools | > | Government & Deficit schools | > | Grant-in-aid schools |

4.1.2. Analysis of Achievement in English

Mean and Standard Deviation were calculated for the total marks in English.

$$N = 558$$

$$M = 94.801$$

$$SD = 21.91$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.1.2.1 Difference between Urban girls and Rural girls in their achievement in English

Hypothesis-6: It states , “ There is no significant difference between urban girls and rural girls in their achievement in English”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Urban girls</u>	<u>Rural girls</u>
$N_1 = 426$	$N_2 = 132$
$M_1 = 100.70$	$M_2 = 75.77$
$SD_1 = 18,26$	$SD_2 = 21.80$

$$t = 11.93$$

The obtained value of $t = 11.93$ is significant at 0.01 level.

Therefore, there is a significant difference between urban girls and rural girls in their achievement in English at 0.01 level.

Further, it is seen that the mean achievement score of girls in English from urban schools is significantly greater than that from rural schools.

4.1.2.2. Difference between Tribal girls and Non-tribal girls in their achievement in English

Hypothesis –7: It states, “There is no significant difference between tribal girls and non-tribal girls in their achievement in English”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
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$N_1 = 455$	$N_2 = 103$
$M_1 = 94.61$	$M_2 = 95.63$
$SD_1 = 22.03$	$SD_2 = 21.23$
$t = 0.44$	

The obtained value of $t = 0.44$ is not significant.

Therefore, there is no significant difference between tribal girls and no-tribal girls in their achievement in English.

4.1.2.3. Difference between girls studying in Co-education schools and Girls only schools in their achievement in English

Hypothesis –8: It states, “ There is no significant difference between girls studying in co-education schools and girls only schools in their achievement in English”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education Schools</u>	<u>Girls only Schools</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 86.84$	$M_2 = 101.70$
$SD_1 = 25.60$	$SD_2 = 14.98$
$t = 8.21$	

The obtained value of $t=8.21$ is significant at 0.01 level.

Therefore, there is a significant difference between girls studying in co-education schools and girl only schools in their achievement in English at 0.01 level.

Further, it is seen that the mean achievement score of girls in English from girls only schools is significantly greater than that from co-education schools.

4.1.2.4. Difference between Tribal girls from urban area and rural area in their achievement in English

Hypothesis-9: It states, "There is no significant difference between tribal girls from urban area and rural area in their achievement in English".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

Tribal- urban

Tribal-rural

$$N_1 = 324$$

$$N_2 = 131$$

$$M_1 = 102.25$$

$$M_2 = 75.73$$

$$SD_1 = 16.91$$

$$SD_2 = 21.88$$

$$t = 12.45$$

The obtained value of $t=12.45$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls from urban area and rural area in their achievement in English at 0.01 level.

Further, it is seen that the mean achievement score of girls in English from urban area is significantly greater than that from rural area.

4.1.2.5. Difference among the different Management types of schools in their achievement in English

Hypothesis-10: It states: "There is no significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided, in their achievement in English."

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 12: Details of analysis of Achievement scores in English for different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores (ΣX)	3451	28123	9549	11776
Sum of squares of scores (ΣX^2)	369063	2788049	781113	1344080
Mean	104.58	96.31	75.19	111.09
SD	15.98	16.53	22.38	18.47
N	33	292	127	106

Table 13 presents the summary of ANOVA for achievement of girls in English from Government, Deficit, Grant-in-aid and Unaided schools.

Table 13: Summary of ANOVA for Achievement Scores of girls in English from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	80807.7	26935.9	79.96
Within groups	554	186615.2	336.8506	
Total	557	267422.9		

The obtained value of F is significant at 0.01 level. Therefore, there is a significant difference among girls from schools belonging to four types of management, namely,

Government, Deficit, Grant-in-aid and Unaided in their achievement in English at 0.01 level.

Since the obtained value of F was significant, t-tests were carried to find out which of the pairs differs significantly.

(i) t-test between Government schools and Deficit schools

<u>Government Schools</u>	<u>Deficit Schools</u>
$N_1 = 33$	$N_2 = 292$
$M_1 = 104.58$	$M_2 = 96.31$
$SD_1 = 15.98$	$SD_2 = 16.53$
$t = 2.80$	

The obtained value of $t = 2.80$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in English from Government schools and Deficit schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in English from Government schools is significantly greater than that from Deficit schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government Schools</u>	<u>Grant -in -aid Schools</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 104.58$	$M_2 = 75.19$
$SD_1 = 15.98$	$SD_2 = 22.38$
$t = 8.59$	

The obtained value of $t = 8.59$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in English from Government schools and Grant – in –aid schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in English from Government schools is significantly greater than that from Grant– in -aid schools.

(iii) t-test between Government schools and Unaided schools

<u>Government Schools</u>	<u>Unaided Schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 104.58$	$M_2 = 111.09$
$SD_1 = 15.98$	$SD_2 = 18.47$

$$t = 1.97$$

The obtained value of $t = 1.97$ is significant at 0.05 level.

Therefore, there is a significant difference between the mean achievement scores of girls in English from Government schools and Unaided schools at 0.05 level.

Further, it is seen that the mean achievement score of girls in English from Unaided schools is significantly greater than that from Government schools.

(iv) t-test between Deficit schools and Grant-in-aid schools

<u>Deficit Schools</u>	<u>Grant –in –aid schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 96.31$	$M_2 = 75.19$
$SD_1 = 16.53$	$SD_2 = 22.38$

$$t = 9.56$$

The obtained value of $t = 9.56$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in English from Deficit schools and Grant – in – aid schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in English from Deficit schools is significantly greater than that from Grant – in -aid schools.

(v) t-test between Deficit schools and Unaided schools

<u>Deficit Schools</u>	<u>Unaided Schools</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 96.31$	$M_2 = 111.09$
$SD_1 = 16.53$	$SD_2 = 18.47$

$$t = 7.25$$

The obtained value of $t = 7.25$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in English from Deficit schools and Unaided schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in English from Unaided schools is significantly greater than that from Deficit schools.

(vi) t-test between Grant – in –aid schools and Unaided schools

<u>Grant – in – aid schools</u>	<u>Unaided Schools</u>
$N_1 = 127$	$N_2 = 106$
$M_1 = 75.19$	$M_2 = 111.09$
$SD_1 = 22.38$	$SD_2 = 18.47$

$$t = 13.40$$

The obtained value of $t = 13.40$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in English from Grant – in –aid schools and Unaided schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in English from Unaided schools is significantly greater than that from Grant– in -aid schools.

The t- values as obtained above are summarised below

Table 14: Summary of the t- values obtained for differences between mean scores in English of school types

Management types	t	Significance level
Between Govt. and Deficit Schools	2.80	0.01
Between Govt. and Grant- in – aid schools	8.59	0.01
Between Govt. and Unaided schools	1.97	0.05
Between Deficit and Grant – in- aid schools	9.56	0.01
Between Deficit and Unaided schools	7.25	0.01
Between Grant – in –aid and Unaided schools	13.40	0.01

Comparing the mean achievement scores in English for the different management types, it can be concluded as follows:

| Unaided schools | > | Government schools | > | Deficit schools | > | Grant-in-aid schools |

4.1.3. Analysis of Achievement in Science

Mean and Standard deviation were calculated for the total marks in Science.

N =558

M =74.17

SD=26.84

Since the sample contained difference strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.1.3.1. Difference between Urban girls and Rural girls in their achievement in Science

Hypothesis-11: It states, "There is no significant difference between urban and rural girls in their achievement in Science."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Urban girls</u>	<u>Rural girls</u>
$N_1 =426$	$N_2 =132$
$M_1 =75.90$	$M_2 =68.58$
$SD_1=27.24$	$SD_2=24.57$

$t = 2.92$

The obtained value of $t = 2.92$ is significant at 0.01 level.

Therefore, there is a significant difference between urban girls and rural girls in their achievement in science at 0.01 level.

Further, it is seen that the mean achievement score of girls in Science from urban schools is significantly greater than that from rural schools.

4.1.3.2. Difference between Tribal girls and Non-tribal girls in their achievement in Science

Hypothesis-12: It states, "There is no significant difference between tribal girls and non-tribal girls in their achievement in Science."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>	
	$N_1 = 455$	$N_2 = 103$
	$M_1 = 73.74$	$M_2 = 76.06$
	$SD_1 = 26.25$	$SD_2 = 29.10$
	$t = 0.74$	

The obtained value of $t = 0.74$ is not significant.

Therefore, there is no significant difference between tribal girls and non-tribal girls in their achievement in Science.

4.1.3.3. Difference between girls studying in Co-education schools and Girls only schools in their achievement in Science

Hypothesis-13: It states, "There is no significant difference between girls studying in co-education schools and girls only schools in their achievement in Science."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education schools</u>	<u>Girls only schools</u>	
	$N_1 = 259$	$N_2 = 299$
	$M_1 = 70.39$	$M_2 = 77.44$
	$SD_1 = 26.13$	$SD_2 = 26.97$
	$t = 3.13$	

The obtained value of $t = 3.13$ is significant at 0.01 level.

Therefore, there is a significant difference between girls studying in co-education schools and girls only schools in their achievement in science at 0.01 level.

Further, it is seen that the mean achievement score of girls in science from girls only schools is significantly greater than that from co-education schools.

4.1.3.4. Difference between Tribal girls from urban area and rural area in achievement in Science

Hypothesis-14: It states, "There is no significant difference between tribal girls from urban area and rural area in their achievement in Science."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal-urban</u>	<u>Tribal-rural</u>
$N_1 = 324$	$N_2 = 131$
$M_1 = 75.89$	$M_2 = 68.43$
$SD_1 = 26.58$	$SD_2 = 24.60$

$$t = 2.86$$

The obtained value of $t = 2.86$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls from urban area and rural area in their achievement in Science at 0.01 level.

Further, it is seen that the mean achievement score of tribal girls in Science from urban area is significantly greater than that from rural area.

4.1.3.5. Differences among the different Management types of schools in their achievement in Science

Hypothesis-15: It states, "There is no significant difference among girls from Schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their achievement in Science."

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 15: Details of analysis of achievement scores in science for the different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores (ΣX)	2170	21363	7420	10434
Sum of squares of scores (ΣX^2)	160406	1702119	487366	1120906
Mean	65.76	73.16	58.43	98.43
SD	23.53	21.87	20.67	29.90
N	33	292	127	106

Table 16 presents the summary of ANOVA for achievement scores in science of Government, Deficit, Grant-in-aid and Unaided schools.

Table 16: Summary of ANOVA for Achievement Scores of girls in Science from Government, Deficit, Grant-in-aid and Unaided schools

Source of variance	df	Sum of squares (SS)	Mean squares (MS)	F
Between groups	3	96522.25	32174.08	58.52
Within groups	554	304590.6	549.8025	
Total	557	401112.8		

The obtained value of F is significant at 0.01 level.

Therefore, there is a significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their achievement in Science.

Since the obtained value of F was significant, t-tests were carried out to find out which of the pairs differ significantly.

(i) t-test between Government schools and Deficit schools

<u>Government schools</u>	<u>Deficit schools</u>
$N_1 = 33$	$N_2 = 292$
$M_1 = 65.76$	$M_2 = 73.16$
$SD_1 = 23.53$	$SD_2 = 21.87$

$$t = 1.72$$

The obtained value of $t = 1.72$ is not significant.

Therefore, there is no significant difference between the mean achievement scores of girls in Science from Government schools and Deficit schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government schools</u>	<u>Grant-in-aid schools</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 65.76$	$M_2 = 58.43$
$SD_1 = 23.53$	$SD_2 = 20.67$

$$t = 1.63$$

The obtained value of $t = 1.63$ is not significant.

Therefore, there is no significant difference between the mean achievement scores of girls in Science from Government schools and Grant-in-aid schools.

(iii) t-test between Government schools and Unaided schools

<u>Government schools</u>	<u>Unaided schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 65.76$	$M_2 = 98.43$
$SD_1 = 23.53$	$SD_2 = 29.90$

$$t = 6.51$$

The obtained value of $t = 6.51$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Science from Government schools and Unaided schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in Science from Unaided schools is significantly greater than that from Government schools.

(iv) t-test between Deficit schools and Grant-in-aid schools

<u>Deficit Schools</u>	<u>Grant-in-aid Schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 73.16$	$M_2 = 58.43$
$SD_1 = 21.87$	$SD_2 = 20.67$

$$t = 6.58$$

The obtained value of $t = 6.58$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Science from Deficit schools and Grant-in-aid schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in Science from Deficit schools is significantly greater than that from Grant-in-aid schools.

(v) t-test between Deficit schools and Unaided schools

<u>Deficit Schools</u>	<u>Unaided Schools</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 73.16$	$M_2 = 98.43$
$SD_1 = 21.87$	$SD_2 = 29.90$

$$t = 7.97$$

The obtained value of $t = 7.97$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Science from Deficit schools and Unaided schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in Science from Unaided schools is significantly greater than that from Deficit schools.

(vi) t-test between Grant-in-aid schools and Unaided schools

<u>Grant-in-aid Schools</u>	<u>Unaided Schools</u>
$N_1 = 127$	$N_2 = 106$
$M_1 = 58.43$	$M_2 = 98.43$
$SD_1 = 20.67$	$SD_2 = 29.90$

$$t = 11.66$$

The obtained value of $t = 11.66$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Science from Grant-in-aid schools and Unaided schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in Science from Unaided schools is significantly greater than that from Grant-in-aid schools.

The t-values as obtained above are summarised below:

Table-17: Summary of the t-values obtained for differences between mean scores in Science of schools types

Management types	t	Significance level
Between Government and Deficit schools	1.72	n.s
Between Government and Grant-in-aid schools	1.63	n.s
Between Government and Unaided schools	6.51	0.01
Between Deficit and Grant-in-aid schools	6.58	0.01
Between Deficit and Unaided schools	7.97	0.01
Between Grant-in-aid and Unaided schools	11.66	0.01

Comparing the mean achievement scores in Science for the different management types, it can be concluded as follows.

| Unaided schools | > | Government & Deficit schools | > | Grant-in-aid schools |

4.1.4. Analysis of Achievement in Mathematics

Mean and Standard Deviation were calculated for the total marks in Mathematics.

N =558

M =80.23

SD=35.90

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.1.4.1. Difference between Urban girls and Rural girls in their achievement in Mathematics

Hypothesis-16: It states, "There is no significant difference between urban girls and rural girls in their achievement in Mathematics."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Urban girls</u>	<u>Rural girls</u>
$N_1 = 426$	$N_2 = 132$
$M_1 = 82.53$	$M_2 = 72.81$
$SD_1 = 35.92$	$SD_2 = 34.67$

$$t = 2.79$$

The obtained value of $t=2.79$ is significant at 0.01 level.

Therefore, there is a significant difference between urban girls and rural girls in their achievement in Mathematics at 0.01 level.

Further, it is seen that the mean achievement score of tribal girls in Mathematics from urban schools is significantly greater than that from rural schools.

4.1.4.2. Difference between Tribal girls and Non-tribal girls in their achievement in Mathematics

Hypothesis-17: It states, "There is no significant difference between tribal girls and non-tribal girls in their achievement in Mathematics."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 79.16$	$M_2 = 84.95$
$SD_1 = 35.39$	$SD_2 = 37.54$

$$t = 1.43$$

The obtained value of $t=1.43$ is not significant.

Therefore, there is no significant difference between tribal girls and non-tribal girls in their achievement in Mathematics.

4.1.4.3. Difference between girls studying in Co-education schools and Girls only schools in their achievement in Mathematics.

Hypothesis-18: It states, "There is no significant difference between girls studying in co-education schools and girls only schools in their achievement in Mathematics."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education schools</u>	<u>Girls only schools</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 76.94$	$M_2 = 83.08$
$SD_1 = 37.07$	$SD_2 = 34.55$

$$t = 2.01$$

The obtained value of $t = 2.01$ is significant at 0.05 level.

Therefore, there is a significant difference between girls studying in co-education schools and girls only schools in their achievement in Mathematics at 0.05 level.

Further, it is seen that the mean achievement score of girls in Mathematics from girls only schools is significantly greater than that from co-education schools.

4.1.4.4. Difference between Tribal girls from urban area and rural area in their achievement in Mathematics.

Hypothesis-19: It states, "There is no significant difference between tribal girls from urban area and rural area in their achievement in Mathematics."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal-urban</u>	<u>Tribal-rural</u>
$N_1 = 234$	$N_2 = 131$
$M_1 = 81.65$	$M_2 = 73.00$
$SD_1 = 35.35$	$SD_2 = 34.74$

$$t = 2.39$$

The obtained value of $t=2.39$ is significant at 0.05 level.

Therefore, there is a significant difference between tribal girls from urban area and rural area in their achievement in Mathematics at 0.05 level.

Further, it is seen that the mean achievement score of tribal girls in Mathematics from urban area is significantly greater than that from rural area.

4.1.4.5. Differences among the different Management types of schools in their achievement in Mathematics

Hypothesis-20: It states, "There is no significant difference between among girls from schools belonging to four types of management namely, Government, Deficit, Grant-in-aid and unaided in their achievement in Mathematics."

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 18: Details of analysis of achievement scores in Mathematics for the different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores ($\sum X$)	2546	24103	7796	10323
Sum of squares of scores ($\sum X^2$)	220538	2330687	604706	1153723
Mean	77.15	82.54	61.39	97.39
SD	27.45	34.24	31.64	37.59
N	33	292	127	106

Table 19 presents the summary of ANOVA for achievement scores in Mathematics of Government, Deficit, Grant-in-aid and Unaided schools.

Table 19: Summary of ANOVA for achievement scores of girls in Mathematics from Government, Deficit, Grant-in-aid and Unaided schools

Source of variance	df	Sum of square (SS)	Mean squares (MS)	F
Between groups	3	78176.74	26058.91	22.57
Within groups	554	639767.9	1154.816	
Total	557	717944.6		

The obtained value of F is significant at 0.01 level.

Therefore, there is a significant difference among girls from schools belonging to four types of management namely, Government, Deficit, Grant-in-aid and Unaided in their achievement in Mathematics.

Since the obtained value of F was significant, t-tests were carried out to find out which of the pairs differ significantly.

(i) t-test between Government schools and Deficit schools

<u>Government schools</u>	<u>Deficit schools</u>
$N_1 = 33$	$N_2 = 292$
$M_1 = 77.15$	$M_2 = 82.54$
$SD_1 = 27.45$	$SD_2 = 34.24$

$$t = 1.04$$

The obtained value of $t = 1.04$ is not significant.

Therefore, there is no significant difference between the mean achievement scores of girls in Mathematics from Government schools and Deficit schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government schools</u>	<u>Grant-in-aid schools</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 77.15$	$M_2 = 61.39$
$SD_1 = 27.45$	$SD_2 = 31.64$

$$t = 2.84$$

The obtained value of $t = 2.84$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Mathematics from Government schools and Grant-in-aid schools at 0.01 level

Further, it is seen that the mean achievement score of girls in Mathematics from Government schools is significantly greater than that from Grant-in-aid schools.

(iii) t-test between Government schools and Unaided schools

<u>Government schools</u>	<u>Unaided schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 77.15$	$M_2 = 97.39$
$SD_1 = 27.45$	$SD_2 = 37.59$

$$t = 3.37$$

The obtained value of $t \approx 3.37$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Mathematics from Government schools and Unaided schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in Mathematics from Unaided schools is significantly greater than that from Government schools.

(iv) t-test between Deficit schools and Grant-in-aid schools

<u>Deficit Schools</u>	<u>Grant-in aid Schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 82.54$	$M_2 = 61.39$
$SD_1 = 34.24$	$SD_2 = 31.64$

$$t = 6.13$$

The obtained value of $t = 6.13$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Mathematics from Deficit schools and Grant-in-aid schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in Mathematics from Deficit schools is significantly greater than that from Grant-in-aid schools.

(v) t-test between Deficit schools and Unaided schools

<u>Deficit Schools</u>	<u>Unaided Schools</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 82.54$	$M_2 = 97.39$
$SD_1 = 34.24$	$SD_2 = 37.59$

$$t = 3.57$$

The obtained value of $t = 3.57$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Mathematics from Deficit schools and Unaided schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in Mathematics from Unaided schools is significantly greater than that from Deficit schools.

(vi) t-test between Grant-in-aid schools and Unaided schools

<u>Grant-in-aid Schools</u>	<u>Unaided Schools</u>
$N_1 = 127$	$N_2 = 106$
$M_1 = 61.39$	$M_2 = 97.39$
$SD_1 = 31.64$	$SD_2 = 37.59$

$$t = 7.81$$

The obtained value of $t = 7.81$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Mathematics from Grant-in-aid schools and Unaided schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in Mathematics from Unaided schools is significantly greater than that from Grant-in-aid schools.

The t-values as obtained above are summarised below:

Table-20: Summary of the t-values obtained for differences between mean scores in Mathematics of schools types

Management types	t	Significance level
Between Government and Deficit schools	1.04	n.s
Between Government and Grant-in-aid schools	2.84	0.01
Between Government and Unaided schools	3.37	0.01
Between Deficit and Grant-in-aid schools	6.13	0.01
Between Deficit and Unaided schools	3.57	0.01
Between Grant-in-aid and Unaided schools	7.81	0.01

Comparing the mean achievement scores in Mathematics for the different management types, it can be concluded as follows.

| Unaided schools $>$ | Government & Deficit schools $>$ | Grant-in-aid schools |

4.1.5. Analysis of Achievement in Social Science

Mean and Standard Deviation were calculated for the total marks in Social Science.

$$N = 558$$

$$M = 82.44$$

$$SD = 24.22$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.1.5.1. Difference between Urban girls and Rural girls in their achievement in Social Science

Hypothesis-21: It states, " There is no significant difference between urban girls and rural girls in their achievement in Social Science".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Urban girls</u>	<u>Rural girls</u>
$N_1 = 426$	$N_2 = 132$
$M_1 = 85.30$	$M_2 = 73.23$
$SD_1 = 24.56$	$SD_2 = 20.45$

$$t = 9.93$$

The obtained value of $t = 9.93$ is significant at 0.01 level.

Therefore, there is a significant difference between urban girls and rural girls in their achievement in Social Science at 0.01 level.

Further, it is seen that the mean achievement score of girls in Social Science from urban schools is significantly greater than that from rural schools.

4.1.5.2. Difference between Tribal girls and Non-tribal girls in their achievement in Social Science

Hypothesis –22: It states, “There is no significant difference between tribal girls and non-tribal girls in their achievement in Social Science”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 82.08$	$M_2 = 84.04$
$SD_1 = 23.62$	$SD_2 = 26.55$

$$t = 0.69$$

The obtained value of $t = 0.69$ is not significant.

Therefore, there is no significant difference between tribal girls and non-tribal girls in their achievement in Social Science.

4.1.5.3 Difference between girls studying in Co-education schools and Girls only schools in their achievement in Social Science

Hypothesis –23: It states, “ There is no significant difference between girls studying in co-education schools and girls only schools in their achievement in Social Science”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education Schools.</u>	<u>Girls only Schools.</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 78.32$	$M_2 = 86.02$

$$SD_1 = 22.75$$

$$SD_2 = 24.84$$

$$t = 3.81$$

The obtained value of $t=3.81$ is significant at 0.01 level.

Therefore, there is a significant difference between girls studying in co-education schools and girls only schools in their achievement in Social Science at 0.01 level.

Further, it is seen that the mean achievement score of girls in Social Science from girls only schools is significantly greater than that from co-education schools.

4.1.5.4. Difference between Tribal girls from urban area and rural area in their achievement in Social Science

Hypothesis-24: It states, "There is no significant difference between tribal girls from urban area and rural area in their achievement in Social Science."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

Tribal- urban

Tribal-rural

$$N_1 = 324$$

$$N_2 = 131$$

$$M_1 = 85.67$$

$$M_2 = 73.21$$

$$SD_1 = 23.85$$

$$SD_2 = 20.52$$

$$t = 5.59$$

The obtained value of $t=5.59$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls from urban area and rural area in their achievement in Social Science at 0.01 level.

Further, it is seen that the mean achievement score of tribal girls in Social Science from urban area is significantly greater than that from rural area.

4.1.5.5. Difference among the different Management types of schools in their achievement in Social Science

Hypothesis-25: It states: "There is no significant difference among girls from schools belonging to four types of management, namely, Government , Deficit, Grant-in-aid and Unaided, in their total achievement in Social Science."

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 21: Details of analysis of achievement scores in Social Science for different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores ($\sum X$)	2437	23583	8633	11351
Sum of squares of scores ($\sum X^2$)	192945	2003403	636101	1287185
Mean	73.85	80.76	67.98	107.08
SD	20.14	18.42	19.77	26.13
N	33	292	127	106

Table 22 presents the summary of ANOVA for achievement scores of girls in Social Science from Government, Deficit, Grant-in-aid and Unaided schools.

Table 22: Summary of ANOVA for Achievement Scores of girls in Social

Science from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	94205.68	31401.89	74.77
Within groups	554	232654.1	419.9533	
Total	557	326859.8		

The obtained value of F is significant at 0.01 level. Therefore, there is a significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided schools in their achievement in Social Science.

Since the obtained value of F was significant, t-tests were carried to find out which of the pairs differ significantly.

(i) t-test between Government schools and Deficit schools

Government Schools

Deficit Schools

$$N_1 = 33$$

$$N_2 = 292$$

$$M_1 = 73.85$$

$$M_2 = 80.76$$

$$SD_1 = 20.14$$

$$SD_2 = 18.42$$

$$t = 1.88$$

The obtained value of $t = 1.88$ is not significant.

Therefore, there is no significant difference between the mean achievement scores of girls in Social Science from Government schools and Deficit schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 73.85$	$M_2 = 67.98$
$SD_1 = 20.14$	$SD_2 = 19.77$
$t = 1.50$	

The obtained value of $t = 1.50$ is not significant.

Therefore, there is no significant difference between the mean achievement scores of girls in Social Science from Government schools and Grant – in –aid schools.

(iii) t-test between Government schools and Unaided schools

<u>Government Schools</u>	<u>Unaided Schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 73.85$	$M_2 = 107.08$
$SD_1 = 20.14$	$SD_2 = 26.13$
$t = 7.67$	

The obtained value of $t = 7.67$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Social Science from Government schools and Unaided schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in Social Science from Unaided schools is significantly greater than that from Government schools.

(iii) t-test between Deficit schools and Grant-in-aid schools

<u>Deficit Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 80.76$	$M_2 = 67.98$
$SD_1 = 18.42$	$SD_2 = 19.77$

$$t = 6.20$$

The obtained value of $t = 6.20$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Social Science from Deficit schools and Grant – in –aid schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in Social Science from Deficit schools is significantly greater than that from Grant – in -aid schools.

(v) t-test between Deficit schools and Unaided schools

<u>Deficit Schools</u>	<u>Unaided Schools</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 80.76$	$M_2 = 107.08$
$SD_1 = 18.42$	$SD_2 = 26.13$

$$t = 9.54$$

The obtained value of $t = 9.54$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Social Science from Deficit schools and Unaided schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in Social Science from Unaided schools is significantly greater than that from Deficit schools.

(vi) t-test between Grant – in –aid schools and Unaided schools

<u>Grant – in – aid schools</u>	<u>Unaided Schools</u>
$N_1 = 127$	$N_2 = 106$
$M_1 = 67.98$	$M_2 = 107.08$
$SD_1 = 19.77$	$SD_2 = 26.13$

$$t = 12.65$$

The obtained value of $t = 12.65$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Social Science from Grant– in – aid schools and Unaided schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in Social Science from Unaided schools is significantly greater than that from Grant – in -aid schools. The t-values as obtained above are summarised below:

Table 23. Summary of the t- values obtained for difference between mean scores in Social Science of school types

Management types	t	Significance level
Between Govt. and Deficit Schools	1.88	n.s.
Between Govt. and Grant- in – aid schools	1.50	n.s.
Between Govt. and Unaided schools	7.67	0.01
Between Deficit and Grant – in- aid schools	6.20	0.01
Between Deficit and Unaided schools	9.54	0.01
Between Grant–in–aid and Unaided schools	12.65	0.01

Comparing the mean achievement scores in Social Science for the different management types, can be concluded as follows.

| Unaided schools | > | Deficit schools | > | Grant-in-aid & Government School |

4.1.5. Analysis of Achievement in Modern Indian Languages (MIL)

Mean and Standard Deviation were calculated for the total marks in MIL.

$$N = 558$$

$$M = 100.84$$

$$SD = 15.77$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.1.6.1. Difference between Urban girls and Rural girls in their achievement in MIL

Hypothesis-26: It states, " There is no significant difference between urban girls and rural girls in their achievement in MIL".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Urban girls</u>	<u>Rural girls</u>
$N_1 = 426$	$N_2 = 132$
$M_1 = 99.96$	$M_2 = 103.67$
$SD_1 = 16.74$	$SD_2 = 11.57$

$$t = 2.88$$

The obtained value of $t = 2.88$ is significant at 0.01 level.

Therefore, there is a significant difference between urban girls and rural girls in their achievement in MIL at 0.01 level.

Further, it is seen that the mean achievement score of girls in MIL from rural schools is significantly greater than that from urban schools.

4.1.6.2. Difference between Tribal girls and Non-tribal girls in their

Achievement in MIL

Hypothesis –27: It states, “There is no significant difference between tribal girls and non-tribal girls in their achievement in MIL”.

To test this hypothesis t-test was employed the details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 102.81$	$M_2 = 92.14$
$SD_1 = 13.80$	$SD_2 = 20.27$

$$t = 4.85$$

The obtained value of $t = 4.85$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls and non-tribal girls in their achievement in MIL at 0.01 level.

Further, it is seen that the mean achievement score of tribal girls in MIL is significantly greater than that of non-tribal girls.

4.1.6.3. Difference between girls studying Co-education schools and Girls only schools in their achievement in MIL

Hypothesis –28: It states, “ There is no significant difference between girls studying

in co-education schools and girls only schools in their achievement in MIL”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education Schools</u>	<u>Girls only Schools</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 99.34$	$M_2 = 102.13$
$SD_1 = 16.12$	$SD_2 = 15.31$
$t = 2.05$	

The obtained value of $t = 2.05$ is significant at 0.05 level.

Therefore, there is a significant difference between girls studying in co-education schools and girls only schools in their achievement in MIL at 0.05 level.

Further, it is seen that the mean achievement score of girls in MIL from girls only schools is significantly greater than that from co-education schools.

4.1.6.4. Difference between Tribal girls from urban area and rural area in their achievement in MIL

Hypothesis-29: It states, “There is no significant difference between tribal girls from urban area and rural area in their achievement in MIL.”

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal- urban</u>	<u>Tribal-rural</u>
$N_1 = 324$	$N_2 = 131$
$M_1 = 102.43$	$M_2 = 103.74$
$SD_1 = 14.58$	$SD_2 = 11.58$
$t = 1.01$	

The obtained value of $t = 1.01$ is not significant.

Therefore, there is no significant difference between tribal girls from urban area and rural area in their achievement in MIL.

4.1.6.5. Difference among the different Management types of schools in their achievement in MIL

Hypothesis-30: It states: "There is no significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided, in their total achievement in (MIL)".

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 24: Details of analysis of achievement scores in MIL for different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores ($\sum X$)	2968	30054	12258	10987
Sum of squares of scores ($\sum X^2$)	278802	3146302	1223310	1163845
Mean	89.94	102.92	96.52	103.65
SD	19.25	13.50	17.86	15.44
N	33	292	127	106

Table 25 presents the summary of ANOVA for achievement of girls in MIL from Government, Deficit, Grant-in-aid and Unaided schools.

Table 25: Summary of ANOVA for Achievement Scores of girls in MIL from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	8398.153	2799.384	11.92
Within groups	554	130070	234.7834	
Total	557	138468.2		

The obtained value of F is significant at 0.01 level.

Therefore, there is a significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their achievement in MIL.

Since the obtained value of F was significant, t-tests were carried out to find out which of the pairs differ significantly.

(i) t-test between Government schools and Deficit schools

Government Schools

Deficit Schools

$$N_1 = 33$$

$$N_2 = 292$$

$$M_1 = 89.94$$

$$M_2 = 102.92$$

$$SD_1 = 19.25$$

$$SD_2 = 13.50$$

$$t = 3.77$$

The obtained value of $t = 3.77$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in MIL from Government schools and Deficit schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in MIL from Deficit schools is significantly greater than that from Government schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 89.94$	$M_2 = 96.52$
$SD_1 = 19.25$	$SD_2 = 17.86$

$$t = 1.77$$

The obtained value of $t = 1.77$ is not significant.

Therefore, there is no significant difference between the mean achievement scores of girls in MIL from Government schools and Grant–in–aid schools.

(iii) t-test between Government schools and Unaided schools

<u>Government Schools</u>	<u>Unaided Schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 89.94$	$M_2 = 103.65$
$SD_1 = 19.25$	$SD_2 = 15.44$

$$t = 3.74$$

The obtained value of $t = 3.74$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in MIL from Government schools and Unaided schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in MIL from Unaided schools is significantly greater than that from Government schools.

(iv) t-test between Deficit schools and Grant-in-aid schools

<u>Deficit Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 102.92$	$M_2 = 96.52$
$SD_1 = 13.50$	$SD_2 = 17.86$

$$t = 3.62$$

The obtained value of $t = 3.62$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in MIL from Deficit schools and Grant – in –aid schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in MIL from Deficit schools is significantly greater than that from Grant – in -aid schools.

(v) t-test between Deficit schools and Unaided schools

<u>Deficit Schools</u>	<u>Unaided Schools</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 102.92$	$M_2 = 103.65$
$SD_1 = 13.50$	$SD_2 = 15.44$

$$t = 0.43$$

The obtained value of $t = 0.43$ is not significant.

Therefore, there is no significant difference between the mean achievement scores of girls in MIL from Deficit schools and Unaided schools.

(vi) t-test between Grant – in –aid schools and Unaided schools

<u>Grant – in – aid schools</u>	<u>Unaided Schools</u>
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$$N_1 = 127$$

$$N_2 = 106$$

$$M_1 = 96.52$$

$$M_2 = 103.65$$

$$SD_1 = 17.86$$

$$SD_2 = 15.44$$

$$t = 3.27$$

The obtained value of $t = 3.27$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in MIL from Grant – in –aid schools and Unaided schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in MIL from Unaided schools is significantly greater than that from Grant – in -aid schools.

The t- values as obtained above are summarised below:

Table 26: Summary of the t- values obtained for difference between mean scores in MIL of school types

Management types	t	Significance level
Between Govt. and Deficit schools	3.77	0.01.
Between Govt. and Grant-in-aid schools	1.77	n.s.
Between Govt. and Unaided schools	3.74	0.01
Between Deficit and Grant – in- aid schools	3.62	0.01
Between Deficit and Unaided schools	0.43	n.s.
Between Grant – in –aid and Unaided schools	3.27	0.01

Comparing the mean achievement scores in MIL for the different management types, it can be concluded as follows:

| Unaided & Deficit Schools |>| Government & Grant-in-aid Schools |

4.1.7. Analysis of Achievements in Health Education

Mean and Standard Deviation were calculated for the total marks in Health Education.

$$N = 558$$

$$M = 80.69$$

$$SD = 12.91$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.1.7.1. Difference between Urban girls and Rural girls in their achievement in Health Education

Hypothesis-31: It states, " There is no significant difference between urban girls and rural girls in their achievement in Health Education".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Urban girls</u>	<u>Rural girls</u>
$N_1 = 426$	$N_2 = 132$
$M_1 = 50.88$	$M_2 = 50.07$
$SD_1 = 13.17$	$SD_2 = 11.94$

$$t = 0.66$$

The obtained value of $t = 0.66$ is not significant.

Therefore, there is no significant difference between urban girls and rural girls in their achievement in Health Education.

4.1.7.2. Difference between Tribal girls and Non-tribal girls in their achievement in Health Education

Hypothesis –32: It states, “There is no significant difference between tribal girls and non-tribal girls in their achievement in Health Education”.

To test this hypothesis t-test was employed. The details of the analysis are s follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 50.45$	$M_2 = 51.76$
$SD_1 = 12.45$	$SD_2 = 14.63$

$$t = 0.84$$

The obtained value of $t = 0.84$ is not significant.

Therefore, there is no significant difference between tribal girls and non-tribal girls in their achievement in Health Education.

4.1.7.3 Difference between girls studying in Co-education schools and Girls only schools in their achievement in Health Education

Hypothesis –33: It states, “ There is no significant difference between girls studying in co-education schools and girls only schools in their achievement Health Education.”

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education Schools</u>	<u>Girls only Schools</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 48.83$	$M_2 = 52.29$

$$SD_1 = 13.37$$

$$SD_2 = 12.24$$

$$t = 3.17$$

The obtained value of $t = 3.17$ is significant at 0.01 level.

Therefore, there is a significant difference between girls studying in co-education schools and girls only schools in their achievement in Health Education at 0.01 level.

Further, it is seen that the mean achievement score of girls in Health Education from girls only schools is significantly greater than that from co-education schools.

4.1.7.4. Difference between Tribal girls from Urban area and Rural area in their achievement in Health Education

Hypothesis-34: It states, "There is no significant difference between tribal girls from urban area and rural area in their achievement in Health Education".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

Tribal- urban

Tribal-rural

$$N_1 = 324$$

$$N_2 = 131$$

$$M_1 = 50.59$$

$$M_2 = 50.08$$

$$SD_1 = 12.64$$

$$SD_2 = 11.98$$

$$t = 0.40$$

The obtained value of $t = 0.40$ is not significant.

Therefore, there is no significant difference between tribal girls from urban area and rural area in their achievement in Health Education.

4.1.7.5. Difference among the different Management types of schools in their achievement in Health Education

Hypothesis-35: It states: "There is no significant difference among girls from Schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided, in their total achievement in Health Education."

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 27: Details of analysis of achievement scores in Health Education for different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores (ΣX)	1568	14594	5653	6469
Sum of squares of scores (ΣX^2)	77080	761508	270401	417443
Mean	47.52	49.98	44.51	61.03
SD	8.97	10.50	12.21	14.69
N	33	292	127	106

Table 28 presents the summary of ANOVA for achievement of girls in Health Education from Government, Deficit, Grant-in-aid and Unaided schools.

Table 28: Summary of ANOVA for Achievement Scores of girls in Health

Education from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	16656.98	5552.325	40.41
Within groups	554	76110.77	137.3841	
Total	557	92767.74		

The obtained value of F is significant at 0.01 level.

Therefore, there is a significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their achievement in Health Education.

Since the obtained value of F was significant, t-tests were carried out to find out which of the pairs differ significantly.

(i) t-test between Government schools and Deficit schools

Government Schools

$$N_1 = 33$$

$$M_1 = 47.52$$

$$SD_1 = 8.97$$

Deficit Schools

$$N_2 = 292$$

$$M_2 = 49.98$$

$$SD_2 = 10.50$$

$$t = 1.46$$

The obtained value of $t = 1.46$ is not significant.

Therefore, there is no significant difference between the mean achievement scores of girls in Health Education from Government schools and Deficit schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 47.52$	$M_2 = 44.51$
$SD_1 = 8.97$	$SD_2 = 12.21$

$$t = 1.58$$

The obtained value of $t = 1.58$ is not significant.

Therefore, there is no significant difference between the mean achievement scores of girls in Health Education from Government schools and Grant – in –aid schools.

(iii) t-test between Government schools and Unaided schools

<u>Government Schools</u>	<u>Unaided Schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 47.52$	$M_2 = 61.03$
$SD_1 = 8.97$	$SD_2 = 14.69$

$$t = 6.37$$

The obtained value of $t = 6.37$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Health Education from Government schools and Unaided schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in Health Education from Unaided schools is significantly greater than that from Government schools.

(iv) t-test between Deficit schools and Grant-in-aid schools

<u>Deficit Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 49.98$	$M_2 = 44.51$
$SD_1 = 10.50$	$SD_2 = 12.21$

$t = 4.38$

The obtained value of $t = 4.38$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Health Education from Deficit schools and Grant – in –aid schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in Health Education from Deficit schools is significantly greater than that from Grant – in -aid schools.

(v) t-test between Deficit schools and Unaided schools

<u>Deficit Schools</u>	<u>Unaided Schools</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 49.98$	$M_2 = 61.03$
$SD_1 = 10.50$	$SD_2 = 11.69$

$t = 7.13$

The obtained value of $t = 7.13$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Health Education from Deficit schools and Unaided schools at 0.01 level.

Further, it is seen that the mean achievement score of girls in Health Education from Unaided schools is significantly greater than that from Deficit schools.

(vi) t-test between Grant – in –aid schools and Unaided schools

<u>Grant – in – aid schools</u>	<u>Unaided Schools</u>
$N_1 = 127$	$N_2 = 106$
$M_1 = 44.51$	$M_2 = 61.03$
$SD_1 = 12.21$	$SD_2 = 14.69$

$$t = 9.23$$

The obtained value of $t = 9.23$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean achievement scores of girls in Health Education from Grant – in –aid schools and Unaided schools at 0.01 level. Further, it is seen that the mean achievement score of girls in Health Education from Unaided schools is significantly greater than that from Grant – in -aid schools.

The t- values as obtained above are summarized below:

Table 29: Summary of the t- values obtained for difference between mean scores in Health Education of school types

Management types	t	Significance level
Between Govt. And Deficit Schools	1.46	n.s.
Between Govt. And Grant- in – aid schools	1.58	n.s.
Between Govt. And Unaided schools	6.37	0.01
Between Deficit and Grant – in- aid schools	4.38	0.01
Between Deficit and Unaided schools	7.13	0.01
Between Grant – in –aid and Unaided Schools	9.23	0.01

Comparing the mean achievement scores in Health Education for the different management types, it can be concluded as follows:

| Unaided schools | > | Government & Deficit schools | > | Grant-in-aid schools |

4.2. Educational Aspiration and Academic Achievement

As stated earlier in the previous chapter, the Educational Aspiration scores were obtained by administering Educational Aspiration Scale (EAS) Form P developed by Sharma and Gupta (1980) to the sample. The total marks obtained by the sample in the H.S.L.C. Examination (Class-X) conducted by MBOSE were taken as academic achievement scores.

4.2.1. Analysis of total Educational Aspiration

Mean and Standard Deviation were calculated for the total scores.

$$N = 558$$

$$M = 27.08$$

$$SD = 4.65$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.2.1.1. Difference between Urban girls and Rural girls in their Educational Aspiration

Hypothesis-36: It states, " There is no significant difference between urban girls and rural girls in their Educational Aspiration".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Urban girls</u>	<u>Rural girls</u>
$N_1 = 426$	$N_2 = 132$
$M_1 = 27.94$	$M_2 = 24.32$
$SD_1 = 4.46$	$SD_2 = 4.14$

$$t = 8.62$$

The obtained value of $t = 8.62$ is significant at 0.01 level.

Therefore, there is a significant difference between urban girls and rural girls in their Educational Aspiration at 0.01 level.

Further, it is seen that the mean score of girls in Educational Aspiration from urban schools is significantly greater than that from rural schools.

4.2.1.2. Difference between Tribal girls and Non-tribal girls in their Educational Aspiration

Hypothesis -37: It states, "There is no significant difference between tribal girls and non-tribal girls in their Educational Aspiration".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 27.10$	$M_2 = 27.00$
$SD_1 = 4.72$	$SD_2 = 4.34$

$$t = 0.20$$

The obtained value of $t = 0.20$ is not significant. Therefore, there is no significant difference between tribal girls and non-tribal girls in their Educational Aspiration.

4.2.1.3. Difference between girls studying in Co-education schools and Girls only schools in their Educational Aspiration

Hypothesis –38: It states, “ There is no significant difference between girls studying in co-education schools and girls only schools in their Educational Aspiration”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

	<u>Co-education Schools</u>	<u>Girls only Schools</u>
N_1	= 259	N_2 = 299
M_1	= 26.21	M_2 = 27.83
SD_1	= 4.65	SD_2 = 4.52

$$t = 4.15$$

The obtained value of $t=4.15$ is significant at 0.01 level.

Therefore, there is a significant difference between girls studying in co-education schools and girls only schools in their Educational Aspiration at 0.01 level.

Further, it is seen that the mean scores of girls in Educational Aspiration from girls only schools is significantly greater than that from co-education schools.

4.2.1.4. Difference between Tribal girls from urban area and rural area in their Educational Aspiration

Hypothesis-39: It states, “There is no significant difference between tribal girls from urban area and rural area in their Educational Aspiration.”

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal- urban</u>	<u>Tribal-rural</u>		
N_1	= 324	N_2	= 131
M_1	= 28.24	M_2	= 24.28

$$SD_1 = 4.45$$

$$SD_2 = 4.12$$

$$t = 9.00$$

The obtained value of $t=9.00$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls from urban area and rural area in their Educational Aspiration at 0.01 level.

Further, it is seen that the mean score of tribal girls in Educational Aspiration from urban area is significantly greater than that from rural area.

4.2.1.5. Difference among the different Management types of schools in their Educational Aspiration

Hypothesis-40: It states, "There is no significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided, in their Educational Aspiration."

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 30: Details of analysis of Educational Aspiration scores for the different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores ($\sum X$)	872	7963	3120	3156
Sum of squares of scores ($\sum X^2$)	23560	222809	78914	95962
Mean	26.42	27.27	24.57	29.77
SD	4.02	4.41	4.24	4.36
N	33	292	127	106

Table 31 presents the summary of ANOVA for Educational Aspiration scores of girls from Government, Deficit, Grant-in-aid and Unaided schools.

Table 31: Summary of ANOVA for Educational Aspiration scores of girls from Government, Deficit, Grant-in-aid and Unaided schools.

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	1595.937	531.9788	28.25
Within groups	554	10433.43	18.83291	
Total	557	12029.37		

The obtained value of F is significant at 0.01 level.

Therefore, there is a significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their Educational Aspiration.

Since the obtained value of F was significant, t-tests were carried to find out which of the pairs differs significantly.

(i) t-test between Government schools and Deficit schools

<u>Government Schools</u>	<u>Deficit Schools</u>
$N_1 = 33$	$N_2 = 292$
$M_1 = 26.42$	$M_2 = 27.27$
$SD_1 = 4.02$	$SD_2 = 4.41$

$$t = 1.13$$

The obtained value of $t = 1.13$ is not significant.

Therefore, there is no significant difference between the mean scores of girls in Educational Aspiration from Government schools and Deficit schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 26.42$	$M_2 = 24.57$
$SD_1 = 4.02$	$SD_2 = 4.24$

$$t = 2.34$$

The obtained value of $t = 2.34$ is significant at 0.05 level.

Therefore, there is a significant difference between the mean scores of girls in Educational Aspiration from Government schools and Grant – in –aid schools at 0.05 level. Further, it is seen that the mean score of girls in Educational Aspiration from Government schools is significantly greater than that from Grant-in-aid schools.

(iii) t-test between Government schools and Unaided schools

<u>Government Schools</u>	<u>Unaided Schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 26.42$	$M_2 = 29.77$
$SD_1 = 4.02$	$SD_2 = 4.36$

$$t = 4.09$$

The obtained value of $t = 4.09$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean scores of girls in Educational Aspiration from Government schools and Unaided schools at 0.01 level. Further, it is seen that the mean score of girls in Educational Aspiration from Unaided schools is significantly greater than that from Government schools.

(iv) t-test between Deficit schools and Grant-in-aid schools

<u>Deficit Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 27.27$	$M_2 = 24.57$
$SD_1 = 4.41$	$SD_2 = 4.24$
$t = 5.87$	

The obtained value of $t = 5.87$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean scores of girls in Educational Aspiration from Deficit schools and Grant – in –aid schools at 0.01 level.

Further, it is seen that the mean score of girls in Educational Aspiration from Deficit schools is significantly greater than that from Grant – in -aid schools.

(v) t-test between Deficit schools and Unaided schools

<u>Deficit Schools</u>	<u>Unaided Schools</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 27.27$	$M_2 = 29.77$
$SD_1 = 4.41$	$SD_2 = 4.36$
$t = 5.00$	

The obtained value of $t = 5.00$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean scores of girls in Educational Aspiration from Deficit schools and Unaided schools at 0.01 level.

Further, it is seen that the mean score of girls in Educational Aspiration from Unaided schools is significantly greater than that from Deficit schools.

(vi) t-test between Grant – in –aid schools and Unaided schools

<u>Grant – in – aid schools</u>	<u>Unaided Schools</u>
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$$N_1 = 127$$

$$N_2 = 106$$

$$M_1 = 24.57$$

$$M_2 = 29.77$$

$$SD_1 = 4.24$$

$$SD_2 = 4.36$$

$$t = 9.12$$

The obtained value of $t = 9.12$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean scores of girls in Educational Aspiration from Grant – in –aid schools and Unaided schools at 0.01 level. Further, it is seen that the mean score of girls in Educational Aspiration from Unaided schools is significantly greater than that from Grant – in -aid schools.

The t- values as obtained above are summarised below:

Table 32: Summary of the t- values obtained for difference between mean scores in Educational Aspiration of school types

Management types	t	Significance level
Between Govt. And Deficit schools	1.13	n.s.
Between Govt. And Grant- in – aid schools	2.34	0.05
Between Govt. and Unaided schools	4.09	0.01
Between Deficit and Grant – in- aid schools	5.87	0.01
Between Deficit and Unaided schools	5.00	0.01
Between Grant – in –aid and Unaided schools	9.12	0.01

Comparing the mean scores in Educational Aspiration for the different management types, it can be concluded as follows:

|Unaided schools| > |Government & Deficit schools| > |Grant-in-aid schools|

4.2.1.6. Correlation between Educational Aspiration and Academic Achievement of girls

Hypothesis-41: It states: "There is no significant relationship between Educational Aspiration and Academic Achievement of secondary school girls."

To test this hypothesis, product-moment coefficient of correlation was calculated between Educational Aspiration scores and Academic Achievement scores. The details of the analysis are as follows.

<u>Educational Aspiration</u>	<u>Academic Achievement</u>
(X)	(Y)
$N_1 = 558$	$N_2 = 558$
$\Sigma X = 15111$	$\Sigma Y = 269547$
$\Sigma X^2 = 421245$	$\Sigma Y^2 = 137295929$
$\Sigma XY = 26062940$	

Using the formula,
$$r = \frac{(N\Sigma XY) - (\Sigma X \cdot \Sigma Y)}{\sqrt{[(N\Sigma Y^2) - (\Sigma Y)^2][(N\Sigma X^2) - (\Sigma X)^2]}}$$

The value of r is found to be equal to 0.386. The obtained value of $r = 0.386$ is significant at 0.01 level.

Therefore, there is a significant positive relationship between Educational Aspiration and Academic Achievement of girls.

4.3. Self -Concept and Academic Achievement

As stated earlier in the previous chapter, the Self-concept scores were obtained by administering Self-Concept List (SCL) developed by Deo (1985) to the

sample. The total marks obtained by the sample in the H.S.L.C. Examination (Class-X) conducted by MBOSE were taken as academic achievement scores.

4.3.1. Analysis of total Self-Concept

Mean and Standard Deviation were calculated for the total scores.

$$N = 558$$

$$M = 96.66$$

$$SD = 26.76$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.3.1.1. Difference between Urban girls and Rural girls in their Self-Concept

Hypothesis-42: It states, " There is no significant difference between urban girls and rural girls in their Self-Concept".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Urban girls</u>	<u>Rural girls</u>
$N_1 = 426$	$N_2 = 132$
$M_1 = 97.95$	$M_2 = 92.48$
$SD_1 = 26.87$	$SD_2 = 26.07$

$$t = 2.09$$

The obtained value of $t = 2.09$ is significant at 0.05 level.

Therefore, there is a significant difference between urban girls and rural girls in their Self-Concept at 0.05 level.

Further, it is seen that the mean score of girls in Self-Concept from urban schools is significantly greater than that from rural schools.

4.3.1.2. Difference between Tribal girls and Non-tribal girls in their Self- Concept

Hypothesis –43: It states, “There is no significant difference between tribal girls and non-tribal girls in their Self-Concept”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 93.88$	$M_2 = 108.93$
$SD_1 = 26.43$	$SD_2 = 24.81$

$$t = 5.49$$

The obtained value of $t = 5.49$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls and non-tribal girls in their Self-concept at 0.01 level.

Further, it is seen that the mean score of non-tribal girls in Self-Concept is significantly greater than that of tribal girls.

4.3.1.3. Difference between girls studying in Co-education schools and Girls only Schools in their Self-Concept

Hypothesis –44: It states, “ There is no significant difference between girls studying in co-education schools and girls only schools in their Self-Concept”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

Co-education Schools.

Girls only Schools.

$$N_1 = 259$$

$$N_2 = 299$$

$$M_1 = 96.92$$

$$M_2 = 96.43$$

$$SD_1 = 27.72$$

$$SD_2 = 25.94$$

$$t = 0.21$$

The obtained value of $t=0.21$ is not significant.

Therefore, there is no significant difference between girls studying in co-education schools and girl only schools in their Self-Concept.

4.3.1.4. Difference between Tribal girls from urban area and rural area in their Self-Concept

Hypothesis-45: It states, "There is no significant difference between tribal girls from urban area and rural area in their Self-Concept."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

Tribal- urban

Tribal-rural

$$N_1 = 324$$

$$N_2 = 131$$

$$M_1 = 94.44$$

$$M_2 = 92.47$$

$$SD_1 = 26.50$$

$$SD_2 = 26.07$$

$$t = 0.73$$

The obtained value of $t = 0.73$ is not significant.

Therefore, there is no significant difference between tribal girls from urban area and rural area in their Self-Concept.

4.3.1.5. Differences among the different Management types of schools in their Self-Concept

Hypothesis-46: It states: "There is no significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided, in their Self-Concept."

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 33: Details of analysis of Self-Concept scores for different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores (ΣX)	3100	27417	12677	10740
Sum of squares of scores (ΣX^2)	317554	2765813	1375057	1153474
Mean	93.94	93.89	99.82	101.32
SD	28.69	25.65	29.50	24.94
N	33	292	127	106

Table 34 presents the summary of ANOVA for Self-Concept scores of girls from Government, Deficit, Grant-in-aid and Unaided schools.

Table 34: Summary of ANOVA for Self-Concept scores of girls from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	6048.419	2016.14	2.84
Within groups	554	392809.5	709.0424	
Total	557	398857.9		

The obtained value of F is significant at 0.05 level.

Therefore, there is a significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their Self-Concept.

Since the obtained value of F was significant, t-tests were carried out to find out which of the pairs differs significantly.

(i) t-test between Government schools and Deficit schools

<u>Government Schools</u>	<u>Deficit Schools</u>
$N_1 = 33$	$N_2 = 292$
$M_1 = 93.94$	$M_2 = 93.89$
$SD_1 = 28.69$	$SD_2 = 25.65$

$$t = 0.01$$

The obtained value of $t = 0.01$ is not significant.

Therefore, there is no significant difference between the mean scores of girls in Self-Concept from Government schools and Deficit schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government Schools</u>	<u>Grant-in-aid Schools</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 93.94$	$M_2 = 99.82$
$SD_1 = 28.69$	$SD_2 = 29.50$

$$t = 1.04$$

The obtained value of $t = 1.04$ is not significant.

Therefore, there is no significant difference between the mean scores of girls in Self-Concept from Government schools and Grant-in-aid schools.

(iii) t-test between Government schools and Unaided schools

<u>Government Schools</u>	<u>Unaided Schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 93.94$	$M_2 = 101.32$
$SD_1 = 28.69$	$SD_2 = 24.94$

$$t = 1.33$$

The obtained value of $t = 1.33$ is not significant.

Therefore, there is no significant difference between the mean scores of girls in Self-Concept from Government schools and Unaided schools.

(iv) t-test between Deficit schools and Grant-in-aid schools

<u>Deficit Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 93.89$	$M_2 = 99.82$
$SD_1 = 25.65$	$SD_2 = 29.50$

$$t = 1.96$$

The obtained value of $t = 1.96$ is significant at 0.05 level.

Therefore, there is a significant difference between the mean scores of girls in Self-Concept from Deficit schools and Grant – in –aid schools at 0.05 level.

Further, it is seen that the mean score of girls in Self-Concept from Grant-in-aid schools is significantly greater than that from Deficit schools.

(v) t-test between Deficit schools and Unaided schools

<u>Deficit Schools</u>	<u>Unaided Schools</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 93.89$	$M_2 = 101.32$

$$SD_1 = 25.65$$

$$SD_2 = 24.94$$

$$t = 2.61$$

The obtained value of $t = 2.61$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean scores of girls in Self-Concept from Deficit schools and Unaided schools at 0.01 level.

Further, it is seen that the mean score of girls in Self-Concept from Unaided schools is significantly greater than that from Deficit schools.

(vi) t-test between Grant – in –aid schools and Unaided schools

Grant – in – aid schools

Unaided Schools

$$N_1 = 127$$

$$N_2 = 106$$

$$M_1 = 99.82$$

$$M_2 = 101.32$$

$$SD_1 = 29.50$$

$$SD_2 = 24.94$$

$$t = 0.42$$

The obtained value of $t = 0.42$ is not significant.

Therefore, there is no significant difference between the mean scores of girls in Self-Concept from Grant – in –aid schools and Unaided schools.

The t- values as obtained above are summarised below:

Table 35: Summary of the t- values obtained for differences between mean scores in Self-Concept of school types

Management types	t	Significance level
Between Govt. and Deficit Schools	0.01	n.s.
Between Govt. and Grant- in – aid schools	1.04	n.s.
Between Govt. and Unaided schools	1.33	n.s.
Between Deficit and Grant – in- aid schools	1.96	0.05
Between Deficit and Unaided schools	2.61	0.01
Between Grant – in –aid and Unaided schools	0.42	n.s.

Comparing the mean scores of girls in Self-Concept for the different management types, it can be concluded as follows:

|Unaided schools| > |Grant-in-aid schools| > |Government & Deficit schools|

4.3.1.6 . Correlation between Self-Concept and Academic Achievement of girls

Hypothesis-48: It states: “There is no significant relationship between Self-Concept and Academic Achievement of secondary school girls”.

To test this hypothesis, product-moment coefficient of correlation was calculated between Self-Concept scores and Academic Achievement scores. The details of the analysis are as follows.

<u>Self-Concept</u>	<u>Academic Achievement</u>
(X)	(Y)
N ₁ =558	N ₂ =558
ΣX=53934	ΣY=269547

$$\Sigma X^2=5611898 \qquad \Sigma Y^2=137295929$$

$$\Sigma XY=26101939$$

Using the formula,
$$r = \frac{(N\Sigma XY)-(\Sigma X.\Sigma Y)}{\sqrt{[(N\Sigma Y^2)-(\Sigma Y)^2][(N\Sigma X^2)-(\Sigma X)^2]}}$$

The value of r is found to be equal to 0.0298. The obtained value of r = 0.0298 is not significant. Therefore, there is no significant relationship between Self-Concept and Academic Achievement of secondary school girls.

4.4. Interest in different areas and Academic Achievement

As stated earlier in the previous chapter, the Interest scores in different areas were obtained by administering Sodhi and Bhatnagar Interest Inventory (SBII) for girls to the sample. The total marks obtained by the sample in the H.S.L.C. Examination (Class-X) conducted by MBOSE were taken as academic achievement scores.

4.4.1. Analysis of Interest in literary area

Mean and Standard Deviation were calculated for the total Literary area of interest.

$$N = 558$$

$$M = 18.66$$

$$SD = 6.16$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.4.1.1. Difference between Urban girls and Rural girls in their Interest in Literary area

Hypothesis-48: It states, " There is no significant difference between urban girls and rural girls in their interest in Literary area".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Urban girls</u>	<u>Rural girls</u>
$N_1 = 426$	$N_2 = 132$
$M_1 = 17.81$	$M_2 = 21.39$
$SD_1 = 6.23$	$SD_2 = 5.05$

$$t = 6.75$$

The obtained value of $t = 6.75$ is significant at 0.01 level.

Therefore, there is a significant difference between urban girls and rural girls in their interest in Literary area at 0.01 level.

Further, it is seen that the mean interest score of girls in Literary area from rural schools is significantly greater than that from urban schools.

4.4.1.2. Difference between Tribal girls and Non-tribal girls in their Interest in Literary area

Hypothesis-49: It states, "There is no significant difference between tribal girls and non-tribal girls in their interest in Literary area".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 18.47$	$M_2 = 19.50$
$SD_1 = 6.21$	$SD_2 = 5.88$

$$t = 1.61$$

The obtained value of $t = 1.61$ is not significant.

Therefore, there is no significant difference between tribal girls and non-tribal girls in their interest in Literary area.

4.4.1.3. Difference between girls studying in Co-education schools and Girls only schools in their Interest in Literary area

Hypothesis -50: It states, " There is no significant difference between girls studying in co-education schools and girls only schools in their interest in Literary area".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education Schools</u>	<u>Girls only Schools</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 20.20$	$M_2 = 17.33$
$SD_1 = 5.91$	$SD_2 = 6.07$

$$t = 5.63$$

The obtained value of $t = 5.63$ is significant at 0.01 level.

Therefore, there is a significant difference between girls studying in co-education schools and girls only schools in their interest in Literary area at 0.01 level.

Further, it can be seen that the mean interest score of girls in Literary area from co-education is significantly greater than that from girls only schools.

4.4.1.4. Difference between Tribal girls from urban area and rural area in their Interest in literary area

Hypothesis-51: It states, "There is no significant difference between tribal girls from urban area and rural area in their interest in Literary are".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal- urban</u>	<u>Tribal-rural</u>
$N_1 = 324$	$N_2 = 131$
$M_1 = 17.27$	$M_2 = 21.44$
$SD_1 = 6.24$	$SD_2 = 4.68$

$$t = 7.72$$

The obtained value of $t = 7.72$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls from urban area and rural area in their interest in Literary area at 0.01level.

Further, it can be seen that the mean interest score of tribal girls from rural area is significantly greater than that from urban area.

4.4.1.5. Difference among the different Management types of schools in their Interest in literary area

Hypothesis-52: It states: "There is no significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided, in their interest in Literary area."

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 36: Details of analysis of Interest scores in Literary area for the different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores ($\sum X$)	509	5461	2722	1721
Sum of squares of scores ($\sum X^2$)	9141	112245	61648	32401
Mean	15.42	18.70	21.43	16.24
SD	6.35	5.89	5.12	6.52
N	33	292	127	106

Table 37 presents the summary of ANOVA for the interest in literary area from Government, Deficit, Grant-in-aid and Unaided schools.

Table 37: Summary of ANOVA for the Interest in Literary area from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	1945.56	648.52	18.74
Within groups	554	19169.42	34.60	
Total	557	21114.98		

The obtained value of F is significant at 0.01 level.

Therefore, there is a significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their interest in Literary area.

Since the obtained value of F was significant, t-tests were carried out to find out which of the pairs differ significantly.

(i) t-test between Government schools and Deficit schools

<u>Government Schools</u>	<u>Deficit Schools</u>
$N_1 = 33$	$N_2 = 292$
$M_1 = 15.42$	$M_2 = 18.70$
$SD_1 = 6.35$	$SD_2 = 5.89$

$$t = 2.83$$

The obtained value of $t = 2.83$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Literary area from Government schools and Deficit schools at 0.01 level.

Further, it is seen that the mean interest score of girls in Literary area from Deficit schools is significantly greater than that from Government schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government Schools</u>	<u>Grant -in -aid Schools</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 15.42$	$M_2 = 21.43$
$SD_1 = 6.35$	$SD_2 = 5.12$

$$t = 5.01$$

The obtained value of $t = 5.01$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Literary area from Government schools and Grant - in -aid schools at 0.01 level.

Further, it is seen that the mean interest score of girls in Literary area from Grant-in-aid schools is significantly greater than that from Government schools.

(iii) t-test between Government schools and Unaided schools

<u>Government Schools</u>	<u>Unaided Schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 15.42$	$M_2 = 16.24$
$SD_1 = 6.35$	$SD_2 = 6.52$

$$t = 0.65$$

The obtained value of $t = 0.65$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Literary area from Government schools and Unaided schools.

(iv) t-test between Deficit schools and Grant-in-aid schools

<u>Deficit Schools</u>	<u>Grant-in-aid Schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 18.70$	$M_2 = 21.43$
$SD_1 = 5.89$	$SD_2 = 5.12$

$$t = 4.79$$

The obtained value of $t = 4.79$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Literary area from Deficit schools and Grant-in-aid schools at 0.01 level.

Further, it is seen that the mean interest score of girls in Literary area from Grant-in-aid schools is significantly greater than that from Deficit schools.

(v) t-test between Deficit schools and Unaided schools

<u>Deficit Schools</u>	<u>Unaided Schools</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 18.70$	$M_2 = 16.24$

$$SD_1 = 5.89$$

$$SD_2 = 6.52$$

$$t = 3.42$$

The obtained value of $t = 3.42$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Literary area of Deficit schools and Unaided schools at 0.01 level.

Further, it is seen that the mean interest score of girls in Literary area from Deficit schools is significantly greater than that from Unaided schools.

(vi) t-test between Grant – in –aid schools and Unaided schools

Grant – in – aid schools

Unaided Schools

$$N_1 = 127$$

$$N_2 = 106$$

$$M_1 = 21.43$$

$$M_2 = 16.24$$

$$SD_1 = 5.12$$

$$SD_2 = 6.52$$

$$t = 6.65$$

The obtained value of $t = 6.65$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Literary area from Grant – in –aid schools and Unaided schools at 0.01 level.

Further, it is seen that the mean interest score of girls in Literary area from Grant-in-aid schools is significantly greater than that from Unaided schools.

The t- values as obtained above are summarised below:

Table 38: Summary of the t- values obtained for differences between mean scores of Interest in Literary area of school types

Management types	t	Significance level
Between Govt. And Deficit Schools	2.83	0.01.
Between Govt. And Grant- in – aid schools	5.01	0.01
Between Govt. And Unaided schools	0.65	n.s.
Between Deficit and Grant – in- aid schools	4.79	0.01
Between Deficit and Unaided schools	3.42	0.01
Between Grant – in –aid and Unaided schools	6.65	0.01

Comparing the mean interest scores in Literary area for the different management types, it can be concluded as follows:

|Grant-in-aid schools|>| Deficit schools|>| Government & Unaided schools|

4.4.1.6. Correlation between Interest in Literary area and Academic

Achievement of girls

Hypothesis-53: It states "There is no significant relationship between interest in Literary area and Academic achievement of secondary school girls".

To test this hypothesis, product – moment coefficient of correlation was calculated between interest in literary area and academic scores. The details of the analysis are as follows.

Interest in literary area.

Academic Achievement

(X)

(Y)

N₁ =558

N₂ =558

$$\Sigma X=10413$$

$$\Sigma Y=269547$$

$$\Sigma X^2=215435$$

$$\Sigma Y^2=137295929$$

$$\Sigma XY=4999616$$

Using the formula,
$$r = \frac{(N\Sigma XY)-(\Sigma X \cdot \Sigma Y)}{\sqrt{[(N\Sigma Y^2)-(\Sigma Y)^2][(N\Sigma X^2)-(\Sigma X)^2]}}$$

The value of r is found to be equal to -0.0789. The obtained value of r = -0.0789 is not significant. Therefore, there is no significant relationship between interest in literary area and academic achievement of girls.

4.4.2. Analysis of Interest in Outdoor area

Mean and Standard Deviation were calculated for the total outdoor area of interest.

$$N = 558$$

$$M = 17.21$$

$$SD = 5.50$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.4.2.1. Difference between Urban girls and Rural girls in their Interest in Outdoor area

Hypothesis-54: It states that, " There is no significant difference between urban girls and rural girls in their interest in Outdoor area".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Urban girls</u>	<u>Rural girls</u>
$N_1 = 426$	$N_2 = 132$
$M_1 = 17.36$	$M_2 = 16.72$
$SD_1 = 5.62$	$SD_2 = 5.09$

$$t = 1.23$$

The obtained value of $t = 1.23$ is not significant.

Therefore, there is no significant difference between urban girls and rural girls in their interest in Outdoor area.

4.4.2.2. Difference between Tribal girls and Non-tribal girls in their Interest in Outdoor area

Hypothesis -55: It states, "There is no significant difference between tribal girls and non-tribal girls in their interest in Outdoor area".

To test this hypothesis t-test was employed the details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 16.94$	$M_2 = 18.41$
$SD_1 = 5.25$	$SD_2 = 6.39$

$$t = 2.16$$

The obtained value of $t = 2.16$ is significant at 0.05 level.

Therefore, there is a significant difference between tribal girls and non-tribal girls in their interest in Outdoor area at 0.05 level.

Further, it can be seen that the mean interest scores of non-tribal girls in Outdoor area is significantly greater than that of tribal girls.

4.4.2.3. Difference between girls studying Co-education schools and Girls only schools in their Interest in Outdoor area

Hypothesis -56: It states, " There is no significant difference between girls studying in co-education schools and girls only schools in their interest in Outdoor area".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education Schools</u>	<u>Girls only Schools</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 17.96$	$M_2 = 16.56$
$SD_1 = 5.29$	$SD_2 = 5.61$

$$t = 3.04$$

The obtained value of $t=3.04$ is significant at 0.01 level.

Therefore, there is a significant difference between girls studying in co-education schools and girl only schools in their interest in Outdoor area at 0.01 level.

Further, it can be seen that the mean interest score of girls in Outdoor area from co-education school is significantly greater than that from girls only schools.

4.4.2.4. Difference between Tribal girls from urban area and rural area in their Interest in Outdoor area

Hypothesis-57: It states, "There is no significant difference between tribal girls from urban area and rural area in their Interest in Outdoor area."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

Tribal- urban

$$N_1 = 324$$

$$M_1 = 17.03$$

$$SD_1 = 5.31$$

Tribal-rural

$$N_2 = 131$$

$$M_2 = 16.71$$

$$SD_2 = 5.10$$

$$t = 0.60$$

The obtained value of $t = 0.60$ is not significant.

Therefore, there is no significant difference between tribal girls from urban area and rural area in their interest in Outdoor area.

4.4.2.5. Differences among the different Management types of schools in their Interest in Outdoor area.

Hypothesis-58: It states: "There is no significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided, in their interest in Outdoor area."

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 39: Details of analysis of Interest scores in Outdoor area for different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores ($\sum X$)	547	4831	2261	1963
Sum of squares of scores ($\sum X^2$)	11153	88455	43217	39255
Mean	16.58	16.54	17.80	18.52
SD	8.07	5.41	4.85	5.26
N	33	292	127	106

Table 40 presents the summary of ANOVA for the interest in Outdoor area from Government, Deficit, Grant-in-aid and Unaided schools.

Table 40: Summary of ANOVA for the Interest in Outdoor area from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	368.8625	122.9542	4.13
Within groups	554	16481.02	29.74914	
Total	557	16849.89		

The obtained value of F is significant at 0.01 level.

Therefore, there is a significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their interest in Outdoor area.

Since, the obtained value of F was significant, t-tests were carried out to find out which of the pairs differ significantly.

(i) t-test between Government schools and Deficit schools

Government Schools

Deficit Schools

$$N_1 = 33$$

$$N_2 = 292$$

$$M_1 = 16.58$$

$$M_2 = 16.54$$

$$SD_1 = 8.07$$

$$SD_2 = 5.41$$

$$t = 0.03$$

The obtained value of $t = 0.03$ is not significant.

Therefore, there is no significant difference between the mean interest score of girls in Outdoor area from Government schools and Deficit schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government Schools</u>	<u>Grant -in -aid Schools</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 16.58$	$M_2 = 17.80$
$SD_1 = 8.07$	$SD_2 = 4.85$
$t = 0.83$	

The obtained value of $t = 0.83$ is not significant.

Therefore, there is no significant difference between the mean interest score of girls in outdoor area from Government schools and Grant – in –aid schools.

(iii) t-test between Government schools and Unaided schools

<u>Government Schools</u>	<u>Unaided Schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 16.58$	$M_2 = 18.52$
$SD_1 = 8.07$	$SD_2 = 5.26$
$t = 1.30$	

The obtained value of $t = 1.30$ is not significant.

Therefore, there is no significant difference between the mean interest score of girls in Outdoor area from Government schools and Unaided schools.

(iv) t-test between Deficit schools and Grant-in-aid schools

<u>Deficit Schools</u>	<u>Grant -in -aid Schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 16.54$	$M_2 = 17.80$
$SD_1 = 5.41$	$SD_2 = 4.85$
$t = 2.38$	

The obtained value of $t = 2.38$ is significant at 0.05 level.

Therefore, there is a significant difference between the mean interest scores of girls in Outdoor area from Deficit schools and Grant – in –aid schools at 0.05 level.

Further, it is seen that the mean interest score of girls in Outdoor area from Grant-in-aid schools is significantly greater than that from Deficit schools.

(v) t-test between Deficit schools and Unaided schools

<u>Deficit Schools</u>	<u>Unaided Schools</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 16.54$	$M_2 = 18.52$
$SD_1 = 5.41$	$SD_2 = 5.26$

$$t = 3.3$$

The obtained value of $t = 3.3$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Outdoor area of Deficit schools and Unaided schools at 0.01 level.

Further, it is seen that the mean interest score of girls in Outdoor area from Unaided schools is significantly greater than that from Deficit schools.

(vi) t-test between Grant – in –aid schools and Unaided schools

<u>Grant – in – aid schools</u>	<u>Unaided Schools</u>
$N_1 = 127$	$N_2 = 106$
$M_1 = 17.80$	$M_2 = 18.52$
$SD_1 = 4.85$	$SD_2 = 5.26$

$$t = 1.07$$

The obtained value of $t = 1.07$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Outdoor area from Grant – in –aid schools and Unaided schools.

The t- values as obtained above are summarised below:

Table 41: Summary of the t- values obtained for differences between mean scores of Interest in Outdoor area of school types

Management types	t	Significance level
Between Govt. and Deficit Schools	0.03	n.s.
Between Govt. and Grant- in – aid schools	0.83	n.s
Between Govt. and Unaided schools	1.30	n.s.
Between Deficit and Grant – in- aid schools	2.38	0.05
Between Deficit and Unaided schools	3.3	0.01
Between Grant – in –aid and Unaided schools	1.07	n.s

Comparing the mean interest scores in Outdoor area for the different management types, it can be concluded as follows:

|Grant-in-aid & Unaided schools| > |Government & Deficit schools|

4.4.2.6. Correlation between Interest in Outdoor area and Academic achievement of girls

Hypothesis-59: It states: "There is no significant relationship between interest in Outdoor area and Academic achievement of secondary school girls".

To test this hypothesis, product-moment coefficient of correlation was calculated between Interest in Outdoor area and Academic Achievement scores. The details of the analysis are as follows.

<u>Interest in Outdoor area</u>	<u>Academic Achievement</u>
(X)	(Y)
$N_1 = 558$	$N_2 = 558$
$\Sigma X = 9602$	$\Sigma Y = 269547$
$\Sigma X^2 = 182080$	$\Sigma Y^2 = 137295929$
$\Sigma XY = 7412189$	

Using the formula,
$$r = \frac{(N\Sigma XY) - (\Sigma X \cdot \Sigma Y)}{\sqrt{[(N\Sigma Y^2) - (\Sigma Y)^2][(N\Sigma X^2) - (\Sigma X)^2]}}$$

The value of r is found to be equal to 0.02469. The obtained value of $r = 0.02469$ is not significant. Therefore, there is no significant relationship between interest in outdoor area and Academic Achievement of girls.

4.4.3. Analysis of Interest in Mechanical area.

Mean and Standard Deviation were calculated for the total Mechanical area of Interest.

$$N = 558$$

$$M = 12.59$$

$$SD = 6.32$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.4.3.1. Difference between Urban girls and Rural girls in their Interest in Mechanical area

Hypothesis-60: It states, " There is no significant difference between urban girls and rural girls in their interest in Mechanical area."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Urban girls</u>	<u>Rural girls</u>
$N_1 = 426$	$N_2 = 132$
$M_1 = 11.77$	$M_2 = 15.27$
$SD_1 = 5.98$	$SD_2 = 6.66$

$$t = 5.38$$

The obtained value of $t = 5.38$ is significant at 0.01 level.

Therefore, there is a significant difference between urban girls and rural girls in their interest in Mechanical area at 0.01 level.

Further, it is seen that the mean interest scores of girls in Mechanical area from rural area is significantly greater than that from urban area.

4.4.3.2. Difference between Tribal girls and Non-tribal girls in their Interest in Mechanical area

Hypothesis -61: It states, "There is no significant difference between tribal girls and non-tribal girls in their interest in Mechanical area ."

To test this hypothesis t-test was employed the details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 12.44$	$M_2 = 13.27$
$SD_1 = 6.29$	$SD_2 = 6.44$

$$t = 1.19$$

The obtained value of $t = 1.19$ is not significant.

Therefore, there is no significant difference between tribal girls and non-tribal girls in their interest in Mechanical area.

4.4.3.3 Difference between girls studying in Co-education schools and Girls only schools in their Interest in Mechanical area

Hypothesis –62: It states, “ There is no significant difference between girls studying in co-education schools and girls only schools in their interest in Mechanical area”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education Schools</u>	<u>Girls only Schools</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 13.97$	$M_2 = 11.40$
$SD_1 = 6.70$	$SD_2 = 5.72$
$t = 4.85$	

The obtained value of $t = 4.85$ is significant at 0.01 level.

Therefore, there is a significant difference between girls studying in co-education schools and girls only schools in their interest in Mechanical area at 0.01 level.

Further, it is seen that the mean interest score of girls in Mechanical area from co-education schools girls is significantly greater than that from girls only schools.

4.4.3.3. Difference between Tribal girls from urban area and rural area in their Interest in Mechanical area

Hypothesis-63: It states, “There is no significant difference between tribal girls from urban area and rural area in their interest in Mechanical area”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal-urban</u>	<u>Tribal-rural</u>
$N_1 = 324$	$N_2 = 131$
$M_1 = 11.30$	$M_2 = 15.25$
$SD_1 = 5.75$	$SD_2 = 6.69$

$$t = 5.90$$

The obtained value of $t = 5.90$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls from urban area and rural area in their interest in Mechanical area at 0.01 level.

Further, it can be seen that the mean interest score of tribal girls from rural area is significantly greater than that from urban area.

4.4.3.5. Differences among the different Management types of schools in their Interest in Mechanical area

Hypothesis-64: It states: "There is no significant difference among girls from Schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided, in their interest in Mechanical area."

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 42: Details of analysis of Interest scores in Mechanical area for different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores ($\sum X$)	466	3580	1831	1150
Sum of squares of scores ($\sum X^2$)	7768	53860	31729	17376
Mean	14.12	12.26	14.42	10.85
SD	6.09	5.85	6.50	6.83
N	33	292	127	106

Table 43 presents the summary of ANOVA for the interest in Mechanical area from Government, Deficit, Grant-in-aid and Unaided schools.

Table 43: Summary of ANOVA for the Interest in Mechanical area from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	854.453	284.8177	7.38
Within groups	554	21386.2	38.60325	
Total	557	22240.65		

The obtained value of F is significant at 0.01 level.

Therefore, there is a significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their interest in Mechanical area.

Since the obtained value of F was significant, t-tests were carried out to find out which of the pairs differ significantly.

(i) t-test between Government schools and Deficit schools

<u>Government Schools</u>	<u>Deficit Schools</u>
$N_1 = 33$	$N_2 = 292$
$M_1 = 14.12$	$M_2 = 12.26$
$SD_1 = 6.09$	$SD_2 = 5.85$

$$t = 1.68$$

The obtained value of $t = 1.68$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Mechanical area from Government schools and Deficit schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 14.12$	$M_2 = 14.42$
$SD_1 = 6.09$	$SD_2 = 6.50$

$$t = 0.25$$

The obtained value of $t = 0.25$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Mechanical area from Government schools and Grant – in –aid schools.

(iii) t-test between Government schools and Unaided schools

<u>Government Schools</u>	<u>Unaided Schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 14.12$	$M_2 = 10.85$
$SD_1 = 6.09$	$SD_2 = 6.83$

$$t = 2.62$$

The obtained value of $t = 2.62$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Mechanical area from Government schools and Unaided schools at 0.01 level.

Further, it is seen that the mean interest score of girls in Mechanical area from government schools is significant greater than that from Unaided schools.

(iv) t-test between Deficit schools and Grant-in-aid schools

<u>Deficit Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 12.26$	$M_2 = 14.42$
$SD_1 = 5.85$	$SD_2 = 6.50$

$$t = 3.22$$

The obtained value of $t = 3.22$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Mechanical area from Deficit schools and Grant – in –aid schools at 0.01 level.

Further, it is seen that the mean interest score of girls in Mechanical area from Grant-in-aid schools is significantly greater than that from Deficit schools.

(v) t-test between Deficit schools and Unaided schools

<u>Deficit Schools</u>	<u>Unaided Schools</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 12.26$	$M_2 = 10.85$
$SD_1 = 5.85$	$SD_2 = 6.83$

$$t = 1.88$$

The obtained value of $t = 1.88$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Mechanical area from Deficit schools and Unaided schools.

(vi) t-test between Grant – in –aid schools and Unaided schools

<u>Grant – in – aid schools</u>	<u>Unaided Schools</u>
$N_1 = 127$	$N_2 = 106$
$M_1 = 14.42$	$M_2 = 10.85$
$SD_1 = 6.5$	$SD_2 = 6.83$

$$t = 4.06$$

The obtained value of $t = 4.06$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Mechanical area from Grant – in –aid schools and Unaided schools at 0.01 level.

Further, it is seen that the mean interest scores of girls in Mechanical area from Grant-in-aid schools is significantly greater than that from Unaided schools.

The t- values as obtained above are summarised below:

Table 44: Summary of the t- values obtained for difference between mean scores of Interest in Mechanical area of school types

Management types	t	Significance level
Between Govt. and Deficit Schools	1.68	n.s
Between Govt. and Grant- in – aid schools	0.25	n.s
Between Govt. and Unaided schools	2.62	0.01
Between Deficit and Grant – in- aid schools	3.22	0.01
Between Deficit and Unaided schools	1.88	n.s
Between Grant – in –aid and Unaided schools	4.06	0.01

Comparing the mean interest scores in Mechanical area for the different management types, it can be concluded as follows:

|Grant-in-aid & Government schools | > | Unaided & Deficit schools |

4.4.3.6. Correlation between Interest in Mechanical area and Academic achievement of girls

Hypothesis-65: It states "There is no significant relationship between interest in Mechanical area and Academic achievement of secondary school girls".

To test this hypothesis, product – moment coefficient of correlation was calculated between interest in Mechanical area and academic achievement scores. The details of the analysis are as follows.

<u>Interest in Mechanical area.</u>	<u>Academic Achievement</u>
(X)	(Y)
$N_1 = 558$	$N_2 = 558$
$\Sigma X = 7027$	$\Sigma Y = 269547$
$\Sigma X^2 = 110733$	$\Sigma Y^2 = 137295929$
$\Sigma XY = 3333102$	

Using the formula,

$$r = \frac{(N\Sigma XY) - (\Sigma X \cdot \Sigma Y)}{\sqrt{[(N\Sigma Y^2) - (\Sigma Y)^2][(N\Sigma X^2) - (\Sigma X)^2]}}$$

The value of r is found to be equal to -0.155. The obtained value of r = -0.155 is significant at 0.01 level. Therefore, there is significant negative relationship between interest in Mechanical area and Academic achievement of girls at 0.01 level.

4.4.4. Analysis of Interest in Scientific area

Mean and Standard Deviation were calculated for the total interest in Scientific area.

$$N = 558$$

$$M = 18.61$$

$$SD = 7.09$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.4.4.1. Difference between urban girls and rural girls in their Interest in Scientific area

Hypothesis-66: It states , " There is no significant difference between urban girls and rural girls in their interest in Scientific area."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Urban girls</u>	<u>Rural girls</u>
$N_1 = 426$	$N_2 = 132$
$M_1 = 18.19$	$M_2 = 19.96$
$SD_1 = 7.26$	$SD_2 = 6.33$

$$t = 2.72$$

The obtained value of $t = 2.72$ is significant at 0.01 level.

Therefore, there is a significant difference between urban girls and rural girls in their interest in Scientific area at 0.01 level.

Further, it is seen that the mean interest score of girls in Scientific area from rural area is significantly greater than that from urban area.

4.4.4.2. Difference between Tribal girls and Non-tribal girls in their Interest in Scientific area

Hypothesis –67: It states, “There is no significant difference between tribal girls and non-tribal girls in interest in Scientific area”.

To test this hypothesis t-test was employed the details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 18.33$	$M_2 = 19.83$
$SD_1 = 7.06$	$SD_2 = 7.12$

$$t = 1.92$$

The obtained value of $t = 1.92$ is not significant.

Therefore, there is no significant difference between tribal girls and non-tribal girls in their interest in Scientific area.

4.4.4.3. Difference between girls studying in Co-education schools and Girls only schools in their Interest in Scientific area

Hypothesis–68: It states, “ There is no significant difference between girls studying in co-education schools and girls only schools in their interest in Scientific area.”

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education Schools</u>	<u>Girls only Schools</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 19.83$	$M_2 = 18.38$
$SD_1 = 6.85$	$SD_2 = 7.13$

$$t = 2.46$$

The obtained value of $t = 2.46$ is significant at 0.05 level.

Therefore, there is a significant difference between girls studying in co-education schools and girl only schools in their interest in Scientific area at 0.05 level.

Further, it can be seen that the mean interest score of girls in Scientific area from co-education girls is significantly greater than that from girls only schools.

4.4.4.4. Difference between Tribal girls from urban area and rural area in their Interest in Scientific area

Hypothesis-69: It states, "There is no significant difference between tribal girls from urban area and rural area in their interest in Scientific area".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal- urban</u>	<u>Tribal-rural</u>
$N_1 = 324$	$N_2 = 131$
$M_1 = 17.66$	$M_2 = 19.98$
$SD_1 = 7.22$	$SD_2 = 6.35$

$$t = 3.41$$

The obtained value of $t = 3.41$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls from urban area and rural area in their interest in Scientific area at 0.01 level.

Further, it can be seen that the mean interest score of tribal girls in Scientific area from rural area is significantly greater than that from urban area.

4.4.4.5. Difference among the different Management types of schools in their Interest in Scientific area

Hypothesis-70: It states: "There is no significant difference among girls from

schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided, in their interest in Scientific area”.

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 45: Details of analysis of Interest scores in Scientific area for different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores (ΣX)	568	5372	2633	1810
Sum of squares of scores (ΣX^2)	12498	111468	59355	37846
Mean	17.21	18.40	20.73	17.08
SD	9.22	6.59	6.15	8.13
N	33	292	127	106

Table 46 presents the summary of ANOVA for the interest in Scientific area from Government, Deficit, Grant-in-aid and Unaided schools.

Table 46: Summary of ANOVA for the Interest in Scientific area from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	899.3216	299.7739	6.14
Within groups	554	27065.73	48.8551	
Total	557	27965.05		

The obtained value of F is significant at 0.01 level.

Therefore, there is a significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their interest in Scientific area.

Since the obtained value of F was significant, t-tests were carried out to find out which of the pairs differ significantly.

(i) t-test between Government schools and Deficit schools

<u>Government Schools</u>	<u>Deficit Schools</u>
$N_1 = 33$	$N_2 = 292$
$M_1 = 17.21$	$M_2 = 18.40$
$SD_1 = 9.22$	$SD_2 = 6.59$
$t = 0.44$	

The obtained value of $t = 0.44$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Scientific area from Government schools and Deficit schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government Schools</u>	<u>Grant -in -aid Schools</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 17.21$	$M_2 = 20.73$
$SD_1 = 9.22$	$SD_2 = 6.15$
$t = 2.07$	

The obtained value of $t = 2.07$ is significant at 0.05 level.

Therefore, there is a significant difference between the mean interest scores of girls in Scientific area from Government schools and Grant - in -aid schools at 0.05 level.

Further, it is seen that the mean interest score of girls in Scientific area from Grant-in-aid schools is significantly greater than that from Government schools.

(iii) t-test between Government schools and Unaided schools

<u>Government Schools</u>	<u>Unaided Schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 17.21$	$M_2 = 17.08$
$SD_1 = 9.22$	$SD_2 = 8.13$

$$t = 0.07$$

The obtained value of $t = 0.07$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Scientific area from Government schools and Unaided schools.

(iv) t-test between Deficit schools and Grant-in-aid schools

<u>Deficit Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 18.40$	$M_2 = 20.73$
$SD_1 = 6.59$	$SD_2 = 6.15$

$$t = 3.48$$

The obtained value of $t = 3.48$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Scientific area from Deficit schools and Grant – in –aid schools at 0.01 level.

Further, it is seen that the mean interest score of girls in Scientific area from Grant-in-aid schools is significantly greater than that from Deficit schools.

(iv) t-test between Deficit schools and Unaided schools

<u>Deficit Schools</u>	<u>Unaided Schools</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 18.40$	$M_2 = 17.08$
$SD_1 = 6.59$	$SD_2 = 8.13$

$$t = 1.50$$

The obtained value of $t = 1.50$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Scientific area of Deficit schools and Unaided schools.

(vi) t-test between Grant – in –aid schools and Unaided schools

<u>Grant – in – aid schools</u>	<u>Unaided Schools</u>
$N_1 = 127$	$N_2 = 106$
$M_1 = 20.73$	$M_2 = 17.08$
$SD_1 = 6.15$	$SD_2 = 8.13$

$$t = 3.80$$

The obtained value of $t = 3.80$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Scientific area from Grant – in –aid schools and Unaided schools at 0.01 level.

Further, it is seen that the mean interest score of girls in Scientific area from Grant-in-aid schools is significantly greater than that from Unaided schools.

The t- values as obtained above are summarised below:

Table 47: Summary of the t- values obtained for difference between mean scores of Interest in Scientific area of school types

Management types	t	Significance level
Between Govt. and Deficit Schools	0.44	n.s.
Between Govt. and Grant- in – aid schools	2.07	0.05
Between Govt. and Unaided schools	0.07	n.s.
Between Deficit and Grant – in- aid schools	3.48	0.01
Between Deficit and Unaided schools	1.50	n.s.
Between Grant – in –aid and Unaided schools	3.80	0.01

Comparing the mean interest scores in Scientific area for the different management types, it can be concluded as follows:

| Grant-in-aid schools | > | Deficit & Government & Unaided schools |

4.4.4.6. Correlation between Interest in Scientific area and Academic achievement of girls

Hypothesis-71: It states: "There is no significant relationship between interest in Scientific area and Academic achievement of secondary school girls".

To test this hypothesis, product – moment coefficient of correlation was calculated between interest in Scientific area and academic achievement scores. The details of the analysis are as follows.

<u>Interest in Scientific area.</u>	<u>Academic Achievement</u>
(X)	(Y)
$N_1 = 558$	$N_2 = 558$
$\Sigma X = 10383$	$\Sigma Y = 269547$

$$\Sigma X^2=221167$$

$$\Sigma Y^2=137295929$$

$$\Sigma XY=5039339$$

Using the formula,
$$r = \frac{(N\Sigma XY)-(\Sigma X.\Sigma Y)}{\sqrt{[(N\Sigma Y^2)-(\Sigma Y)^2][(N\Sigma X^2)-(\Sigma X)^2]}}$$

The value of r is found to be equal to 0.0533. The obtained value of r = 0.0533 is not significant. Therefore, there is no significant relationship between interest in Scientific area and Academic achievement of girls.

4.4.5. Analysis of Interest in Persuasive area

Mean and Standard Deviation were calculated for the total interest in Persuasive area.

$$N = 558$$

$$M = 4.74$$

$$SD = 2.31$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.4.5.1. Difference between Urban girls and Rural girls in their Interest in Persuasive area

Hypothesis-72: It states " There is no significant difference between urban girls and rural girls in their interest in Persuasive area".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

Urban girls

$$N_1 = 426$$

$$M_1 = 4.67$$

$$SD_1 = 2.31$$

Rural girls

$$N_2 = 132$$

$$M_2 = 4.95$$

$$SD_2 = 2.28$$

$$t = 1.22$$

The obtained value of $t = 1.22$ is not significant.

Therefore, there is no significant difference between urban girls and rural girls in their interest in Persuasive area.

4.4.5.2. Difference between Tribal girls and Non-tribal girls in their Interest in Persuasive area

Hypothesis –73: It states, “There is no significant difference between tribal girls and non-tribal girls in Interest in Persuasive area”.

To test this hypothesis t-test was employed the details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 4.64$	$M_2 = 5.18$
$SD_1 = 2.25$	$SD_2 = 2.48$

$$t = 2.00$$

The obtained value of $t = 2.00$ is significant at 0.05 level.

Therefore, there is a significant difference between tribal girls and non-tribal girls in their interest in Persuasive area at 0.05 level.

Further, it can be seen that the mean interest score of non-tribal girls in Persuasive area is significantly greater than that of tribal girls.

4.4.5.3 Difference between girls studying in Co-education schools and Girls only schools in their Interest in Persuasive area

Hypothesis –74: It states, “ There is no significant difference between girls studying in co-education schools and girls only schools in their interest in Persuasive area”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education Schools</u>	<u>Girls only Schools</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 4.98$	$M_2 = 4.53$
$SD_1 = 2.29$	$SD_2 = 2.30$
$t = 2.37$	

The obtained value of $t=2.37$ is significant at 0.05 level.

Therefore, there is a significant difference between girls studying in co-education schools and girl only schools in their interest in Persuasive area at 0.05 level.

Further, it can be seen that the mean interest score of girls in Persuasive area from co-education girls is significantly greater than that from girls only schools.

4.4.5.4. Difference between Tribal girls from urban area and rural area in their Interest in Persuasive area

Hypothesis-75: It states, "There is no significant difference between tribal girls from urban area and rural area in their interest in Persuasive area".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal- urban</u>	<u>Tribal-rural</u>
$N_1 = 324$	$N_2 = 131$
$M_1 = 4.51$	$M_2 = 4.95$
$SD_1 = 2.23$	$SD_2 = 2.29$
$t = 1.83$	

The obtained value of $t=1.83$ is not significant.

Table 49: Summary of ANOVA for the Interest in Persuasive area from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	27.39675	9.132249	1.73
Within groups	554	2930.877	5.290393	
Total	557	2958.274		

The obtained value of F is not significant. Therefore, there is no significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their interest in Persuasive area.

4.4.5.6. Correlation between Interest in Persuasive area and Academic Achievement of girls

Hypothesis-77: It states: "There is no significant relationship between interest in Persuasive area and Academic achievement of secondary school girls".

To test this hypothesis, product-moment coefficient of correlation was calculated between Interest in Persuasive area and Academic Achievement scores. The details of the analysis are as follows.

<u>Interest in Persuasive area</u>	<u>Academic Achievement</u>
(X)	(Y)
$N_1 = 558$	$N_2 = 558$
$\sum X = 2643$	$\sum Y = 269547$
$\sum X^2 = 15477$	$\sum Y^2 = 137295929$

$$\Sigma XY = 1263765$$

Using the formula,
$$r = \frac{(N\Sigma XY) - (\Sigma X \cdot \Sigma Y)}{\sqrt{[(N\Sigma Y^2) - (\Sigma Y)^2][(N\Sigma X^2) - (\Sigma X)^2]}}$$

The value of r is found to be equal to -0.0894. The obtained value of r = -0.0894 is significant at 0.05 level.

Therefore, there is a significant negative relationship between interest in Persuasive area and total Academic achievement of girls.

4.4.6. Analysis of Interest in Social Service area

Mean and Standard Deviation were calculated for the total interest in Social Service area.

$$N = 558$$

$$M = 11.51$$

$$SD = 3.72$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.4.6.1. Difference between urban girls and rural girls in their Interest in Social Service area

Hypothesis-78: It states " There is no significant difference between urban girls and rural girls in their interest in Social Service area".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

Urban girls

$$N_1 = 426$$

$$M_1 = 11.59$$

$$SD_1 = 3.72$$

Rural girls

$$N_2 = 132$$

$$M_2 = 11.23$$

$$SD_2 = 3.70$$

$$t = 0.97$$

The obtained value of $t = 0.97$ is not significant.

Therefore, there is no significant difference between urban girls and rural girls in their interest in Social Service area.

4.4.6.2. Difference between Tribal girls and Non-tribal girls in their Interest in Social Service area

Hypothesis –79: It states, “There is no significant difference between tribal girls and non-tribal girls in interest in Social Service area”.

To test this hypothesis t-test was employed the details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 11.28$	$M_2 = 12.50$
$SD_1 = 3.72$	$SD_2 = 3.55$

$$t = 3.13$$

The obtained value of $t = 3.13$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls and non-tribal girls in their interest in Social Service area at 0.01 level.

Further, it is seen that the mean interest score of non-tribal girls in Social Service area is significantly greater than that of tribal girls.

4.4.6.2. Difference between girls studying in Co-education schools and Girls only schools in their Interest in Social Service area

Hypothesis –80: It states, “ There is no significant difference between girls studying in co-education schools and girls only schools in their interest in Social Service area”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education Schools</u>	<u>Girls only Schools</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 11.96$	$M_2 = 11.12$
$SD_1 = 3.66$	$SD_2 = 3.73$
$t = 2.71$	

The obtained value of $t = 2.71$ is significant at 0.01 level.

Therefore, there is a significant difference between girls studying in co-education schools and girl only schools in their interest in Social Service area at 0.01 level.

Further, it can be seen that the mean interest score of girls in Social Service area from co-education girls is significantly greater than that from girls only schools.

4.4.6.4. Difference between Tribal girls from urban area and rural area in their Interest in Social Service area

Hypothesis-81: It states, "There is no significant difference between tribal girls from urban area and rural area in their interest in Social Service area."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal- urban</u>	<u>Tribal-rural</u>
$N_1 = 324$	$N_2 = 131$
$M_1 = 12.51$	$M_2 = 11.22$
$SD_1 = 3.73$	$SD_2 = 3.71$
$t = 3.39$	

The obtained value of $t = 3.39$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls from urban area and rural area in their interest in Social Service area at 0.01 level.

Further, it can be seen that the mean interest scores of tribal girls from rural area is significantly greater than that from urban area.

4.4.6.5. Difference among the different Management types of schools in their Interest in Social Service area

Hypothesis-82: It states, "There is no significant difference among girls from Schools belonging to four types of management, namely, Government Deficit, Grant-in-aid and Unaided, in their interest in Social Service area".

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table50: Details of analysis of Interest scores in Social Service area for different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores ($\sum X$)	351	3319	1541	1210
Sum of squares of scores ($\sum X^2$)	4413	41323	20295	15550
Mean	10.64	11.37	12.13	11.42
SD	4.61	3.52	3.56	4.07
N	33	292	127	106

Table 51 presents the summary of ANOVA for the interest in Social Service area from Government, Deficit, Grant-in-aid and Unaided schools.

Table 51: Summary of ANOVA for the Interest in Social Service area from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	81.58	27.19454	1.98
Within groups	554	7611.888	13.73987	
Total	557	7693.471		

The obtained value of F is not significant.

Therefore, there is no significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their interest in Social Service area.

4.4.6.6. Correlation between Interest in Social Service area and Academic Achievement of girls

Hypothesis-83: It states, "There is no significant relationship between interest in Social Service area and Academic achievement of secondary school girls".

To test this hypothesis, product – moment coefficient of correlation was calculated between interest in Social Service area and Academic achievement scores. The details of the analysis are as follows.

<u>Interest in Social Service area.</u>	<u>Academic Achievement</u>
(X)	(Y)
$N_1 = 558$	$N_2 = 558$
$\sum X = 6421$	$\sum Y = 269547$
$\sum X^2 = 81581$	$\sum Y^2 = 137295929$

$$\Sigma XY = 3112286$$

Using the formula,
$$r = \frac{(N\Sigma XY) - (\Sigma X \cdot \Sigma Y)}{\sqrt{[(N\Sigma Y^2) - (\Sigma Y)^2][(N\Sigma X^2) - (\Sigma X)^2]}}$$

The value of r is found to be equal to 0.0452. The obtained value of $r = 0.0452$ is not significant. Therefore, there is no significant negative relationship between interest in Social Service area and Academic Achievement of girls.

4.4.7. Analysis of Interest in Artistic and Constructive area

Mean and Standard Deviation were calculated for the total interest in Artistic and Constructive area.

$$N = 558$$

$$M = 14.00$$

$$SD = 4.54$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.4.7.1. Difference between urban girls and rural girls in their Interest in Artistic and Constructive area

Hypothesis-84: It states, "There is no significant difference between urban girls and rural girls in their interest in Artistic and Constructive area."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

	<u>Urban girls</u>	<u>Rural girls</u>
	$N_1 = 426$	$N_2 = 132$
	$M_1 = 14.20$	$M_2 = 13.35$
	$SD_1 = 4.61$	$SD_2 = 4.26$

$$t = 1.98$$

The obtained value of $t = 1.98$ is significant at 0.05 level.

Therefore, there is a significant difference between urban girls and rural girls in their interest in Artistic and Constructive area at 0.05 level.

Further, it is seen that the mean interest score of girls in Artistic and Constructive area from urban schools is significantly greater than that from rural schools.

4.4.7.2. Difference between Tribal girls and Non-tribal girls in their Interest in Artistic and Constructive area

Hypothesis –85: It states, "There is no significant difference between tribal girls and non-tribal girls in interest in Artistic and Constructive area".

To test this hypothesis t-test was employed the details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 13.61$	$M_2 = 15.70$
$SD_1 = 4.39$	$SD_2 = 4.79$

$$t = 4.10$$

The obtained value of $t = 4.10$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls and non-tribal girls in their interest in Artistic and Constructive area at 0.01 level.

Further, it is seen that the mean interest score of non-tribal girls in Artistic and Constructive is significantly greater than that of tribal girls.

4.4.7.3. Difference between girls studying in Co-education schools and Girls only schools in their Interest in Artistic and Constructive area

Hypothesis –86: It states, “ There is no significant difference between girls studying in co-education schools and girls only schools in their interest in Artistic and Constructive area”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education Schools</u>	<u>Girls only Schools</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 14.68$	$M_2 = 13.41$
$SD_1 = 4.53$	$SD_2 = 4.47$
$t = 3.34$	

The obtained value of $t=3.34$ is significant at 0.01 level.

Therefore, there is a significant difference between girls studying in co-education schools and girl only schools in their interest in Artistic and Constructive area at 0.01 level.

Further, it can be seen that the mean Interest score of girls in Artistic and Constructive area from co-education girls is significantly greater than that from girls only schools.

4.4.7.4. Difference between Tribal girls from urban area and rural area in their Interest in Artistic and Constructive area

Hypothesis-87: It states, “There is no significant difference between tribal girls from urban area and rural area in their interest in Artistic and Constructive area.”

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal- urban</u>	<u>Tribal-rural</u>
$N_1 = 324$	$N_2 = 131$
$M_1 = 13.72$	$M_2 = 13.35$
$SD_1 = 4.45$	$SD_2 = 4.27$

$$t = 0.82$$

The obtained value of $t=0.82$ is not significant.

Therefore, there is no significant difference between tribal girls from urban area and rural area in their interest in Artistic and Constructive area.

4.4.7.5. Difference among the different Management types of schools in their Interest in Artistic and Constructive area

Hypothesis-88: It states: "There is no significant difference among girls from school belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided, in their interest in Artistic and Constructive area".

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 52: Details of analysis of Interest scores in Artistic and Constructive area for different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores ($\sum X$)	444	3965	1909	1492
Sum of squares of scores ($\sum X^2$)	7182	59461	30883	23254
Mean	13.45	13.58	15.03	14.08
SD	6.14	4.40	4.17	4.63
N	33	292	127	106

Table 53 presents the summary of ANOVA for the interest in Artistic and Constructive area from Government, Deficit, Grant-in-aid and Unaided schools.

Table 53: Summary of ANOVA for the Interest in Artistic and Constructive area from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	197.3524	65.78414	3.23
Within groups	554	11270.64	20.34412	
Total	557	11467.99		

The obtained value of F is significant at 0.05 level.

Therefore, there is a significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their interest in Artistic and Constructive area.

Since the obtained value of F was significant, t-tests were carried out to find which of the pairs differs significantly.

(i) t-test between Government schools and Deficit schools

Government Schools

$$N_1 = 33$$

$$M_1 = 13.45$$

$$SD_1 = 6.14$$

Deficit Schools

$$N_2 = 292$$

$$M_2 = 13.58$$

$$SD_2 = 4.40$$

$$t = 0.12$$

The obtained value of $t = 0.12$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Artistic and Constructive area from Government schools and Deficit schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 13.45$	$M_2 = 15.03$
$SD_1 = 6.14$	$SD_2 = 4.17$

$$t = 1.40$$

The obtained value of $t = 1.40$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Artistic and Constructive area from Government schools and Grant-in-aid schools.

(iii) t-test between Government schools and Unaided schools

<u>Government Schools</u>	<u>Unaided Schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 13.45$	$M_2 = 14.08$
$SD_1 = 6.14$	$SD_2 = 4.63$

$$t = 0.54$$

The obtained value of $t = 0.54$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Artistic and Constructive area from Government schools and Unaided schools.

(iv) t-test between Deficit schools and Grant-in-aid schools

<u>Deficit Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 13.58$	$M_2 = 15.03$
$SD_1 = 4.40$	$SD_2 = 4.17$

$$t = 3.22$$

The obtained value of $t = 3.22$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Artistic and Constructive area from Deficit schools and Grant – in –aid schools at 0.01 level.

Further, it is seen that the mean interest score of girls in Artistic and Constructive area from Grant-in-aid schools is significantly greater than that from Deficit schools.

(v) t-test between Deficit schools and Unaided schools

<u>Deficit Schools</u>	<u>Unaided Schools</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 13.58$	$M_2 = 14.08$
$SD_1 = 4.40$	$SD_2 = 4.63$

$$t = 0.96$$

The obtained value of $t = 0.96$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Artistic and Constructive area from Deficit schools and Unaided schools.

(vi) t-test between Grant – in –aid schools and Unaided schools

<u>Grant – in – aid schools</u>	<u>Unaided Schools</u>
$N_1 = 127$	$N_2 = 106$
$M_1 = 15.03$	$M_2 = 14.08$
$SD_1 = 4.17$	$SD_2 = 4.63$

$$t = 1.64$$

The obtained value of $t = 1.64$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Artistic and Constructive area from Grant – in –aid schools and Unaided schools.

The t- values as obtained above are summarised below:

Table 54: Summary of the t- values obtained for differences between mean scores of Interest in Artistic and Constructive area of school types

Management types	t	Significance level
Between Govt. and Deficit Schools	0.12	n.s
Between Govt. and Grant- in – aid schools	1.40	n.s
Between Govt. and Unaided schools	0.54	n.s.
Between Deficit and Grant – in- aid schools	3.22	0.01
Between Deficit and Unaided schools	0.96	n.s
Between Grant – in –aid and Unaided schools	1.64	n.s.

Comparing the mean interest scores in Artistic and constructive area for the different management types, it can be concluded as follows:

$$| \text{Grant-in-aid schools} | > | \text{Deficit \& Government \& Unaided schools} |$$

4.4.7.6. Correlation between Interest in Artistic and Constructive area and Academic Achievement of girls

Hypothesis-89: It states: "There is no significant relationship between interest in Artistic and Constructive area and academic achievement of secondary school girls".

To test this hypothesis, product – moment coefficient of correlation was calculated between interest in Artistic and Constructive area and academic achievement scores. The details of the analysis are as follows.

<u>Interest in Artistic and Constructive area.</u>	<u>Academic Achievement</u>
(X)	(Y)
$N_1 = 558$	$N_2 = 558$
$\Sigma X = 7810$	$\Sigma Y = 269547$
$\Sigma X^2 = 120780$	$\Sigma Y^2 = 137295929$
$\Sigma XY = 3767060$	

Using the formula,
$$r = \frac{(N\Sigma XY) - (\Sigma X \cdot \Sigma Y)}{\sqrt{[(N\Sigma Y^2) - (\Sigma Y)^2][(N\Sigma X^2) - (\Sigma X)^2]}}$$

The value of r is found to be equal to -0.0197. The obtained value of r = -0.0197 is not significant. Therefore, there is no significant relationship between interest in Artistic and Constructive area and Academic Achievement of girls.

4.4.8. Analysis of Interest in Clerical area

Mean and standard Deviation were calculated for the total interest in Clerical area.

$$N = 558$$

$$M = 5.20$$

$$SD = 3.18$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.4.8.1. Difference between Urban girls and Rural girls in their Interest in Clerical area

Hypothesis-90: It states, " There is no significant difference between urban girls and rural girls in their interest in Clerical area".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Urban girls.</u>	<u>Rurai girls.</u>
$N_1 = 426$	$N_2 = 132$
$M_1 = 5.15$	$M_2 = 5.36$
$SD_1 = 2.78$	$SD_2 = 4.22$

$$t = 0.54$$

The obtained value of $t = 0.54$ is not significant.

Therefore, there is no significant difference between urban girls and rural girls in their interest in Clerical area.

4.4.8.2. Difference between Tribal girls and Non-tribal girls in their Interest in Clerical area

Hypothesis -91: It states, "There is no significant difference between tribal girls and non-tribal girls in interest in Clerical area".

To test this hypothesis t-test was employed the details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 5.14$	$M_2 = 5.45$
$SD_1 = 3.27$	$SD_2 = 2.74$

$$t = 1.00$$

The obtained value of $t = 1.00$ is not significant.

Therefore, there is no significant difference between tribal girls and non-tribal girls in their interest in Clerical area.

4.4.8.3. Difference between girls studying in Co-education schools and Girls only schools in their Interest in Clerical area

Hypothesis -92: It states, " There is no significant difference between girls studying in co-education schools and girls only schools in their interest in Clerical area."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

	<u>Co-education Schools</u>	<u>Girls only Schools</u>
N_1	= 259	N_2 = 299
M_1	= 5.63	M_2 = 3.44
SD_1	= 4.82	SD_2 = 2.88

$$t = 6.44$$

The obtained value of $t = 6.44$ is significant at 0.01 level.

Therefore, there is a significant difference between girls studying in co-education schools and girl only schools in their interest in Clerical area at 0.01 level.

Further, it can be seen that the mean Interest score of girls in Clerical area from co-education schools is significantly greater than that from girls only schools.

4.4.8.4. Difference between Tribal girls from urban area and rural area in their Interest in Clerical area

Hypothesis-93: It states, "There is no significant difference between tribal girls from urban area and rural area in their interest in Clerical area".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

Tribal- urban

$$N_1 = 324$$

$$M_1 = 5.05$$

$$SD_1 = 2.78$$

Tribal-rural

$$N_2 = 131$$

$$M_2 = 5.37$$

$$SD_2 = 4.23$$

$$t = 0.80$$

The obtained value of $t=0.80$ is not significant.

Therefore, there is no significant difference between tribal girls from urban area and rural area in their Interest in Clerical area.

4.4.8.5.Difference among the different Management types of schools in their Interest in Clerical area

Hypothesis-94: It states: "There is no significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided, in their interest in Clerical area."

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 55: Details of analysis of Interest scores in Clerical area for different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores ($\sum X$)	181	1446	728	545
Sum of squares of scores ($\sum X^2$)	1339	10860	5062	3425
Mean	5.48	4.95	5.73	5.14
SD	3.29	3.57	2.66	2.44
N	33	292	127	106

Table 56 presents the summary of ANOVA for the interest in Clerical area from Government, Deficit, Grant-in-aid and Unaided schools.

Table 56: Summary of ANOVA for the Interest in Clerical area from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	56.96922	18.98974	1.89
Within groups	554	5557.346	10.03131	
Total	557	5614.315		

The obtained value of F is not significant.

Therefore, there is no significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their interest in Clerical area.

4.4.8.6. Correlation between Interest in Clerical area and Academic Achievement of girls

Hypothesis-95: It states: "There is no significant relationship between interest in Clerical area and Academic achievement of secondary school girls".

To test this hypothesis, product-moment coefficient of correlation was calculated between interest in Clerical area and Academic achievement scores.

The details of the analysis are as follows.

<u>Interest in Clerical area</u>	<u>Academic Achievement</u>
(X)	(Y)
$N_1 = 558$	$N_2 = 558$
$\Sigma X = 2900$	$\Sigma Y = 269547$

$$\Sigma X^2=20686$$

$$\Sigma Y^2=137295929$$

$$\Sigma XY=1388596$$

Using the formula,
$$r = \frac{(N\Sigma XY)-(\Sigma X.\Sigma Y)}{\sqrt{[(N\Sigma Y^2)-(\Sigma Y)^2][(N\Sigma X^2)-(\Sigma X)^2]}}$$

The value of r is found to be equal to -0.06153. The obtained value of r = -0.06153 is not significant. Therefore, there is no significant relationship between interest in Clerical area and total Academic Achievement of girls.

4.4.9. Analysis of Interest in Administrative area

Mean and Standard Deviation were calculated for the total interest in Administrative area.

$$N = 558$$

$$M = 17.24$$

$$SD = 5.29$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.4.9.1. Difference between urban girls and rural girls in their Interest

Administrative area

Hypothesis-96: It states, " There is no significant difference between urban girls and rural girls in their interest in Administrative area".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

	<u>Urban girls</u>	<u>Rural girls</u>
	$N_1 = 426$	$N_2 = 132$
	$M_1 = 16.92$	$M_2 = 18.27$
	$SD_1 = 5.27$	$SD_2 = 5.25$

$$t = 2.08$$

The obtained value of $t = 2.08$ is significant at 0.05 level.

Therefore, there is a significant difference between urban girls and rural girls in their interest in Administrative area at 0.05 level.

Further, it is seen that the mean interest score of in Administrative area from rural schools is significantly greater than that from urban schools.

4.4.9.2. Difference between Tribal girls and Non-tribal girls in their Interest in Administrative area

Hypothesis -97: It states, "There is no significant difference between tribal girls and non-tribal girls in interest in Administrative area".

To test this hypothesis t-test was employed the details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 16.87$	$M_2 = 18.87$
$SD_1 = 5.22$	$SD_2 = 5.26$

$$t = 3.51$$

The obtained value of $t = 3.51$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls and non-tribal girls in their interest in Administrative area at 0.01 level.

Further, it is seen that the mean interest scores of non-tribal girls in Administrative area is significantly greater than that of tribal girls.

4.4.9.2. Difference between girls studying in Co-education schools and Girls only schools in their Interest in Administrative area

Hypothesis –98: It states, “ There is no significant difference between girls studying in co-education schools and girls only schools in their interest in Administrative area”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education Schools</u>	<u>Girls only Schools</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 18.06$	$M_2 = 16.54$
$SD_1 = 5.33$	$SD_2 = 5.15$

$$t = 3.38$$

The obtained value of $t = 3.38$ is significant at 0.01 level.

Therefore, there is a significant difference between girls studying in co-education schools and girl only schools in their interest in Administrative area at 0.01 level.

Further, it can be seen that the mean Interest score of girls in Administrative area from co-education schools is significantly greater than that from girls only schools.

4.4.9.4. Difference between Tribal girls from urban area and rural area in their Interest in Administrative area

Hypothesis-99: It states, “There is no significant difference between tribal girls from urban area and rural area in their interest in Administrative area”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal- urban</u>	<u>Tribal-rural</u>
$N_1 = 324$	$N_2 = 131$
$M_1 = 16.30$	$M_2 = 18.29$
$SD_1 = 5.11$	$SD_2 = 5.26$

$$t = 3.69$$

The obtained value of $t = 3.69$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls from urban area and rural area in their interest in Administrative area at 0.01 level.

Further, it can be seen that the mean interest score of tribal girls in Administrative area from rural area is significantly greater than that from urban area.

4.4.9.5. Difference among the different Management types of schools in their Interest in Administrative area

Hypothesis-100: It states: "There is no significant difference among girls from Schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided, in their interest in Administrative area".

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 57: Details of analysis of Interest scores in Administrative area for different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores ($\sum X$)	569	4900	4103	1797
Sum of squares of scores ($\sum X^2$)	10771	90108	80695	33961
Mean	17.24	16.78	18.54	16.95
SD	5.48	5.20	4.84	5.77
N	33	292	127	106

Table 58 presents the summary of ANOVA for the interest in Administrative area from Government, Deficit, Grant-in-aid and Unaided schools.

Table 58: Summary of ANOVA for the Interest in Administrative area from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	286.0295	95.34318	3.45
Within groups	554	15292.31	27.60345	
Total	557	15578.34		

The obtained value of F is significant at 0.05 level.

Therefore, there is a significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their interest in Administrative area.

Since the obtained value of F was significant, t-tests were carried out to find out which of the pairs differ significantly.

(i) t-test between Government schools and Deficit schools

Government Schools

Deficit Schools

$$N_1 = 33$$

$$N_2 = 292$$

$$M_1 = 17.24$$

$$M_2 = 16.78$$

$$SD_1 = 5.48$$

$$SD_2 = 5.20$$

$$t = 0.46$$

The obtained value of $t = 0.46$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Administrative area from Government schools and Deficit schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 17.24$	$M_2 = 18.54$
$SD_1 = 5.48$	$SD_2 = 4.84$

$$t = 1.24$$

The obtained value of $t = 1.24$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Administrative area from Government schools and Grant – in –aid schools.

(iii) t-test between Government schools and Unaided schools

<u>Government Schools</u>	<u>Unaided Schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 17.24$	$M_2 = 16.95$
$SD_1 = 5.48$	$SD_2 = 5.77$

$$t = 0.26$$

The obtained value of $t = 0.26$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Administrative area from Government schools and Unaided schools.

(iv) t-test between Deficit schools and Grant-in-aid schools

<u>Deficit Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 16.78$	$M_2 = 18.54$
$SD_1 = 5.20$	$SD_2 = 4.84$

$$t = 3.32$$

The obtained value of $t = 3.32$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Administrative area from Deficit schools and Grant – in –aid schools at 0.01 level.

Further, it is seen that the mean interest score of girls in Administrative area from Grant-in-aid schools is significantly greater than that from Deficit schools.

(v) t-test between Deficit schools and Unaided schools

<u>Deficit Schools</u>	<u>Unaided Schools</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 16.78$	$M_2 = 16.95$
$SD_1 = 5.20$	$SD_2 = 5.77$

$$t = 0.27$$

The obtained value of $t = 0.27$ is not significant.

Therefore, there is no significant difference between the mean interest score of girls in Administrative area from Deficit schools and Unaided school groups.

(vi) t-test between Grant – in –aid schools and Unaided schools

<u>Grant – in – aid schools</u>	<u>Unaided Schools</u>
$N_1 = 127$	$N_2 = 106$
$M_1 = 18.54$	$M_2 = 16.95$
$SD_1 = 4.84$	$SD_2 = 5.77$

$$t = 2.24$$

The obtained value of $t = 2.24$ is significant at 0.05 level.

Therefore, there is a significant difference between the mean interest scores of girls in Administrative area from Grant – in –aid schools and Unaided schools at 0.05 level.

Further, it is seen that the mean interest score of girls in Administrative area from Grant-in-aid schools is significantly greater than that from Unaided schools.

The t- values as obtained above are summarised below:

Table 59: Summary of the t- values obtained for differences between mean scores of Interest in Administrative area of school types

Management types	t	Significance level
Between Govt. and Deficit Schools	0.46	n.s
Between Govt. and Grant- in – aid schools	1.24	n.s
Between Govt. and Unaided schools	0.26	n.s.
Between Deficit and Grant – in- aid schools	3.32	0.01
Between Deficit and Unaided schools	0.27	n.s
Between Grant – in –aid and Unaided schools	2.24	0.05

Comparing the mean interest scores in Administrative area for the different management types, it can be concluded as follows:

| Grant-in-aid schools | > | Deficit & Government & Unaided schools |

4.4.9.6. Correlation between Interest in Administrative area and Academic Achievement of girls

Hypothesis-101: It states, "There is no significant relationship between interest in Administrative area and Academic achievement of secondary school girls".

To test this hypothesis, product – moment coefficient of correlation was calculated between interest in Administrative area and Academic achievement scores.

The details of the analysis are as follows.

<u>Interest in Administrative area.</u>	<u>Academic Achievement</u>
(X)	(Y)
$N_1 = 558$	$N_2 = 558$
$\sum X = 9621$	$\sum Y = 269547$
$\sum X^2 = 181463$	$\sum Y^2 = 137295929$

$$\sum XY = 4616169$$

Using the formula,
$$r = \frac{(N\sum XY) - (\sum X \cdot \sum Y)}{\sqrt{[(N\sum Y^2) - (\sum Y)^2][(N\sum X^2) - (\sum X)^2]}}$$

The value of r is found to be equal to -0.0943. The obtained value of r = -0.0943 is significant at 0.05 level. Therefore, there is a significant negative relationship between interest in Administrative area and Academic Achievement of girls.

4.4.10. Analysis of Interest in Teaching area

Mean and Standard Deviation were calculated for the total interest in Teaching area.

$$N = 558$$

$$M = 15.96$$

$$SD = 4.21$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.4.10.1. Difference between Urban girls and Rural girls in their Interest in Teaching area

Hypothesis-102: It states , " There is no significant difference between urban girls and rural girls in their interest in Teaching area."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Urban girls</u>	<u>Rural girls</u>
$N_1 = 426$	$N_2 = 132$
$M_1 = 15.57$	$M_2 = 17.20$
$SD_1 = 4.22$	$SD_2 = 3.95$

$$t = 4.08$$

The obtained value of $t = 4.08$ is significant at 0.01 level.

Therefore, there is a significant difference between urban girls and rural girls in their interest in Teaching area at 0.01 level.

Further, it is seen that the mean interest score of girls in Teaching area from rural schools is significantly greater than that from urban schools.

4.4.10.2. Difference between Tribal girls and Non-tribal girls in their Interest in Teaching area

Hypothesis –103: It states, "There is no significant difference between tribal girls and non-tribal girls in interest in Teaching area "

To test this hypothesis t-test was employed the details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 15.77$	$M_2 = 16.77$
$SD_1 = 4.17$	$SD_2 = 4.31$

$$t = 2.13$$

The obtained value of $t = 2.31$ is significant at 0.05 level.

Therefore, there is a significant difference between tribal girls and non-tribal girls in their Interest in Teaching area at 0.05 level.

Further, it is seen that the mean interest score of non-tribal girls in Teaching is significantly greater than that of tribal girls.

4.4.10.3. Difference between girls studying Co-education schools and Girls only schools in their Interest in Teaching area

Hypothesis –104: It states, “ There is no significant difference between girls studying in co-education schools and girls only schools in their interest in Teaching area”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education Schools</u>	<u>Girls only Schools</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 16.74$	$M_2 = 15.27$
$SD_1 = 4.20$	$SD_2 = 4.11$

$$t = 4.20$$

The obtained value of $t=4.20$ is significant at 0.01 level.

Therefore, there is a significant difference between girls studying in Co-education schools and girl only schools in their Interest in Teaching area at 0.01 level.

Further, it can be seen that the mean Interest score of girls in Teaching area from Co-education schools is significantly greater than that from Girls only schools.

4.4.10.4. Difference between Tribal girls from urban area and rural area in their Interest in Teaching area

Hypothesis-105: It states, "There is no significant difference between tribal girls from urban area and rural area in their interest in Teaching area".

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal- urban</u>	<u>Tribal-rural</u>
$N_1 = 324$	$N_2 = 131$
$M_1 = 15.20$	$M_2 = 17.19$
$SD_1 = 4.12$	$SD_2 = 3.97$

$$t = 4.74$$

The obtained value of $t=4.74$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls from urban area and rural area in their interest in Teaching area at 0.01 level.

Further, it is seen that the mean interest score of tribal girls in Teaching from rural area is significantly greater than that from urban area.

4.4.10.5. Differences among the different Management types of schools in their Interest in Teaching area

Hypothesis-106: It states: "There is no significant difference among girls from Schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided, in their Interest in Teaching area".

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 60: Details of analysis of Interest scores in Teaching area for different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores (ΣX)	513	4637	2238	3149
Sum of squares of scores (ΣX^2)	8723	78061	41370	51761
Mean	15.55	15.88	17.62	14.29
SD	4.84	3.90	3.92	4.50
N	33	292	127	106

Table 61 presents the summary of ANOVA for the interest in Teaching area from Government, Deficit, Grant-in-aid and Unaided schools.

Table 61: Summary of ANOVA for the Interest in Teaching area from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	653.1011	217.7004	13.07
Within groups	554	9228.779	16.65845	
Total	557	9881.88		

The obtained value of F is significant at 0.01 level.

Therefore, there is a significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their interest in Teaching area.

Since the obtained value of F was significant, t-tests were carried out to find out which of the pairs differs significantly.

(i) t-test between Government schools and Deficit schools

<u>Government Schools</u>	<u>Deficit Schools</u>
$N_1 = 33$	$N_2 = 292$
$M_1 = 15.55$	$M_2 = 15.88$
$SD_1 = 4.84$	$SD_2 = 3.90$
$t = 0.38$	

The obtained value of $t = 0.38$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Teaching area from Government schools and Deficit schools.

(ii) t-test between Government schools and Grant-in-aid schools

<u>Government Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 33$	$N_2 = 127$
$M_1 = 15.55$	$M_2 = 17.62$
$SD_1 = 4.84$	$SD_2 = 3.92$
$t = 2.27$	

The obtained value of $t = 2.27$ is significant at 0.05 level.

Therefore, there is a significant difference between the mean interest scores of girls in Teaching area from Government schools and Grant – in –aid schools at 0.05 level.

Further, it is seen that the mean interest score of girls in Teaching area of Grant-in-aid schools is significantly greater than that of Government schools.

(iii) t-test between Government schools and Unaided schools

<u>Government Schools</u>	<u>Unaided Schools</u>
$N_1 = 33$	$N_2 = 106$
$M_1 = 15.55$	$M_2 = 14.29$
$SD_1 = 4.84$	$SD_2 = 4.50$

$$t = 1.33$$

The obtained value of $t = 1.33$ is not significant.

Therefore, there is no significant difference between the mean interest scores of girls in Teaching area from Government schools and Unaided schools.

(iv) t-test between Deficit schools and Grant-in-aid schools

<u>Deficit Schools</u>	<u>Grant –in –aid Schools</u>
$N_1 = 292$	$N_2 = 127$
$M_1 = 15.88$	$M_2 = 17.62$
$SD_1 = 3.90$	$SD_2 = 3.92$

$$t = 4.14$$

The obtained value of $t = 4.14$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Teaching area from Deficit schools and Grant – in –aid schools at 0.01 level.

Further, it is seen that the mean interest score of girls in Teaching area from Grant-in-aid schools is significantly greater than that from Deficit schools.

(v) t-test between Deficit schools and Unaided schools

<u>Deficit Schools</u>	<u>Unaided Schools</u>
$N_1 = 292$	$N_2 = 106$
$M_1 = 15.88$	$M_2 = 14.29$

$$SD_1 = 3.90$$

$$SD_2 = 4.50$$

$$t = 3.24$$

The obtained value of $t = 3.24$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Teaching area from Deficit schools and Unaided schools at 0.01 level.

Further, it is seen that the mean interest score of girls in Teaching area from Deficit schools is significantly greater than that from Unaided schools.

(vi) t-test between Grant – in –aid schools and Unaided schools

Grant – in – aid schools

Unaided Schools

$$N_1 = 127$$

$$N_2 = 106$$

$$M_1 = 17.62$$

$$M_2 = 14.29$$

$$SD_1 = 3.92$$

$$SD_2 = 4.50$$

$$t = 5.95$$

The obtained value of $t = 5.95$ is significant at 0.01 level.

Therefore, there is a significant difference between the mean interest scores of girls in Teaching area from Grant – in –aid schools and Unaided schools at 0.01 level.

Further, it is seen that the mean interest score of girls in Teaching area from Grant-in-aid schools is significantly greater than that of Unaided schools.

The t- values as obtained above are summarised below:

Table 62: Summary of the t- values obtained for differences between mean scores of Interest in Teaching area of school types

Management types	t	Significance level
Between Govt. and Deficit Schools	0.38	n.s
Between Govt. and Grant- in – aid schools	2.27	0.05
Between Govt. and Unaided schools	1.33	n.s.
Between Deficit and Grant – in- aid schools	4.14	0.01
Between Deficit and Unaided schools	3.24	0.01
Between Grant – in –aid and Unaided schools	5.95	0.01

Comparing the mean Interest scores in Teaching area for the different management types, it can be concluded as follows:

| Grant-in-aid schools | > | Deficit schools | > | Government & Unaided schools |

4.4.10.6. Correlation between Interest in Teaching area and Academic Achievement of girls

Hypothesis-107: It states: "There is no significant relationship between interest in Teaching area and Academic achievement of secondary school girls".

To test this hypothesis, product – moment coefficient of correlation was calculated between interest in Teaching area and Academic achievement scores.

The details of the analysis are as follows.

<u>Interest in Teaching area</u>	<u>Academic Achievement</u>
(X)	(Y)
$N_1 = 558$	$N_2 = 558$
$\Sigma X = 8903$	$\Sigma Y = 269547$
$\Sigma X^2 = 151931$	$\Sigma Y^2 = 137295929$
$\Sigma XY = 4251024$	

Using the formula,
$$r = \frac{(N\Sigma XY) - (\Sigma X \cdot \Sigma Y)}{\sqrt{[(N\Sigma Y^2) - (\Sigma Y)^2][(N\Sigma X^2) - (\Sigma X)^2]}}$$

The value of r is found to be equal to -0.1875. The obtained value of r = -0.1875 is not significant.

Therefore, there is a significant negative relationship between interest in Teaching area and Academic Achievement of girls.

4.4.11. Analysis of Interest in Home- Management area

Mean and Standard Deviation were calculated for the total interest in Home- Management area.

$$N = 558$$

$$M = 14.15$$

$$SD = 3.94$$

Since the sample contained different strata, comparisons were made on the different groups. For this purpose suitable hypotheses were framed.

4.4.11.1. Difference between urban girls and rural girls in their Interest in Home- Management area

Hypothesis-108: It states , " There is no significant difference between urban girls and rural girls in their interest in Home- Management area."

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Urban girls</u>	<u>Rural girls</u>
$N_1 = 426$	$N_2 = 132$
$M_1 = 14.46$	$M_2 = 13.14$
$SD_1 = 3.85$	$SD_2 = 4.06$

$$t = 3.30$$

The obtained value of $t = 3.30$ is significant at 0.01 level.

Therefore, there is a significant difference between urban girls and rural girls in their interest in Home-Management area at 0.01 level.

Further, it is seen that the mean interest score in Home-Management area from urban schools is significantly greater than that from rural schools.

4.4.11.2. Difference between Tribal girls and Non-tribal girls in their Interest in Home-Management area

Hypothesis –109: It states, "There is no significant difference between tribal girls and non-tribal girls in interest in Home-Management area".

To test this hypothesis t-test was employed the details of the analysis are as follows:

<u>Tribal girls</u>	<u>Non-tribal girls</u>
$N_1 = 455$	$N_2 = 103$
$M_1 = 13.97$	$M_2 = 14.94$
$SD_1 = 3.91$	$SD_2 = 3.96$

$$t = 2.26$$

The obtained value of $t = 2.26$ is significant at 0.05 level.

Therefore, there is a significant difference between tribal girls and non-tribal girls in their interest in Home-Management area at 0.05 level.

Further, it is seen that the mean interest score of non-tribal girls in Home-Management area is significantly greater than that of tribal girls.

4.4.11.3 Difference between girls studying in Co-education schools and Girls only schools in their Interest in Home-Management area.

Hypothesis –110: It states, “ There is no significant difference between girls studying in co-education schools and girls only schools in their interest in Home-Management area.”

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Co-education Schools</u>	<u>Girls only Schools</u>
$N_1 = 259$	$N_2 = 299$
$M_1 = 14.40$	$M_2 = 13.94$
$SD_1 = 3.90$	$SD_2 = 3.96$
$t = 1.39$	

The obtained value of $t = 1.39$ is not significant.

Therefore, there is no significant difference between girls studying in co-education schools and girl only schools in their interest in Home-Management area.

4.4.11.4. Difference between Tribal girls from urban area and rural area in their Interest in Home-Management area

Hypothesis-111: It states, “There is no significant difference between tribal girls from urban area and rural area in their interest in Home-Management”.

To test this hypothesis t-test was employed. The details of the analysis are as follows:

<u>Tribal- urban</u>	<u>Tribal-rural</u>
$N_1 = 324$	$N_2 = 131$
$M_1 = 14.32$	$M_2 = 13.11$
$SD_1 = 3.80$	$SD_2 = 4.06$

$$t = 2.95$$

The obtained value of $t = 2.95$ is significant at 0.01 level.

Therefore, there is a significant difference between tribal girls from urban area and rural area in their interest in Home-Management area at 0.01 level.

Further, it is seen that the mean interest score of tribal girls in Home-Management area from urban area is significantly greater than that from rural area.

4.4.11.5. Differences among the different management types of schools in their

Interest in Home-Management area

Hypothesis-112: It states: "There is no significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided, in their interest in Home-Management area".

To test this hypothesis F-test was employed. The details of the analysis are as follows:

Table 63: Details of analysis of Interest scores in Home-Management area for different Management types of schools

Particulars	Government	Deficit	Grant-in-aid	Unaided
Sum of scores ($\sum X$)	481	4180	1799	1437
Sum of squares of scores ($\sum X^2$)	7723	64154	27215	21295
Mean	14.58	14.32	14.17	13.56
SD	4.72	3.85	3.71	4.16
N	33	292	127	106

Table 64 presents the summary of ANOVA for the Interest in Home-Management area from Government, Deficit, Grant-in-aid and Unaided schools.

Table 64: Summary of ANOVA for the Interest in Home-Management area from Government, Deficit, Grant-in-aid and Unaided schools

Source of Variance	df	Sum of Squares (SS)	Mean Squares (MS)	F
Between groups	3	51.28973	17.09658	1.10
Within groups	554	8574.762	15.47791	
Total	557	8626.052		

The obtained value of F is not significant.

Therefore, there is no significant difference among girls from schools belonging to four types of management, namely, Government, Deficit, Grant-in-aid and Unaided in their interest in Home-Management area.

4.4.11.6. Correlation between Interest in Home-Management area and Academic Achievement of girls

Hypothesis-113: It states: "There is no significant relationship between interest in Home-Management area and Academic Achievement of secondary school girls".

To test this hypothesis, product-moment coefficient of correlation was calculated between interest in Home Management area and Academic Achievement scores.

The details of the analysis are as follows.

<u>Interest in Home-Management</u>	<u>Academic Achievement</u>
(X)	(Y)
$N_1 = 558$	$N_2 = 558$
$\Sigma X = 7897$	$\Sigma Y = 269547$
$\Sigma X^2 = 120387$	$\Sigma Y^2 = 137295929$
$\Sigma XY = 3814567$	

Using the formula,
$$r = \frac{(N\Sigma XY) - (\Sigma X \cdot \Sigma Y)}{\sqrt{[(N\Sigma Y^2) - (\Sigma Y)^2][(N\Sigma X^2) - (\Sigma X)^2]}}$$

The value of r is found to be equal to -0.0006. The obtained value of r = -0.0006 is not significant.

Therefore, there is no significant relationship between interest in Home-Management area and Academic Achievement of girls.

4.5.0. Summary of the Results

A summary of the results obtained in the study is given below:

1. (i) There is a significant difference between urban girls and rural girls in their total academic achievement, English, Social Science, Modern Indian Languages(MIL), Science ($p < .01$) and Mathematics ($P < .05$) with urban girls showing a higher mean score in all cases except in their achievement in MIL where rural girls attained a higher mean score. No significant difference is found between urban girls and rural girls in their achievement in Health Education.
- (ii) Tribal girls and non-tribal girls do not differ significantly in their total academic achievement, English, Science, Mathematics, Social science and Health Education. But they differ significantly in their achievement in MIL ($P < .01$) with tribal girls showing a higher mean score than non-tribal girls.
- (iii) There is a significant difference between girls studying in co-education schools and girls only schools in their total achievement in English, Social Science, Health Education, Science, ($P < .01$), MIL and Mathematics ($P < .05$) with girls studying in girls only schools showing a higher mean score in all these cases.
- (iv) There is a significant difference between tribal girls from urban area and rural area in their total Academic achievement, English , Social Science, Science ($P < .01$) and Mathematics ($P < .05$) with tribal girls from urban area showing a higher mean score in all these cases. No significant

difference is found between tribal girls from urban area and rural area in their achievement in MIL and Health education.

- (v) Regarding the Academic achievement of girls studying in different Management types of schools, the significant difference show the following:

(a) Total Academic Achievement

| Unaided schools | > | Government & Deficit schools | > | Grant-in-aid schools |

(b) English

| Unaided schools | > | Government schools | > | Deficit schools | > | Grant-in-aid schools |

(c) Science

| Unaided schools | > | Government & Deficit schools | > | Grant-in-aid schools |

(d) Mathematics

| Unaided schools | > | Government & Deficit schools | > | Grant-in-aid schools |

(e) Social Science

| Unaided schools | > | Deficit schools | > | Grant-in-aid & Government schools |

(f) Modern Indian Languages (MIL)

| Deficit & Unaided schools | > | Government & Grant-in-aid schools |

(g) Health Education

| Unaided schools | > | Government & Deficit schools | > | Grant-in-aid schools |

2. (i) There is a significant difference between urban girls and rural girls in their educational aspiration ($P < .01$) with urban girls showing a higher mean score.

- (ii) There is no significant difference between tribal girls and non-tribal girls in their educational aspiration.
 - (iii) There is a significant difference between girls studying in co-education schools and girls only schools in their educational aspiration ($P < .01$) with girls studying in girls only schools showing a higher mean score.
 - (iv) There is a significant difference between tribal girls from urban area and rural area in their educational aspiration ($P < .01$) with tribal girls from urban area showing a higher mean score.
 - (v) Regarding the educational aspiration of girls studying in different management types of schools, the significant differences show the following:

Unaided schools	>	Government & deficit schools	>	Grant-in-aid schools
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 - (vi) There is a significant relationship between educational aspiration and total academic achievement of girls.
3. (i) There is a significant difference between urban girls and rural girls in their self-concept ($P < .05$) with urban girls showing a higher mean score.
- (ii) There is a significant difference between tribal girls and non-tribal girls in their self-concept ($P < .01$) with non-tribal girls showing a higher mean score.
 - (iii) There is no significant difference between girls studying in co-education schools and girls only schools in their self-concept.
 - (iv) There is no significant difference between tribal girls from urban area and rural area in their self-concept.

- (v) Regarding the self-concept of girls studying in different management types of schools, the significant difference show the following:
 | Unaided schools | > | Grant-in-aid schools | > | Government & Deficit schools |
- (vi) There is no significant relationship between self-concept and total academic achievement of girls.
4. (i) There is a significant difference between urban girls and rural girls in their interest in different area – Literary, Mechanical, Scientific, Teaching, Home-management ($P < .01$), Artistic & Constructive and Administrative ($P < .05$) with rural girls showing a higher mean score in the interest area of Literary, Mechanical, Scientific, Administrative and Teaching whereas urban girls show a higher mean score in the interest area of Artistic & Constructive and Home-management. No significant difference is found between them in their interest areas – Outdoor, Persuasive, Social Service and Clerical.
- (ii) There is a significant difference between tribal girls and non-tribal girls in their interest areas – Social Service, Artistic and Constructive, Administrative ($P < .01$), Outdoor, Persuasive, Teaching and Home-management ($P < .05$) with non-tribal girls showing a higher mean score in all these interest areas. But no significant difference is found between tribal girls and non-tribal girls in their interest in Literary, Mechanical, Scientific and Clerical areas.
- (iii) There is a significant difference between girls studying in co-education schools and girls only schools in their interest in different areas – Literary, Outdoor, Mechanical, Social Service, Artistic and Constructive,

Clerical, administrative, Teaching , ($P < .01$) Scientific and Persuasive ($P < .05$) with girls studying in co-education schools and girls only schools showing a higher mean score in all the different areas. Girls studying in co-education and girls only schools do not differ significantly in their interest in Home-management area.

(iv) There is a significant difference between tribal girls from urban area and rural area in their interest in different area – Literary, Mechanical, Scientific, Social Service, Administrative, Teaching, Home-management ($P < .01$) with tribal girls from rural area showing a higher mean score in the interest areas of Literary, Mechanical, Scientific, Administrative and Teaching. Whereas urban tribal girls show a higher mean score in Social Service and Home-management area. But no significant difference is found in the interest area of Outdoor, Persuasive, Artistic & Constructive and Clerical.

(v) Regarding the interest in different areas of girls studying in different management types of schools, the significant differences show the following:

(a) **Literary**

| Grant-in-aid schools | > | Deficit schools | > | Government & Unaided schools |

(b) **Outdoor**

| Grant-in-aid & Unaided schools | > | Government & Deficit schools |

(c) **Mechanical**

| Government & Grant-in-aid schools | > | Unaided & Deficit schools |

(d) **Scientific**

| Grant-in-aid schools | > | Government & Deficit & Unaided schools |

(e) Artistic and Constructive

| Grant-in-aid schools |>| Deficit & Government & Unaided schools|

(f) Administrative

| Grant-in-aid schools |>| Deficit & Government & Unaided schools|

(g) Teaching

| Grant-in-aid schools |>| Deficit schools |>| Government & Unaided schools|

- (vi) No significant difference is found among girls from schools belonging to four types of management – Government, Deficit, Grant-in-aid, Unaided – in their interest areas – Persuasive, Social Service, Clerical and Home-management.
- (vii) There is a significant negative relationship between interest in Mechanical area and total academic achievement of girls.
- (viii) There is a significant negative relationship between interest in Persuasive area and total academic achievement of girls.
- (ix) There is a significant negative relationship between interest in Teaching area and total academic achievement of girls.
- (x) There is a significant negative relationship between interest in Administrative area and total academic achievement of girls.
- (xi) There is no significant relationship between interest in Literary, Outdoor, Scientific, Social Service, Artistic & Constructive, Clerical, Home-management areas and total academic achievement of girls.

4.6.0. Discussion of Results

The investigation has brought to light some differences between urban girls and rural girls with regard to certain variables and in connection with level of achievement in different school subjects. The results obtained in the present investigation indicates that urban girls significantly outperform rural girls in their achievement in all school subjects. This finding supports many earlier findings like those investigators Martens (1954), Mishra (1962), Saxena (1962), Nichols and Davis (1964), Chopra (1968), Menon (1972), Lalithama (1975), Singh (1976), Jain (1981), Pandey (1981), Puri (1984), Das (1986), Tripathi (1987), Singh (1983), Mishra (1986) and Ajeh (1993), who found out that students from urban area have better achievement than from rural area. Similar result was observed with regard to the educational aspiration and self-concept. A high aspiration is expected to have a motivational effect on the student's achievement and thus, such aspiration is conducive to school performance. Urban girls were found to aspire higher with a better attitude towards themselves and thus achieve higher than the rural girls. This might be because of differences in the cultural background of the urban and rural area and varied stimulating environments.

But as regards interest in different areas rural girls showed their urge to come forward in various vocational fields when compared to their urban counterparts. The studies have also brought to light that there is no marked difference between tribal girls from urban area and rural area. This shows that there is a strong underlying interest pattern among tribal girls irrespective of residential location. This calls for a consideration to promote specific vocational courses to tap the potential of the tribal girls.

Another noteworthy finding of the present study is that tribal girls have poorer self-concept than non-tribal girls while they were found at par with the non-tribal girls in their achievement in different school subjects and in setting of future goals. This finding highlights the need to build up a better perception among tribal girls in general by providing maximum opportunity in the school to participate in both curricular and co-curricular activities. Thus teachers, psychologists, and educational planners should evolve concrete measures that will prove conducive in inculcating positive self-concept among tribal girls. Reducing feeling of inadequacy and uncertainty about future career through introduction of various job-oriented courses would be one of the promising means of developing positive self-concept among them.

The results of the present study found a significant difference among girls from schools belonging to four types of management in which girls from Unaided schools perform much better than all other types of schools. Girls from Grant-in-aid schools perform the lowest. A similar trend is noted in their educational aspiration and self-concept. Though Unaided schools are privately-managed institution that do not depend on government aided funds, they seems to be well maintained with proper infrastructure and facilities. Most of this schools in the district under study are financially sound and well-administered it is also generally felt that only high socio-economic-status (SES) parents could afford to send their children to such schools. All these could have contributed to the higher level of achievement and aspiration, and further lead to a better feeling of oneself. On the other hand, the finding of the present study that Grant-in-aid schools perform the lowest can be explained in the context of its inadequate infrastructure, facilities, and

poor financial condition. As Grant-in-aid schools are covered under the scheme of adhoc grants in-aid, the concerned school management are expected to provide from their own funds part of the teacher's salaries. But the school management do not always supplement the salary of the teachers from other sources. Taking the present finding as an indicator, it is important that this sector of secondary education requires greater attention of the government for improvement as they constitute more than half of all the secondary schools in the state. In fact, any improvement or upgradation of school education at this level, will automatically amount to improvement of this category of government aided private schools since one of the peculiarities of the secondary education system in the state of Meghalaya is the predominance of private management in educational institution. Besides this, the improvement of Grant-in-aid schools get added importance as girls from such schools showed significantly greater indication towards many interest areas than girls from other school types.

A significant difference was found between girls from girls only schools and co-education schools in their academic achievement and educational aspiration in which girls from girls only schools showed a higher achievement and aspiration. This result support the findings arrived at by Sutherland (1961), Bauch (1988), Riordan (1985,1990), Lee and Marks (1990), and hence, something positive is occurring in girls only schools. Therefore, it is suggested that educational policy should focus on finding ways to preserve existing girls only schools and to encourage their development in various fields. On the other hand, considering the *variable interest, co-education schools seems to provide a better environment than girls only schools in developing interest in several areas.* This may be due to the

interaction with members of opposite sex who are expected to be having interest in different other areas, thereby expanding the mental horizon of girls students.

In conclusion, the present study has highlighted that rural – urban location of schools, educational aspiration, and types of management of schools do play as strong factors affecting academic achievement of secondary school girls.

CHAPTER V

SUMMARY

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SUMMARY

5.1.0. Introduction

Education plays a vital role in the programme of nation building. Investment in education has been emphasised a great deal in bringing about meaningful development in any country, more so in developing countries which are trying hard to accelerate the pace of their progress. It is an input for the human resource development where manpower and money have been harnessed to hasten the progress of development. In other words, education is the backbone of a nation because it plays a vital role in the development of human potentials and thus the development of the country as a whole.

Considering the significant role of education and its importance as a fundamental pre-requisite for participation in various developmental activities of the society, it is essential to provide equal opportunity for both boys and girls

Education has also been considered as the most important factor for determining the status of women in the society. It is found to be cause and consequence of the improved status of women. The importance of education of women gets highlighted when one looks into the role to be played by women in nation building. This role goes much beyond the responsibilities assigned to them in tasks related to household maintenance, Child-care, etc. It is thus realised that women education is a single cure for many societal ills and also is a main way to bring about social improvement of women.

The economic, social and cultural advancement of a country depends on its educational system. The government is spending crores of rupees on

improving its educational system. Our educational institutions therefore have a prime duty to fully promote academic excellence and achievement. A thorough knowledge of the academic achievement of the students helps one to have a better insight into the educational system. As Singh (1976) has pointed out, academic achievement is a very complex variable, a resultant of diverse factor of different kinds, both intellectual and non-intellectual, acting and interacting in a variety of ways. Educational aspiration, self- concept and interest are some of these factors, which are considered to be having an influence on academic achievement.

Need of the Study

Promotion of academic achievement is one of the important aims of an education system. Teachers, parents, schools, infact, all those who are linked with the educational system in one way or the other make every effort to see that student achieve more and more. This has drawn greater attention as the world is becoming more competitive and global. Apart from the external efforts, factors like aspiration to achieve, their own judgement of what they are capable of, and their interest in different fields which develop in different areas in students also would contribute towards educational achievement, particularly of girls in the tribal region of North-East India in general, Meghalaya in particular. Since no work has been done in this direction it was felt that a study has to be undertaken to fill the research gap.

It is, therefore, thought fit to undertake research on girls with the title, "A Study of the Educational Aspiration, Self-Concept and Interest in Relation to Academic Achievement of girls in the Secondary Schools of East Khasi Hills District in Meghalaya".

5.2.0. Statement of the problem

The title of the problem under investigation is “ A study of the Educational Aspiration , Self-Concept and Interest in relation to Academic Achievement of girls in the secondary schools of East Khasi Hills District in Meghalaya”.

5.2.1. Conceptual Definitions of the Terms Used

Conceptual definitions of the variables considered in the study are as follows:

- (i) **Academic Achievement:** It is the level of proficiency attained in academic work or formally acquired knowledge in school subjects which is often represented by marks obtained by student in examination.
- (ii) **Educational Aspiration:** It is the goal the individual sets for himself / herself in a task which has intense personal significance for him / her or in which he / she is ego-involved.
- (iii) **Self-Concept:** It is a system of attitudes towards oneself. It consists of all the perceptions, feelings, attitudes, aspirations and values of oneself concerning oneself.
- (iv) **Interest:** The term designates a concept pertaining to factors within an individual which attract or repel him / her from various objects, persons, and activities within his / her environment.

5.2.2. Operational Definitions of the Terms Used

Operational definitions of the variables considered in the study are as follows.

- (i) **Academic Achievement** : It is the marks obtained by students in the H.S.L.C examination (class- X) conducted by MBOSE.
- (ii) **Educational Aspiration** : It refers to the score obtained on the Educational Aspiration Scale (EAS) Form P developed by Sharma and Gupta (1980) to measure the educational aspiration.
- (iii) **Self-concept** : It is represented by the score obtained on the Self-Concept List (SCL) developed by Pratibha Deo (1985) to measure the self-concept.
- (iv) **Interest** : It is represented by the score obtained on the Sodhi and Bhatnagar Interest Inventory (SBII) for girls (1985) to measure interest in different areas.

5.3.0. Objectives

The following were the objectives of the study :

- (i) To study the academic achievement of girls in the secondary school final examination.
- (ii) To find out the educational aspiration of secondary school girls and its relationship with their academic achievement
- (iii) To find out the self-concept of secondary school girls and its relationship with their academic achievement.
- (iv) To find out the interest of secondary school girls in different areas and the relationship of each with their academic achievement.

5.4.0. Hypotheses

The following were the Hypotheses of the study.

- (i) There is no significant relationship between educational aspiration and academic achievement of secondary school girls.

- (ii) There is no significant relationship between self-concept and academic achievement of secondary school girls.
- (iii) There is no significant relationship between each of the different areas of interest and academic achievement of secondary school girls.
- (iv) There is no significant difference between urban girls and rural girls in their achievement in all the school subjects, educational aspiration, self-concept and interest in different areas.
- (v) There is no significant difference between tribal girls and non-tribal girls in their achievement in all the school subjects, educational aspiration, self-concept and interest in different areas.
- (vi) There is no significant difference between tribal girls from urban area and rural area in their achievement in all the school subjects, educational aspiration, self-concept and interest in different areas.
- (vii) There is no significant difference between girls from co-education schools and girls only schools in their achievement in all the school subjects, educational aspiration, self-concept and interest in different areas.
- (viii) There is no significant difference among girls from schools belonging to four types of management – Government, Deficit, Grant-in-aid, Unaided – in their achievement in all the school subjects, educational aspiration, self-concept and interest in different areas.

5.5.0. Delimitation of the study

The study was confined to only the secondary schools affiliated to Meghalaya Board of School Education (MBOSE).

5.6.0. Methodology

The study is a piece of descriptive research. Details are as follows:

5.6.1. Population and Sample

The population comprised all Class – X girl students studying in the secondary schools of East Khasi Hills District in Meghalaya, which are affiliated to MBOSE. Random sampling technique was used in drawing 30 percent of the schools and thus 38 schools were selected. The final sample consisted of 558 Class – X girl students studying in these schools and from whom data were obtained on the variables under study, and further who appeared for the H.S.L.C. Examination.

5.6.2. Tools Used

The following tools were used to collect the data.

1. Educational Aspiration Scale (by Sharma and Gupta, 1989).
2. Self–Concept List (by Deo, 1985).
3. Sodhi and Bhatnagar Interest Inventory (SBII) for girls, 1985.
4. High School Leaving Certificate (H.S.L.C.) Examination marks.

The details regarding the tools used in the present study are presented further.

5.6.2.1. Educational Aspiration Scale (EAS) Form P

The Educational Aspiration Scale designed for measuring the level of educational aspiration of secondary school pupils regardless of their grade or age was developed by Sharma and Gupta (1980). The Scale is a self–explanatory and can be administered successfully in group situation. It consists of 45 items designed in a paired comparison form. Two category of responses have been admitted which either of the response would be scored as 1 or as 0. The maximum score is 45

whereas the minimum is 0. The test–retest and odd–even reliability coefficient for the test were found to be 0.98 and 0.803 respectively. The Scale has been validated against scholastic achievement (Board examination) and the validity coefficient happens to be 0.692.

5.6.2.2. Self–Concept List (SCL)

The Self–Concept List (SCL) based on self–reporting technique is developed by Deo (1985). It consists of 90 words which are further divided into positive, negative, and neutral classes. SCL is presented in the form of a rating scale on a 5 – point scale; the five points being – ‘very much like this’, ‘much like this’, ‘uncertain’, ‘not much like this’, and ‘not at all like this’. The weightages for positive words for the five points are 4,3,2,1 and 0 respectively and is the same for negative words. The composite score is obtained by subtracting the total negative score from the total positive score. The neutral words are to be ignored in the scoring. The reliability coefficient of the tool by test–retest method taking 15 days time interval was 0.89. Deo (1985) claims the validity of the tool by calculating the convergent and discriminant correlations.

5.6.2.3. Sodhi and Bhatnagar Interest Inventory (SBII) for girls

The Sodhi and Bhatnagar Interest Inventory (SBII) for girls was developed in 1985. It consists of 136 items measuring eleven interest areas – Literary, Outdoor, Mechanical, Scientific, Social service, Persuasive, Artistic and constructive, Clerical, Administrative, Teaching and Home–management. Responses are indicated by putting a cross on one of the three – “Yes”, “No”, ” ?” against every item. The SBII provides a score of two (2) for the answer yes, zero (0) for “No” and one (1) for “?” which stands for neutral. The total score of each student in each area

can be found out. Content validity has been established by calculating biserial coefficients of correlation which ranged from 0.448 to 0.656. The test-retest reliability has been established and the reliability coefficients ranged from 0.592 to 0.866 for the eleven areas. All these coefficients are significant at 0.01 level.

5.6.2.4. High School Leaving Certificate (H.S.L.C) Examination marks

Total marks obtained by girls in the H.S.L.C. examination conducted by MBOSE was taken as the scores of academic achievement.

5.6.3. Data Collection

Formal permission was obtained from each school covered by the sample. The researcher personally administered the three tools (Refer caption 5.6.2) in-group to class-x girls on the same day one after the other with a brief break in between. The same procedure was followed in all the sample schools.

Regarding the data on academic achievement, the marks obtained by students in the sample were collected by the investigator from the school records.

5.6.4. Analysis of Data

For the scores on each of the sets of scores obtained on the different tools, Mean and Standard Deviation were found out. On each of them the scores were stratified as Rural – Urban, Tribal – Non-tribal, Co-education schools – Girls only schools, Tribal-urban – Tribal-rural.

F- test was employed for testing each of the hypotheses relating to the four types of school management. t – tests were carried out further in such cases where the ‘ F’ value was found to be significant.

5.7.0. Summary of Results.

In summing up the results to provide a comprehensive picture, the results obtained when the main hypotheses of the study were tested are given first. They are as follows:

1. There is a significant relationship between educational aspiration and academic achievement of secondary school girls.
2. There is no significant relationship between self-concept and academic achievement of secondary school girls.
3. There is no significant relationship between each of the different areas of interest and academic achievement of secondary school girls except in the interest in Mechanical, Teaching, Administrative and Persuasive areas where the relationship is found to be negative.
4. (i) Girls from urban area are significantly higher in their achievement in all school subjects, educational aspiration, and self-concept than girls from rural area. Tribal girls when considered on the location of schools split exhibited similar trend except in self-concept where no significant difference is observed between tribal girls from urban area and rural area.
(ii) Tribal girls and non-tribal girls did not differ significantly in their achievement in all school subjects and educational aspiration. But the self- concept of girls is found affected by the different racial backgrounds in which non-tribal girls perceived themselves higher than the tribal girls.
(iii) Girls from girls only schools show significantly higher level of achievement in all school subjects and in educational aspiration than those from co-education schools. But no significant difference is found

between them in their self-concept.

- (iv) Girls from Unaided schools perform much better in all school subjects than all other types of schools. Grant-in-aid schools perform the lowest. Similar trend is shown in the educational aspiration and self-concept in which girls from unaided schools score significantly higher.
- (v). Girls from rural area were found to have a greater interest in Literary, Mechanical, Scientific, Administrative, and Teaching, while girls from urban area have a greater interest in Artistic and Constructive and Home-management. A similar trend was noted even when urban and rural tribal girls split was considered. Thus among girls, irrespective of their residential location an interest pattern which is almost similar was noted.
- (vi). Non-tribal girls are found to have a greater interest in Teaching, Home-management, Artistic and constructive, Administrative, Outdoor, Persuasive, Social service area than the tribal girls.
- (vii). Girls from Co-education schools have a greater interest in almost all areas compared to girls from girls only schools.
- (viii). Girls from Grant-in-aid schools show a significantly higher interest in all the areas, except in the area of Persuasive, Social service, Clerical and Home-management.

To get a totality of the results obtained on various hypotheses studying Academic achievement, a summary table is provided below:

Table 65: Summary of the analysis of the Academic achievement.

	Urban Vs. Rural	Tribal Vs. Non-tribal	Co-Edu. Vs. Girls only	Tribal- urban Vs. Tribal- rural	Govt. Vs Grant in-aid	Govt. Vs Deficit	Govt. Vs Unaidd	Deficit Vs Grant in-aid	Deficit Vs. Unaided	Grant- in-aid Vs Unaided
TOTAL ACADEMIC ACHIEVEMENT	4.45 (0.01)	0.13 (n.s.)	4.14 (0.01)	5.03 (0.01)	1.60 (n.s.)	3.02 (0.01)	6.12 (0.01)	7.98 (0.01)	7.38 (0.01)	12.05 (0.01)
ENGLISH	11.93 (0.01)	0.44 (n.s.)	8.21 (0.01)	12.45 (0.01)	2.80 (0.01)	8.59 (0.01)	1.97 (0.05)	9.55 (0.01)	7.25 (0.01)	13.40 (0.01)
SCIENCE	2.92 (0.01)	0.74 (n.s.)	3.13 (0.01)	2.86 (0.01)	1.72 (n.s.)	1.63 (n.s.)	6.51 (0.01)	6.58 (0.01)	7.97 (0.01)	11.66 (0.01)
MATHEMATICS	2.79 (0.05)	1.43 (n.s.)	2.01 (0.05)	2.39 (0.05)	1.04 (n.s.)	2.84 (0.01)	3.37 (0.01)	6.13 (0.01)	3.57 (0.01)	7.81 (0.01)
SOCIAL SCIENCE	9.93 (0.01)	0.69 (n.s.)	3.81 (0.01)	5.59 (0.01)	1.88 (n.s.)	1.50 (n.s.)	7.67 (0.01)	6.20 (0.01)	9.54 (0.01)	12.65 (0.01)
MIL	2.88 (0.01)	4.85 (0.01)	2.05 (0.05)	1.01 (n.s.)	3.77 (0.01)	1.77 (n.s.)	3.74 (0.01)	3.62 (0.01)	0.43 (n.s.)	3.27 (0.01)
HEALTH RDUCATION	0.66 (n.s.)	0.84 (n.s.)	3.17 (0.01)	0.40 (n.s.)	1.46 (n.s.)	1.58 (n.s.)	6.37 (0.01)	4.38 (0.01)	7.13 (0.01)	9.23 (0.01)

To get a totality of the results obtained on various hypotheses studying Educational aspiration, Self-concept and Interest in different areas, a summary table is provided below:

Table 66: Summary of the analysis of the Educational aspiration, Self-concept and interest in different areas.

	Urban Vs. Rural	Tribal Vs. Non-tribal	Co-edu. Vs. Girls only	Tribal-urban Vs. Tribal-rural	Govt. Vs. Deficit	Govt. Vs. Grant-in-aid	Govt. Vs. Unaided	Deficit Vs. Grant-in-aid	Deficit Vs. Unaided	Grant-in-aid Vs. Unaided
Educational Aspiration	8.62 (0.01)	0.20 (n.s.)	4.15 (0.01)	9.00 (0.01)	1.13 (n.s.)	2.34 (0.05)	4.09 (0.01)	5.87 (0.01)	5.00 (0.01)	9.12 (0.01)
Self-Concept	2.09 (0.05)	5.49 (0.01)	0.21 (n.s.)	0.73 (n.s.)	1.13 (n.s.)	2.34 (0.05)	4.09 (0.01)	5.87 (0.01)	5.00 (0.01)	9.12 (0.01)
Literary	6.75 (0.01)	1.61 (n.s.)	5.63 (0.01)	7.72 (0.01)	2.83 (0.01)	5.01 (0.01)	0.65 (n.s.)	4.79 (0.01)	3.42 (0.01)	6.65 (0.01)
Outdoor	1.23 (n.s.)	2.16 (0.05)	3.04 (0.01)	0.60 (n.s.)	0.03 (n.s.)	0.83 (n.s.)	1.30 (n.s.)	2.38 (0.05)	3.30 (0.01)	1.07 (n.s.)
Mechanical	5.38 (0.01)	1.19 (n.s.)	4.85 (0.01)	5.90 (0.01)	1.68 (n.s.)	0.25 (n.s.)	2.62 (0.01)	3.22 (0.01)	1.88 (n.s.)	4.06 (0.01)
Scientific	2.72 (0.01)	1.92 (n.s.)	2.46 (0.05)	3.41 (0.01)	0.44 (n.s.)	2.07 (0.05)	0.07 (n.s.)	3.48 (0.01)	1.50 (n.s.)	3.80 (0.01)
Persuasive	1.22 (n.s.)	2.00 (0.05)	2.37 (0.05)	1.83 (n.s.)	F-test was not significant for schools types.					
Social Service	0.97 (n.s.)	3.13 (0.01)	2.71 (0.01)	3.39 (0.01)	F-test was not significant for schools types.					
Artistic & Constructive	1.98 (0.05)	4.10 (0.01)	3.34 (0.01)	0.82 (n.s.)	0.12 (n.s.)	1.40 (n.s.)	0.54 (n.s.)	3.22 (0.01)	0.96 (n.s.)	1.64 (n.s.)
Clerical	0.54 (n.s.)	1.00 (n.s.)	6.44 (0.01)	0.80 (n.s.)	F-test was not significant for schools types.					
Administrative	2.08 (0.05)	3.51 (0.01)	3.38 (0.01)	3.69 (0.01)	0.46 (n.s.)	1.24 (n.s.)	0.26 (n.s.)	3.32 (0.01)	0.27 (n.s.)	2.24 (0.05)
Teaching	4.08 (0.01)	2.31 (0.05)	4.20 (0.01)	4.74 (0.01)	0.38 (n.s.)	2.27 (0.05)	1.33 (n.s.)	4.14 (0.01)	3.24 (0.01)	5.95 (0.01)
Home-management	3.3 (0.01)	2.26 (0.01)	1.39 (n.s.)	2.95 (0.01)	F-test was not significant for schools types.					

To get a totality of the results obtained on various hypotheses studying the relationship between academic achievement and the variable Educational aspiration, Self-concept and eleven area of Interest, a summary table is provided below:

Table 67: Summary of the analysis of relationship between Academic achievement and the variables – Educational aspiration, Self-concept and different area of Interest.

Sl.No.	Variables correlated with Academic Achievement	r-value	Significance Level
1.	Educational Aspiration	0.386	0.01
2.	Self-concept	0.0289	n.s
3.	Literary	-0.0787	n.s.
4.	Outdoor	0.0246	n.s.
5.	Mechanical	-0.1545	0.01
6.	Scientific	0.0533	n.s.
7.	Persuasive	-0.0894	0.05
8.	Social Service	0.0452	n.s.
9.	Artistic & Constructive	-0.0197	n.s.
10.	Clerical	-0.0615	n.s.
11.	Administrative	-0.0943	0.05
12.	Teaching	-0.1875	0.01
13.	Home-Management	-0.0006	n.s.

5.8.0. Suggestions for further research

1. Same type of studies may be replicated in different District of Meghalaya to get a comparative picture.
2. Studies in depth may be conducted to find out the differences existing in self-concept between tribal and non-tribal girls.
3. Studies may be undertaken to find out the school factors which cause differences in achievement between rural and urban girls. In this regard even experimental studies may be considered.
4. Variables other than the one considered in the present investigation may also be studied in relation to academic achievement of girls.
5. Investigation similar to present study may be undertaken to make a comparative study of tribal boys and tribal girls.

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- Note: * First Survey of Research in Education
** Second Survey of Research in Education
*** Third Survey of Research in Education
**** Fourth Survey of Research in Education

APPENDIX-A

List of High Schools forming the population for the study

Sl. No.	<i><u>Name of the School</u></i>
1.	Shillong Government Girls High School
2.	D.N.S. Wahlang Memorial High School
3.	Synod High School
4.	K.J.P. Girls' High School
5.	St. Joseph's Girls High School
6.	Seng Khasi High School
7.	Islamia High School
8.	Lady Keane Girls High School
9.	R.B.A. Hindi High School
10.	Shillong High School
11.	Laban Bengalee Girls High School
12.	Laban Presbyterian High School
13.	Lumparing Vidyapith High School
14.	Little Flower High School
15.	Laban Assamese Girls' High School
16.	Rilbong P.M.C. High School
17.	Laitumkhras Presbyterian High School
18.	Laitumkhras Assamese High School
19.	Laitumkhras Bengalee Girls' High School
20.	St. Mary's High School
21.	Auxillium Girls High School
22.	H.L. Mizo High School
23.	Mawprem Modern High School
24.	Anath Ashram High School
25.	Gorkha Patshala High School
26.	Sacred Heart Girls High School
27.	Nongkwar High School
28.	Gorkha High School

29. Nongkseh High School
30. Shon Roy Basan High School
31. Pomlum High School
32. Smit High School
33. Good Shepherd High School
34. Nongkrem High School
35. Mawryngkneng High School
36. St. John Bosco Girls' High School
37. R.K.M. High school
38. Cherra Presbyterian High School
39. St. Anthony's High School
40. Khad -ar-Blang High School
41. Mawsynram High School
42. St. Paul's High School
43. Sein Jaintia Pro. High School
44. Balika Hindi High School.
45. Buddha Vidhya Niketan High School
46. Gandhi Buniyadi High School
47. Ruprekha Night High School
48. St. Nanak High School
49. St. Jerome Pro. High School
50. Malki Presbyterian High School
51. Raid Laban High School
52. Madan Laban Nepali High School
53. Shillong Academy High School
54. Arya kenya Vidyalaya High School
55. St. Margareth Pro. High School
56. Mizo Modern High School
57. Umpling (R) Girls High School
58. Nongthymmai Nepali High School
59. Garo Union (Day) High School
60. Garo Union (Night) High School

61. Holy Child Pro. High School
62. Hill View Pro. High School
63. Eriben Pres. Pro High School
64. Madanrting Pres. Pro. High School
65. Mawlai Presbyterian High School
66. Mawlai Christian Night High School
67. Sun Rays' Pro .High School
68. Christ Church High School
69. Arya Vidhyalaya Pro. High School
70. San Shnong High School
71. Mawkhanu High School
72. San Rafael Pro. High School
73. Tirot Singh Memorial High School, Mawkdok
74. Tirot Singh Memorial High School, Laitkynsew
75. Mawlong Sirdarship Pro. High School.
76. Shella Pro. High School
77. Mawphlang Pro. High School
78. Mawphlang District Christian Multipurpose High School
79. Laitbah Union High School
80. Trysad High School
81. District Pyndemsohsaw Presbyterian Pro. High School
82. Diengiei High School
83. Green Hills High School
84. Laitlyngkot High School
85. Nongspung High School
86. Wahlang Pro. High School
87. Riwar Mihngi Presbyterian Pro. High School
88. Sohiong Pro. High School
89. Mawpynthaw Pro. High School
90. Raid Lyngkhoi Pro. High School
91. Laitmawsiang Pro.High School
92. Mahatma Gandhi Memorial Pro. High School

93. Raid Lyngkhat Pro. High School
94. Nongpathaw Pro. High School
95. Raid Nongsken Border Area Pro. High School
96. Sohrynkham Presbyterian Pro. High School
97. Mawpat Presbyterian Pro. High School
98. Kyntiew Shaphrang Ilaka Pro. High School
99. Kong Barr Memorial Pro. High School
100. Laitkroh Pro. High School
101. Umpathaw Presbyterian Pro. High School
102. Pyndenglitha Pro. High School
103. Tlongumiam Pro. High School
104. Pliti Syiem Memorial High School
105. Sanmer Pro. High School
106. St.Peter's Pro. High School, Umkadhar
107. Mylliem Pro. High School
108. Nongjri Pro. High School
109. Mt. Zion Pro. High School
110. Christian Academy High School
111. Seven Set School, Malki
112. Brookside Adventist School
113. Kiddies Corner Pro. High School
114. Loreto Convent School
115. Morning Star Pro. High School
116. St. Albert School
117. St. John White Hall School
118. Glakyn Academy English School
119. Doris Pro. High School
120. Providence High School
121. Church Of God (Eclessia) Pro. High School
122. All Saints' Diocessan School
123. St. Xavier Pro. High School

APPENDIX-B

EDUCATIONAL ASPIRATION SCALE (FORM- P)

Developed by
Dr. V.P.Sharma & Km. Anuradha Gupta.

Please fill in the following particulars:-

Name:-

Class:-

School:-

Date:-

Rural/ Urban:-

Tribal/ Non-Tribal:-

INSTRUCTIONS:

You have been appearing for various examinations for the past many years. Probably you have gained a lot of experience on examinations. Generally the marks that are obtained by the students in various examinations are not only the result of their hard work put in for the examination or of their capacity to learn and understand, but also of many other factors. Here we are not to find out these factors.

Below are given some items. Each item has two statements. You are to determine only this much as to which you secure more marks, or you had hope to secure more marks, or you will do so in the future. Please indicate your choice by writing A or B in the bracket given at the right hand side of the item.

This is not an examination. Therefore do not hesitate and indicate your responds without any fear.

Indicate A or B below

1. A. Approximate marks that you would obtain in any examination after 10 years.
B. Your ability to study for any examination after 10 years. ()
2. A. Your ability to study during the previous annual examination.
B. Ability to study of other students during the previous annual examination. ()
3. A. Approximate range of marks to be obtained by you in the current test or examination.
B. Approximate range of marks to be obtained by other students in the current test after 10 years. ()

4. A. Your expected marks in the previous annual examination.
B. Expected marks that you may get in any examination to be taken after 10 years. ()
5. A. Marks obtained by you in the current examination
B. Your ability to obtain the expected marks in the current examination. ()
6. A. The strength of your study done for the previous annual examination.
B. Actual marks that was to be obtained by you in the previous examination. ()
7. A. Yours ability to study for any examination after 10 years.
B. Your ability to attend general class for any examination after 10 years. ()
8. A. Your capacity to study and the amount of work put in by you for the previous annual examination.
B. Your capacity to study and the amount of work that you may put in for any examination after 10 years. ()
9. A. Actual marks obtained by you in the previous annual examination.
B. Amount of works put in by you for the previous annual examination. ()
10. A. Approximate marks that you may obtained in the current test or examination.
B. Approximate marks that you may obtained in any examination after 10 years. ()
11. A. Your ability y to study for the current test or examination.
B. Ability of other students in the class to study for the current test or examination. ()
12. A. Approximate marks to be obtained by you in the current test or examination.
B. The amount of work to be put in for the current test or examination. ()
13. A. Your ability to study at the previous annual examination.
B. Your ability to study for the current examination. ()
14. A. Marks obtained by you in the current test or examination.
B. Yours ability to study for the current test or examination. ()

15. A. Marks obtained by you in the previous annual examination.
B. Marks to be obtained by you in the current test or examination. ()
16. A. Approximate expected marks to be obtained by you in the previous annual examination.
B. Actual marks obtained by you in the previous annual examination. ()
17. A. Marks to be obtained by you in the current test or examination.
B. Amount of effort put in by you for the current test or examination. ()
18. A. Approximate marks to be obtained by you in any examination after 10 years.
B. Amount of effort to be put in by you for any examination after 10 years. ()
19. A. Your ability to undertake the amount of study carried out for the previous annual examination.
B. Your ability to undertake the amount of study to be carried out for the current examination. ()
20. A. Approximate expected marks in the previous annual examination.
B. Approximate expected marks to be obtained by you in the previous annual examination. ()
21. A. Your ability to study and the amount of effort put forth for the current test or examination.
B. Your ability to study and the amount of effort to be put forth any examination 10 years later. ()
22. A. Approximate expected marks to be obtained by you in the previous annual examination.
B. Approximate expected marks to be obtained by others students of the class in the previous annual examination. ()
23. A. Actual marks to be obtained by you in any examination after 10 years.
B. Approximate marks to be obtained by you in any examination after 10 years. ()
24. A. Your ability to undertake the amount of study carried out for the previous annual examination
B. Ability of other students of the class to undertake the amount of study carried out for the same annual examination. ()

25. A. Amount of effort to be put in by you for any examination after 10 years.
B. Actual marks to be obtained by you in any examination after 10 years. ()
26. A. Your ability to put forth for the previous annual examination.
B. Your ability to study to be put forth for any examination after 10 years. ()
27. A. The amount of effort to be put forth by you for the current examination.
B. The amount of effort to be put forth by you for any examination after 10 years. ()
28. A. Actual marks to be obtained by you in the current test or examination.
B. Actual average marks to be obtained by other students of the class in the current test or examination. ()
29. A. Approximate expected marks to be obtained by you in any examination after 10 years.
B. Approximate expected average marks to be obtained by you obtained by other students after 10 years. ()
30. A. Approximate expected marks to be obtained by you in the previous annual examination
B. Amount of works put in by you for the previous annual examination. ()
31. A. Actual marks to be obtained by you in the current test or examination.
B. Actual marks to be obtained by you in any examination after 10 years. ()
32. A. Actual marks expected to be obtained by you in the previous annual examination.
B. Actual marks to be obtained by you in any examination after 10 years. ()
33. A. Amount of effort to be put in by you for the previous annual examination.
B. Your ability to undertake the amount of study carried out for the previous annual examination ()
34. A. Approximate expected marks to be obtained by you in the previous annual examination
B. Approximate expected marks to be obtained by you in the current test or examination. ()

35. A. Actual marks expected to be obtained by you in the previous annual examination
B. Average marks obtained by other students of the class in the previous annual examination ()
36. A. Amount of effort to be put in by you for the previous annual examination.
B. Amount of effort to be put in by you for any examination after 10 years. ()
37. A. Actual marks to be obtained by you in any examination after 10 years.
B. Actual average marks to be obtained by other students of the class in any examination after 10 years. ()
38. A. Actual marks to be obtained by you in any examination after 10 years.
B. Yours ability to study for any examination after 10 years. ()
39. A. Amount of effort to be put in by you for the previous annual examination.
B. Your ability to study for any examination after 10 years. ()
40. A. Your ability to undertake the amount of study and the amount of effort put forth by you for the previous annual examination
B. Your ability to undertake the amount of effort you are putting forth for the current test or examination. ()
41. A. Amount of effort to be put in by you for any examination after 10 years.
B. Amount of effort to be put in by others students of the class for any examinations after 10 years. ()
42. A. Amount of effort put in by other student of the class for the current test of examination.
B. Amount of effort put in by you for the current test or examination. ()
43. A. Your ability to study for any examination after 10 years.
B. Amount effort to be put in by you for any examination after 10 years. ()
44. A. Your ability to undertake the amount of study carried out for the current examination.
B. Your ability to undertake the amount of study for any examination after 10 years. ()
45. A. Approximate expected marks to be obtained by you in the current test or examination.
B. Your ability to study put forth by you for the current test or examination. ()

APPENDIX-C

**SCORING KEY
EDUCATIONAL ASPIRATION SCALE (EAS) FORM P**

ITEM NO. A		B	ITEM NO. A		B	ITEM NO. A		B
1	0	1	16	0	1	31	0	1
2	1	0	17	0	1	32	0	1
3	1	0	18	0	1	33	1	0
4	0	1	19	0	1	34	0	1
5	1	0	20	0	1	35	1	0
6	1	0	21	0	1	36	0	1
7	0	1	22	1	0	37	1	0
8	0	1	23	1	0	38	0	1
9	0	1	24	1	0	39	0	1
10	1	0	25	1	0	40	0	1
11	0	1	26	0	1	41	1	0
12	0	1	27	0	1	42	0	1
13	0	1	28	1	0	43	0	1
14	0	1	29	1	0	44	0	1
15	0	1	30	0	1	45	0	1

APPENDIX - D

SELF CONCEPT (PERSONALITY WORD LIST) RATING SCALE Developed by Dr (Mrs.) Pratibha Deo.

Please fill the following particulars:

Name: _____

Class: _____

School: _____

Tribal / Non-tribal: _____

INSTRUCTIONS

Please read the instruction carefully before writing anything on this sheet.

1. Please fill all particulars as mentioned above.
2. On the other side of this sheet there is a list of word containing common adjectives. This will help us in finding out what you think of yourself.
3. The information collected through this list will be kept strictly confidential and will never be used to your disadvantage. The purpose of this list is to try to help you.
4. Please be frank and honest in your responses, because the results are likely to be used in your better adjustment.
5. Work quickly and do not spend too much time on any single word.
6. There is no time limit and no right and wrong answer.
7. (A) Read first word and try to think how that word describes yourself. If you think that you are very much like that put in the first cell; if you are much like that, put your response in the second cell; if you are uncertain, put in the third cell; if you think you are not like that, give the response in the fourth cell; if you feel that you are not at all like that, give the response in the fifth cell. In this way you mark all the words.
(B) Read the first word and try to think if you would like to be like that. If you think that you would like to be very much like that, put in the first cell. If you would like to be much like that, put your response in the second cell. If you are uncertain, put in the third cell. If you think you would not like to be like that, give your response in the fourth cell. If you feel that you would not like to be like that at all, give the response in the fifth cell. In this way mark all other words.
(C) Read the first word and try to find how other people think of yourself. If you feel that others think of yourself very much like that, put in the first cell. If you think that others think of yourself much like that, put your response in the second cell. If you think people are uncertain about it, put in the third cell. If you feel that others think of you not like that, give the response in the fourth cell. If you feel that others think of yourself not at all like that, give the response in the fifth cell. In this way mark all other words.
8. Do not leave any word unanswered and respond to all the words.

Note: 1: very much like this.
4: not like this.

2: not much like this.
5: not at all like this.

3: uncertain.

	1	2	3	4	5		1	2	3	4	5		1	2	3	4	5
1. Graceful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	31. Reliable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	61. Ambitious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Cheerful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	32. Alert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	62. Quarrelsome	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Intelligent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	33. Resourceful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	63. Independent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Aggressive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	34. Modest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	64. Tense	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Kind	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	35. Fussy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	65. Willing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Harsh	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	36. Obstinate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	66. Efficient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Artistic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	37. Delicate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	67. Thoughtful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Brave	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	38. Friendly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	68. Serious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Likable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	39. Vague	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	69. Suspicious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Happy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40. Adventurous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	70. Systematic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Systematic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	41. Unsteady	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	71. Inventive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Miser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	42. Anxious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	72. Honest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Irresponsible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	43. Social	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	73. Weak	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Attractive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	44. Superior	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	74. Contented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Nervous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	45. Curious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	75. Tolerant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Irritable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	46. Greedy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	76. Idealistic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Enthusiastic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	47. Frank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	77. Strict	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Careless	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	48. Impressive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	78. Obedient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Critical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	49. Quiet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	79. Shirker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Boastful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	50. Optimistic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	80. Humorous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Simple	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	51. Energetic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	81. Mischievous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Confident	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	52. Foolish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	82. Restless	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Fair-minded	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	53. Active	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	83. Bossy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Impatient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	54. Insincere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	84. Selfish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Wicked	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	55. Excitable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	85. Rude	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Clean	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	56. Clever	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	86. Determine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Formal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	57. Shy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	87. Punctual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Talkative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	58. Argumentative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	88. Broadminded	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Lazy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	59. Jealous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	89. Bluffer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Affectionate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	60. Discipline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	90. Smart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX - E

INDICATION OF POSITIVE, NEGATIVE AND NEUTRAL ITEMS OF SLC.

Sl.no	Positive/Negative Neutral	Sl.no	Positive/negative Neutral	Sl.no	Positive/Negative Neutral
1	Positive	31	Positive	64	Negative
2	Positive	32	Positive	65	Positive
3	Positive	33	Positive	66	Positive
4	Negative	34	Positive	67	Positive
5	Positive	35	Negative	68	Positive
6	Negative	36	Negative	69	Negative
7	Positive	37	Positive	70	Positive
8	Positive	38	Positive	71	Positive
9	Positive	39	Negative	72	Positive
10	Positive	40	Positive	73	Negative
11	Positive	41	Negative	74	Positive
12	Negative	42	Neutral	75	Positive
13	Negative	43	Positive	76	Positive
14	Positive	44	Neutral	77	Neutral
15	Negative	45	Positive	78	Positive
16	Negative	46	Negative	79	Negative
17	Positive	47	Positive	80	Positive
18	Negative	48	Positive	81	Negative
19	Positive	49	Positive	82	Negative
20	Negative	50	Positive	83	Negative
21	Positive	51	Positive	84	Negative
22	Positive	55	Neutral	85	Negative
23	Positive	56	Positive	86	Positive
24	Negative	57	Negative	87	Positive
25	Negative	58	Positive	88	Positive
26	Positive	59	Negative	89	Positive
27	Neutral	60	Positive	90	Positive
28	Neutral	61	Positive		
29	Negative	62	Negative		
30	Positive	63	Positive		

APPENDIX - F

**REUSABLE BOOKLET OF SODHI AND BHATNAGAR INTEREST
INVENTORY (SBII)**

**Dr. T.S. Sodhi
&
Dr.(Mrs.) H. Bhatnagar.**

INSTRUCTION

Note -Please do not turn over the page the till you are ask to do so.

1. This inventory contains 136 items pertaining to different activities like literacy, Mechanical, Scientific, Administrative, etc. You are not to write anything on this test .You have been separately with an answer sheet containing the same number of items which the inventory consist of. On the answer sheet you have to cross one of the three squares which indicate either "Yes" "No" or ? In case you like the activity, cross mark the square below "Yes" on the answer sheet against the same number of item. If you neither like the activity nor dislike it, you have to cross the square which indicate "?" and if you do not like the activity , you have to cross the square below "No"
2. While answering this questions please forget about everything else and concentrate your mind on them so that you are able to give your independent , sincerely felt and original ideas.
3. Do not leave any item unanswered .
4. There is no item limit , you may take your own time. The students however, generally do not take more than 25 minutes to complete it.
5. You are requested to give your free and frank opinion and not to consult anybody. In case you need some guidance then you may consult the administrator of the tool.
6. This information will be kept strictly confidential and will not be used for any other purpose except this research work.

Would you like to:

1. Do embroidery work.
2. Play with the children.
3. Organise village melas.
4. Compare different names/digits.
5. Participate in Teacher Association activities.
6. Sell tickets for school drama.
7. Guide the tourists.
8. Become Machine assembler.
9. Contact famous artists.
10. Become a member of the literary societies and club.

11. Prepare diet chart.
12. Use Mixy/Crinder/Toaster/Tandoor/Oven
13. Taught Art/Craft.
14. Raise money to established a centre for the café and training of the feeble-minded.
15. Do horse riding.
16. Correct exercise books.
17. Study utilization of bacteria and other microorganisms.
18. Manage your farm.
19. Play on some musical instruments.
20. Know about the new diseases.
21. Work in welfare committees.
22. Observe and make weather forecasts.
23. Dress u the girls for entertainment programme.
24. Design new fashions.
25. Repair auto-mobile machine
26. Take interest in the safeguard of the rights of others.
27. Participate in quiz programme on radio/TV
28. Give first-aid to people.
29. Convince people for small savings.
30. Read or write travels.
31. Propagate religious ideas.
32. Participate in hunting
33. Prepare cosmetics.
34. Supervise the work of clerks.
35. Do wood work/metal work.
36. Become computing machine operator.
37. Participate in Mushaira and Kavi Sammelan.
38. Teach by play-way method.
39. Sergeant in N.C.C. Troops.
40. Get training in interior decoration.
41. Study the techniques of food processing.
42. Participate in matches (Volley-Ball, Tennis, Hockey, etc.)
43. Participate in story competition for radio/newspaper.
44. Be a petrol leader in Girls Guide Company.
45. Manufacture medicines.
46. Fight against the social injustice.
47. Participate in hiking/trekking.
48. Take order in a florist shop.
49. Put up files to seniors.
50. Read or write poetry.
51. Television mechanic.
52. Design jewellery.
53. Make cartoons.
54. Publicize Govt./Institutional activities.
55. Be a class representative.
56. Write an essay on adulteration.

57. Repair sewing machine.
58. Study astronomy.
59. Prepare pickles and chutneys.
60. Organise camps.
61. Teach drawing/painting.
62. Help your sister their homework.
63. Check cleanliness of your school.
64. Do house keeping.
65. Participate in paper reading seminar.
66. Write an article for school magazine.
67. Make use of waste material.
68. Specialize in dental mechanism.
69. Buy and sell shares, bond and securities, etc. on commission basis.
70. To rise and breed animals.
71. Open a poultry farm.
72. Prepare models for exhibition.
73. Participate in girls guide/NCC camps.
74. Be a telephone mechanic.
75. Approach municipal commissioner for difficulties and problems of your locality.
76. Repair electric goods.
77. Maintain cash book.
78. Be Editor of school magazine
79. Be a teacher of Science.
80. Read letters of others.
81. Diagnose and treat human mental diseases and disorders.
82. Become Laboratory Technical Assistant.
83. Analyse various chemical compounds.
84. Fix machinery.
85. Narrate short stories to children
86. Sit in Competitive examination.
87. Offer Sharamdan in building roads, etc.
88. Write on the blackboard.
89. Wash press and systematically put clothes.
90. Do scientific farming.
91. Make small inventions.
92. Repair watch/clock
93. Read or write short stories.
94. Maintain the service records of employees.
95. Stitch clothes.
96. Repair bicycles.
97. Invent new designs and prints.
98. Participate in One Act Play.
99. Operate upon human beings.
100. Extract metals from ores.
101. Prepare/topographical geological maps and records.
102. Teach Art.

103. Repair shoes.
104. Be director of industries.
105. Participate in debates.
106. Teach shorthand typewriting.
107. Be a Deputy Commissioner.
108. Do gardening forestry.
109. Be a President of council of students.
110. Sell the postcard/envelopes/postage stamps.
111. Participate in concerts.
112. Evaluate answer books.
113. Organise picnics and excursions.
114. Write lessons.
115. To build a small laboratory.
116. Participate in mountaineering.
117. Study plant and animal life.
118. Do sculpture work.
119. Use the beauty aids.
120. Be a monitor in the class.
121. Have faith in universal brother-hood.
122. Design household furniture.
123. Be a motor mechanic.
124. Participate in athletics like longjump, short distance race, etc.
125. Participate in radio/T.V. programme.
126. Do boating.
127. Manage the business of your father.
128. Do classroom teaching.
129. Draw and paint pictures.
130. Do life insurance work.
131. Participate in poetry recitation.
132. Oil and clean the engine.
133. Read and write articles.
134. Be a telegraph/telephone operator.
135. Do family welfare work.
136. Read or write drama.

	A	B	C	D	E	F	G	H
1								
2								
3								
4								
5	SUBJECT	TRIBAL	SCHOOL	EDUCATIONAL	SELF CONCEPT			
6	CODE	OR		ASPIRATION	(PERSONALITY			
7		NONTRIBAL		SCALE (Form-P)	WORD LIST)	LITERARY	OUTDOOR	MECHANICAL
8					RATING SCALE			
9								
10	1	NT	A - U/G	22	81	16	18	6
11	2	NT	A - U/G	28	100	24	0	18
12	3	NT	A - U/G	25	92	13	20	16
13	4	NT	A - U/G	28	112	13	36	25
14	5	NT	A - U/G	22	105	12	0	10
15	6	NT	A - U/G	28	95	24	26	19
16	7	NT	A - U/G	25	134	13	21	16
17	8	NT	A - U/G	33	101	10	20	18
18	9	NT	A - U/G	27	77	25	22	12
19	10	NT	A - U/G	21	125	20	0	10
20	11	NT	A - U/G	35	85	16	15	9
21	12	NT	A - U/G	24	128	22	20	28
22	13	NT	A - U/G	20	96	16	21	20
23	14	NT	A - U/G	23	130	20	22	8
24	15	NT	A - U/G	25	96	14	22	18
25	16	NT	A - U/G	29	124	19	15	6
26	17	NT	A - U/G	31	122	17	22	17
27	18	NT	A - U/G	29	116	22	19	10
28	19	NT	A - U/G	25	110	10	17	11
29	20	NT	A - U/G	24	111	14	20	22
30	21	T	A - U/G	26	73	8	14	8
31	22	T	A - U/G	22	72	20	20	22
32	23	T	A - U/G	22	43	16	0	23
33	24	T	A - U/G	28	18	10	16	16
34	25	T	A - U/G	28	86	12	11	11
35	26	T	A - U/G	30	65	4	12	3
36	27	T	A - U/G	20	142	25	24	15
37	28	T	A - U/G	25	103	28	26	15
38	29	T	A - U/G	28	97	14	14	17
39	30	T	A - U/G	25	36	10	9	10
40	31	T	A - U/G	36	66	13	18	10
41	32	T	A - U/G	27	66	9	15	11
42	33	T	A - U/G	31	93	0	12	6
43								
44	34	T	B-U/G	26	95	5	14	7
45	35	T	B-U/G	34	82	6	13	2
46	36	T	B-U/G	26	109	27	26	20
47	37	T	B-U/G	32	104	12	14	10
48	38	T	B-U/G	26	104	26	18	21
49	39	T	B-U/G	31	127	24	16	21
50	40	T	B-U/G	29	78	17	18	11
51	41	T	B-U/G	28	95	26	13	8
52	42	T	B-U/G	23	104	25	22	14
53	43	T	B-U/G	30	88	28	14	14
54	44	T	B-U/G	25	95	22	15	8
55	45	T	B-U/G	30	73	6	12	4
56	46	T	B-U/G	27	46	8	14	12
57	47	T	B-U/G	35	89	21	20	10
58	48	T	B-U/G	33	105	20	22	16
59	49	T	B-U/G	25	149	26	26	15
60	50	T	B-U/G	27	72	11	26	12
61	51	T	B-U/G	27	106	18	10	10
62	52	T	B-U/G	28	87	21	21	18
63	53	T	B-U/G	30	85	28	25	15
64	54	T	B-U/G	27	113	16	24	11
65	55	T	B-U/G	23	117	16	16	6
66	56	T	B-U/G	25	54	23	18	6
67	57	T	B-U/G	30	103	16	15	12

	O	P	Q	R	S	T	U	V	W
TEACHING	HOME MANAGEMENT	ENGLISH	SCIENCE	MATHS	MIL	SOCIAL SCIENCE	HEALTH EDUCATION	TOTAL	
10	10	128	111	115	124	119	64	661	
20	20	90	72	65	88	72	50	437	
13	9	117	65	60	68	87	49	446	
15	8	130	120	123	118	130	70	691	
11	14	91	47	60	86	60	43	387	
18	16	98	63	42	79	66	48	396	
20	20	79	35	35	66	64	33	312	
18	22	110	80	64	86	91	47	478	
24	0	106	60	79	96	67	51	459	
0	9	115	88	106	103	95	50	557	
10	14	117	103	125	113	95	54	607	
18	20	115	60	65	72	74	53	439	
16	12	80	45	60	66	68	44	363	
15	18	125	80	60	92	98	61	516	
12	13	95	30	60	78	52	41	356	
15	10	104	62	70	66	71	42	415	
18	14	82	42	76	36	61	39	336	
15	19	126	128	131	75	120	72	652	
16	16	109	77	84	66	75	45	456	
20	18	117	60	60	104	62	48	451	
20	14	98	42	70	94	46	38	388	
20	18	71	45	34	91	60	41	342	
22	19	84	66	106	111	62	42	471	
16	14	103	51	96	99	61	42	452	
17	8	113	46	38	107	60	40	404	
11	12	124	74	107	108	78	50	541	
21	20	104	52	75	114	72	53	470	
17	20	104	49	73	104	63	43	436	
12	14	87	52	65	92	60	39	395	
14	16	100	69	132	100	62	42	505	
11	13	108	71	65	81	68	52	445	
20	17	93	75	85	105	65	43	466	
8	14	128	50	60	80	53	39	410	
11	10	87	63	42	103	77	39	411	
10	18	83	46	149	110	65	30	483	
21	19	126	53	60	106	85	53	483	
13	13	108	60	69	100	80	36	453	
15	15	104	62	100	91	72	50	479	
17	17	100	91	72	112	103	49	527	
11	9	124	93	138	120	114	52	641	
16	16	99	47	60	94	60	37	397	
17	22	92	31	26	85	38	22	294	
18	18	106	100	153	116	102	50	627	
18	12	85	64	75	91	71	44	430	
8	6	112	63	73	111	84	46	489	
16	10	96	75	61	116	68	42	458	
11	15	128	129	141	125	115	71	709	
14	16	114	93	114	99	88	44	552	
18	18	117	60	64	97	110	48	496	
17	16	92	64	60	101	65	44	426	
17	13	103	73	97	92	89	43	497	
16	16	129	83	136	122	101	58	629	
19	20	114	74	62	112	67	64	493	
17	19	119	50	69	109	92	51	490	
10	15	101	60	42	88	69	41	401	
16	12	129	93	132	108	109	60	631	
10	14	120	65	77	110	100	55	527	

Contd. I.

	A	B	C	D	E	F	G	H
68	58	T	B-U/G	26	73	8	20	6
69	59	T	B-U/G	23	78	15	18	5
70	60	T	B-U/G	25	68	20	11	4
71	61	T	B-U/G	36	120	12	13	3
72	62	T	B-U/G	35	75	22	14	7
73	63	T	B-U/G	27	107	22	12	10
74	64	T	B-U/G	23	112	18	21	21
75	65	T	B-U/G	23	64	16	12	10
76	66	T	B-U/G	28	65	15	17	9
77	67	T	B-U/G	24	74	28	15	13
78	68	T	B-U/G	25	125	24	24	8
79	69	T	B-U/G	25	69	11	14	8
80	70	T	B-U/G	26	72	16	18	12
81	71	T	B-U/G	27	45	5	10	9
82	72	T	B-U/G	28	51	21	13	7
83	73	T	B-U/G	28	12	24	23	17
84	74	T	B-U/G	35	121	24	9	7
85	75	T	B-U/G	27	107	14	14	2
86	76	T	B-U/G	25	96	15	19	18
87	77	T	B-U/G	38	100	18	18	12
88	78	T	B-U/G	21	58	16	25	21
89	79	T	B-U/G	28	97	17	21	15
90	80	T	B-U/G	23	68	16	12	6
91	81	T	B-U/G	20	120	21	21	17
92	82	T	B-U/G	35	84	24	20	11
93	83	T	B-U/G	21	87	14	16	12
94	84	T	B-U/G	30	98	25	20	12
95	85	T	B-U/G	25	92	23	16	21
96	86	T	B-U/G	32	74	9	13	13
97	87	T	B-U/G	33	51	12	8	10
98	88	T	B-U/G	32	64	12	15	10
99	89	T	B-U/G	37	49	10	19	12
100	90	T	B-U/G	34	58	15	16	11
101	91	T	B-U/G	31	33	14	21	7
102	92	T	B-U/G	32	61	26	6	6
103	93	T	B-U/G	26	41	25	16	12
104	94	T	B-U/G	25	73	7	10	14
105	95	T	B-U/G	29	72	5	11	4
106	96	T	B-U/G	27	65	23	20	18
107	97	T	B-U/G	34	81	17	19	19
108	98	T	B-U/G	26	59	26	11	6
109	99	T	B-U/G	23	51	22	17	7
110	100	T	B-U/G	20	60	19	15	9
111	101	T	B-U/G	20	112	24	18	17
112	102	T	B-U/G	27	132	21	18	17
113	103	T	B-U/G	24	122	25	19	17
114	104	T	B-U/G	27	104	9	23	13
115	105	T	B-U/G	20	120	14	8	9
116	106	T	B-U/G	26	115	17	3	8
117	107	T	B-U/G	25	89	21	25	14
118	108	T	B-U/G	21	108	28	22	18
119	109	T	B-U/G	31	105	26	24	23
120	110	T	B-U/G	29	107	30	23	27
121	111	T	B-U/G	25	57	25	23	13
122	112	T	B-U/G	35	60	16	22	14
123	113	T	B-U/G	25	53	16	14	17
124	114	T	B-U/G	28	123	21	21	20
125	115	T	B-U/G	33	106	12	14	6
126	116	T	B-U/G	28	73	22	21	15
127	117	T	B-U/G	24	83	11	12	11
128	118	T	B-U/G	27	84	17	15	8
129	119	T	B-U/G	28	91	23	21	23
130	120	T	B-U/G	27	94	19	19	14
131	121	T	B-U/G	20	120	16	16	12
132	122	T	B-U/G	28	130	17	22	17
133	123	T	B-U/G	33	73	10	13	13
134	124	T	B-U/G	32	84	15	14	15
135	125	T	B-U/G	22	131	11	8	8

I	J	K	L	M	N
18	0	8	10	2	8
14	1	10	14	1	13
16	0	6	9	0	10
20	3	11	11	0	11
20	3	8	16	1	10
10	4	14	14	2	22
26	7	17	15	7	17
19	3	6	10	3	13
15	4	12	19	5	15
19	5	6	15	7	19
28	4	15	17	3	23
5	4	5	7	2	9
15	6	12	15	4	14
20	5	12	9	7	16
13	3	6	8	3	20
31	7	13	18	9	21
22	2	14	13	2	8
26	8	10	20	4	18
27	4	10	16	3	18
22	3	16	16	6	16
25	6	12	20	11	11
25	6	12	14	5	23
14	6	10	14	4	20
20	3	13	11	6	16
17	8	15	18	10	27
10	2	2	10	0	12
24	5	17	16	5	17
29	6	14	14	6	17
28	3	11	10	3	17
16	6	8	10	5	14
13	5	11	12	5	14
22	6	11	12	4	13
9	6	14	8	4	25
17	3	10	11	2	17
18	2	12	16	4	14
20	6	9	11	6	21
17	3	8	15	5	15
8	6	8	7	6	12
19	2	9	12	6	12
23	4	10	12	5	17
18	9	9	8	4	12
20	2	11	17	7	17
16	5	11	18	4	15
20	6	14	20	10	26
13	6	8	15	7	9
28	8	15	19	12	25
25	3	9	18	4	19
20	2	8	9	4	8
6	6	11	8	5	14
17	5	10	19	8	18
27	8	11	18	3	22
22	7	14	20	8	22
28	7	15	23	10	26
21	5	13	19	4	17
12	4	16	12	6	10
13	5	8	16	5	15
13	8	14	14	10	16
28	3	13	15	4	10
18	5	13	15	6	19
11	3	6	12	2	12
12	4	10	18	4	15
22	8	15	17	12	23
26	5	11	16	2	21
12	2	12	8	4	18
24	5	10	13	5	21
17	3	12	12	5	11
18	4	10	17	4	15
10	2	2	8	3	8

Contd. II.

O	P	Q	R	S	T	U	V	W
12	16	113	80	48	104	110	47	502
11	14	91	60	48	100	72	42	413
10	10	85	68	65	109	97	53	477
17	13	114	84	113	98	103	49	561
14	14	137	104	155	120	127	60	703
22	14	90	38	41	112	65	44	390
15	18	109	81	72	97	104	57	520
6	2	81	40	35	112	35	16	319
14	18	118	79	107	122	97	54	577
20	7	66	42	67	105	60	47	387
19	19	132	147	139	108	127	61	714
11	9	89	52	40	117	60	42	400
18	19	126	87	87	86	91	42	519
13	13	108	62	61	114	89	48	482
14	12	87	60	76	100	60	33	416
19	17	97	61	42	104	74	44	422
8	10	141	146	164	117	135	69	772
10	14	114	60	42	112	92	48	468
8	11	104	78	93	102	107	56	540
18	8	119	107	152	121	119	60	678
13	18	94	60	42	113	114	55	478
15	11	116	79	78	98	77	50	498
14	16	83	40	41	114	60	40	378
15	16	83	37	43	97	46	47	353
15	10	119	74	68	115	96	47	519
11	12	78	51	29	102	74	45	379
15	7	121	73	79	118	87	45	523
17	12	93	60	81	105	82	42	463
8	12	101	73	122	108	88	44	536
13	10	98	66	60	108	69	39	440
15	14	106	50	98	107	60	39	460
10	17	133	148	172	122	154	60	789
13	14	108	53	57	110	73	59	460
11	15	114	60	87	108	82	46	497
12	12	104	69	60	115	79	51	478
15	13	90	60	29	102	89	46	416
17	12	96	70	47	104	81	43	441
20	13	93	60	42	108	72	43	418
17	14	92	82	73	108	82	43	480
16	13	114	60	103	115	80	48	520
10	14	119	98	119	125	91	59	611
19	14	106	84	109	125	97	48	569
17	7	86	71	29	89	60	38	373
20	20	86	60	75	106	50	50	427
19	15	98	60	42	99	66	51	416
22	18	84	64	61	102	75	47	433
20	14	99	60	66	98	82	50	455
14	16	103	68	113	110	95	46	535
15	11	96	64	60	114	94	46	474
24	19	105	69	42	86	71	41	414
21	14	79	47	62	108	77	35	408
18	18	101	71	70	102	86	47	477
21	17	95	73	120	108	84	46	526
19	15	122	75	135	124	104	56	616
14	20	96	103	95	113	111	63	583
13	10	81	61	42	91	75	54	404
20	17	85	71	79	102	93	57	497
10	11	121	100	97	101	109	50	578
14	20	91	72	42	105	60	42	412
20	9	92	61	60	108	84	54	459
18	11	94	65	21	110	88	49	427
16	19	100	65	76	94	82	45	462
13	14	108	52	33	109	82	44	428
14	20	77	60	60	112	77	33	419
16	16	91	47	60	104	65	41	408
13	14	96	60	81	80	69	37	423
18	14	122	80	106	122	89	42	561
12	13	115	88	94	99	92	54	542

Contd. II

	A	B	C	D	E	F	G	H
136	126	T	B-U/G	28	39	8	12	10
137	127	T	B-U/G	22	45	9	10	8
138	128	T	B-U/G	29	72	15	15	16
139	129	T	B-U/G	32	62	12	10	8
140	130	T	B-U/G	32	95	17	13	14
141	131	T	B-U/G	28	94	16	19	11
142	132	T	B-U/G	24	66	5	6	7
143	133	T	B-U/G	30	91	16	21	16
144	134	T	B-U/G	33	44	8	15	9
145	135	T	B-U/G	28	118	28	20	8
146	136	T	B-U/G	28	119	13	13	9
147	137	T	B-U/G	27	129	13	24	8
148	138	T	B-U/G	25	116	16	27	10
149	139	NT	B-U/G	28	94	18	23	14
150	140	NT	B-U/G	24	127	28	21	10
151	141	NT	B-U/G	25	100	22	23	15
152								
153	142	T	B-U/G	34	113	12	11	15
154	143	T	B-U/G	27	100	18	19	14
155	144	T	B-U/G	23	111	20	15	8
156	145	T	B-U/G	27	113	24	13	3
157	146	T	B-U/G	31	125	14	6	4
158	147	T	B-U/G	33	128	26	22	22
159	148	T	B-U/G	25	143	16	14	13
160	149	T	B-U/G	24	100	22	16	10
161	150	T	B-U/G	25	111	22	30	20
162	151	T	B-U/G	27	84	16	16	10
163	152	T	B-U/G	25	95	19	20	17
164	153	T	B-U/G	27	107	10	10	5
165	154	T	B-U/G	37	50	14	10	9
166	155	T	B-U/G	29	128	24	16	12
167	156	T	B-U/G	27	98	22	12	5
168	157	T	B-U/G	26	97	10	5	7
169	158	T	B-U/G	27	135	22	16	7
170	159	T	B-U/G	28	139	24	16	10
171	160	T	B-U/G	22	95	16	16	15
172	161	T	B-U/G	30	146	20	19	4
173	162	T	B-U/G	28	140	15	16	14
174	163	T	B-U/G	35	121	22	16	16
175	164	T	B-U/G	36	124	26	23	14
176	165	T	B-U/G	31	84	8	25	28
177	166	T	B-U/G	27	140	24	25	20
178	167	T	B-U/G	28	104	22	20	17
179	168	T	B-U/G	31	125	23	14	7
180	169	T	B-U/G	33	118	10	16	10
181	170	T	B-U/G	21	126	16	10	4
182	171	T	B-U/G	28	89	24	16	10
183	172	T	B-U/G	22	105	18	14	10
184	173	T	B-U/G	20	103	16	14	7
185	174	T	B-U/G	36	108	21	22	8
186	175	T	B-U/G	36	135	20	21	9
187	176	T	B-U/G	36	82	21	12	5
188	177	T	B-U/G	26	87	24	19	9
189	178	NT	B-U/G	31	117	16	11	13
190	179	NT	B-U/G	30	115	12	10	7
191	180	NT	B-U/G	25	80	8	3	6
192								
193	181	T	B-U/G	25	100	20	21	13
194	182	T	B-U/G	24	96	21	25	19
195	183	T	B-U/G	23	101	16	22	8
196	184	NT	B-U/G	32	100	23	17	21
197	185	NT	B-U/G	34	137	21	27	22
198	186	NT	B-U/G	29	97	11	19	6
199	187	NT	B-U/G	26	98	14	10	17
200	188	NT	B-U/G	24	98	18	17	10
201	189	NT	B-U/G	18	100	24	22	13
202	190	NT	B-U/G	20	105	22	14	12
203	191	NT	B-U/G	31	86	16	10	18

I	J	K	L	M	N
16	4	8	12	4	19
11	3	6	13	1	12
20	4	13	11	6	9
20	3	11	13	5	12
15	3	8	15	6	12
16	5	6	8	7	17
8	1	3	8	4	17
22	9	14	24	9	21
12	4	7	9	1	12
19	9	13	18	8	19
22	3	13	16	2	16
7	5	14	10	9	15
8	5	16	13	9	22
29	8	13	17	7	28
22	3	12	22	4	24
20	9	16	16	5	20
20	5	16	10	6	15
23	5	16	11	5	13
24	7	15	17	7	17
27	6	11	18	3	18
17	1	10	9	2	12
32	8	14	20	6	26
10	4	16	12	1	8
24	4	9	18	2	18
19	8	10	20	2	24
22	6	12	17	1	13
34	7	17	19	3	18
22	7	13	16	2	15
12	4	10	12	3	14
24	7	12	18	4	20
13	3	14	6	6	13
14	1	6	12	6	11
20	4	14	12	5	14
16	4	12	14	2	10
5	0	6	12	2	16
25	6	13	9	4	20
22	6	10	11	6	14
26	3	14	12	11	16
22	0	12	8	0	18
30	9	17	22	6	18
32	10	19	20	9	26
24	7	12	18	7	23
20	6	15	11	6	18
19	3	17	9	3	16
22	8	15	8	2	12
8	8	18	14	8	16
8	0	12	10	4	22
12	6	7	9	5	13
13	4	12	18	4	18
15	5	12	12	2	14
14	2	7	13	0	11
22	6	8	13	9	21
20	4	12	16	1	19
18	1	7	10	7	17
8	1	6	9	4	6
15	5	11	9	5	20
21	6	14	15	6	23
18	14	20	0	22	18
17	5	13	17	8	17
24	7	15	16	7	27
13	6	8	14	2	11
9	3	14	12	8	20
20	2	13	14	4	20
27	6	13	20	7	16
14	6	13	4	5	26
11	7	16	13	4	27

Contd. III

O	P	Q	R	S	T	U	V	W
16	13	105	64	60	83	74	37	423
14	12	107	67	60	103	84	50	471
15	18	106	74	60	94	85	58	477
14	14	115	76	91	102	101	52	537
8	12	101	60	42	107	74	47	431
11	13	93	60	42	110	69	46	420
7	8	86	36	35	66	24	22	269
20	21	110	61	42	89	78	37	417
11	14	99	71	83	102	81	51	487
13	22	90	36	24	109	60	33	352
18	11	95	65	60	96	67	50	433
14	8	104	67	61	100	78	36	446
15	11	109	92	60	97	124	59	541
20	17	108	64	42	93	80	52	439
21	20	114	53	42	102	70	45	426
17	17	116	88	97	94	109	64	568
8	16	105	85	77	115	96	49	527
15	12	110	90	76	115	72	50	513
15	11	101	82	70	96	69	42	460
20	18	79	67	36	104	77	48	411
12	13	94	64	60	108	78	40	444
24	16	94	78	81	108	73	49	483
17	14	98	69	35	109	68	40	419
20	18	112	97	65	127	73	51	525
12	18	95	64	63	108	67	53	450
16	16	119	80	98	122	83	49	551
20	18	88	90	90	120	89	50	527
14	8	100	108	124	126	96	67	621
13	12	104	81	144	120	91	42	582
18	10	104	81	72	123	89	52	521
17	10	94	69	48	113	72	51	447
15	11	83	82	63	107	76	42	453
18	18	95	77	60	106	78	38	454
18	20	102	92	79	112	78	56	519
14	7	108	67	60	102	81	52	470
16	15	99	74	60	108	84	46	471
15	13	87	75	72	125	80	51	490
18	10	97	101	82	116	86	58	540
8	11	95	72	61	119	81	60	488
14	17	104	112	92	121	110	69	608
21	19	88	61	37	107	78	51	422
18	16	103	89	118	120	94	49	573
19	11	108	119	117	110	92	65	611
18	17	99	94	63	125	90	53	524
20	12	98	91	98	121	61	57	526
22	14	98	90	98	121	61	57	525
12	16	79	66	109	70	77	49	450
17	14	87	78	109	33	74	58	439
19	18	99	75	113	90	82	51	510
12	17	115	100	119	64	84	61	543
19	13	114	86	111	74	86	56	527
18	14	89	83	109	60	69	56	466
14	15	103	79	123	117	110	60	592
19	16	84	79	135	76	87	54	515
11	10	99	66	94	68	83	43	473
16	16	76	60	42	76	60	52	366
19	17	99	69	75	66	65	53	427
18	18	84	65	62	80	71	43	405
17	19	86	60	86	85	68	42	427
22	18	111	82	92	80	82	57	504
14	16	84	67	84	82	63	45	425
18	16	96	60	95	80	71	65	467
15	14	96	67	91	84	66	48	452
23	14	103	82	60	85	85	61	476
16	18	90	69	82	85	73	47	446
11	12	66	60	65	78	65	49	383

Contd.: III

	A	B	C	D	E	F	G	H
204	192	NT	B-U/G	30	127	28	18	11
205	193	NT	B-U/G	31	81	17	20	8
206								
207	194	T	B-U/G	28	102	21	15	4
208	195	T	B-U/G	33	111	23	20	11
209	196	T	B-U/G	31	106	20	24	4
210	197	T	B-U/G	35	161	18	20	8
211	198	T	B-U/G	28	102	20	15	7
212	199	T	B-U/G	27	55	14	8	8
213	200	T	B-U/G	35	103	23	22	11
214	201	T	B-U/G	29	103	8	10	2
215	202	T	B-U/G	21	69	7	9	10
216	203	T	B-U/G	37	105	14	14	10
217	204	T	B-U/G	24	122	25	12	6
218	205	T	B-U/G	33	118	22	8	2
219	206	T	B-U/G	28	102	13	16	11
220	207	T	B-U/G	33	111	15	15	4
221	208	T	B-U/G	19	88	8	11	8
222	209	T	B-U/G	28	65	9	10	7
223	210	T	B-U/G	27	53	18	11	10
224	211	T	B-U/G	31	117	18	14	14
225	212	T	B-U/G	26	109	18	20	8
226	213	T	B-U/G	32	67	14	15	6
227	214	T	B-U/G	30	91	22	16	16
228	215	T	B-U/G	25	86	14	15	8
229	216	T	B-U/G	25	103	18	23	11
230	217	T	B-U/G	33	84	23	24	24
231	218	T	B-U/G	32	91	25	17	15
232	219	T	B-U/G	24	123	23	19	16
233	220	T	B-U/G	27	143	15	15	9
234	221	T	B-U/G	26	130	15	19	15
235	222	T	B-U/G	24	107	11	12	11
236	223	T	B-U/G	26	64	16	22	7
237	224	T	B-U/G	27	122	20	24	28
238	225	T	B-U/G	29	103	18	13	6
239	226	T	B-U/G	30	89	8	8	4
240	227	T	B-U/G	28	131	18	20	14
241								
242	228	NT	C-U/G	26	113	16	21	2
243	229	NT	C-U/G	27	98	22	19	10
244	230	NT	C-U/G	22	109	26	19	15
245	231	NT	C-U/G	26	77	25	12	18
246	232	NT	C-U/G	27	82	16	7	16
247	233	NT	C-U/G	23	94	15	13	13
248								
249	234	T	D-U/G	25	105	6	14	2
250	235	T	D-U/G	30	78	18	14	10
251	236	T	D-U/G	36	84	18	27	16
252	237	T	D-U/G	32	66	10	10	12
253	238	T	D-U/G	33	105	21	24	7
254	239	T	D-U/G	33	100	10	19	11
255	240	T	D-U/G	28	115	14	20	10
256	241	T	D-U/G	24	101	12	22	8
257	242	T	D-U/G	28	109	19	17	16
258	243	T	D-U/G	28	83	16	21	6
259	244	T	D-U/G	30	89	9	12	10
260	245	T	D-U/G	38	86	7	18	4
261	246	T	D-U/G	29	143	14	20	4
262	247	T	D-U/G	32	176	16	19	13
263	248	T	D-U/G	31	118	12	16	4
264	249	T	D-U/G	34	114	12	18	6
265	250	T	D-U/G	30	110	14	16	2
266	251	T	D-U/G	28	84	28	30	31
267	252	T	D-U/G	34	56	9	14	8
268	253	T	D-U/G	29	139	25	13	2
269	254	T	D-U/G	32	101	11	17	10
270	255	T	D-U/G	30	74	4	13	9
271	256	T	D-U/G	30	104	18	25	8

I	J	K	L	M	N
16	2	8	19	2	17
18	3	17	11	6	16
21	5	11	11	2	12
12	4	13	15	8	20
10	2	12	18	4	0
12	6	16	14	6	16
18	3	7	10	3	19
12	1	7	18	6	9
19	5	15	16	5	16
14	7	13	7	8	11
12	5	5	8	3	14
19	3	10	10	1	15
18	4	12	10	3	14
8	1	11	9	2	11
6	3	8	4	4	11
16	5	9	11	4	13
12	1	7	13	5	10
17	3	14	14	3	14
15	5	5	10	1	9
29	6	14	14	8	19
8	1	11	14	1	8
15	2	10	10	1	13
23	4	12	13	6	20
23	1	4	10	4	13
16	4	11	22	4	23
28	5	14	21	8	24
17	7	10	16	8	18
20	2	12	12	11	16
9	4	11	8	3	19
10	2	5	11	6	15
20	1	12	14	1	16
11	5	14	15	6	16
26	9	15	15	6	26
27	5	12	17	4	21
8	2	6	11	1	15
18	4	14	2	6	16
18	2	13	14	1	18
21	5	10	14	10	21
28	5	13	18	6	18
27	7	13	16	4	19
15	1	11	16	6	17
21	5	15	12	7	12
8	2	2	14	8	6
16	3	5	14	5	16
22	6	14	20	8	21
10	3	8	4	3	16
20	5	13	20	6	24
12	6	14	16	8	20
19	3	14	12	4	11
16	10	11	14	7	21
7	5	7	14	11	11
11	4	8	9	5	11
12	7	9	12	3	20
11	3	8	13	4	12
13	6	18	18	1	18
9	5	13	6	6	18
8	2	6	14	8	8
16	2	9	18	4	17
11	2	12	14	4	12
33	10	18	22	10	27
4	6	9	14	3	10
20	2	18	16	6	14
7	4	3	16	4	8
9	3	9	18	6	19
17	6	16	13	6	17

Contd. IV

O	P	Q	R	S	T	U	V	W
24	18	92	119	117	84	83	65	560
11	12	84	90	104	96	76	57	507
10	14	81	42	125	102	63	31	444
18	17	99	75	70	119	81	48	492
22	16	81	27	32	92	49	30	311
22	20	88	33	24	88	60	35	328
13	15	87	42	60	104	64	49	406
14	9	94	52	66	95	50	48	405
18	15	85	33	40	94	48	30	330
11	11	109	63	130	99	87	49	537
13	7	99	72	101	111	53	51	487
13	13	105	60	95	104	69	49	482
13	14	77	27	60	98	47	34	343
13	5	116	130	180	118	113	80	737
15	7	96	52	79	101	66	50	444
20	18	76	46	67	99	73	40	401
5	18	79	49	88	83	41	30	370
14	12	89	60	82	92	69	44	436
18	15	87	21	63	99	52	37	359
18	20	96	60	79	101	72	54	462
16	12	101	60	129	101	72	40	503
13	16	96	45	67	110	65	59	442
21	12	113	125	140	126	121	64	689
14	17	92	72	66	107	75	55	467
16	14	95	60	75	96	65	49	440
21	18	95	52	72	96	67	40	422
18	17	105	52	95	98	52	40	442
18	17	107	109	137	110	107	73	643
17	18	99	42	60	83	71	42	397
16	13	89	44	60	95	64	45	397
15	10	124	102	140	117	102	57	642
18	18	85	43	74	90	43	35	370
21	18	93	42	61	103	61	41	401
17	20	121	100	130	119	91	66	627
14	11	91	52	65	104	60	30	402
18	20	113	60	42	90	86	57	448
15	11	120	125	167	103	110	70	695
21	17	66	62	28	66	80	52	354
19	13	73	64	60	86	61	54	398
16	18	108	107	148	104	98	64	629
16	11	91	90	130	91	96	62	560
15	15	94	75	82	97	71	57	476
10	8	105	92	60	102	107	72	538
14	18	108	95	86	106	127	67	589
11	16	130	137	145	121	151	81	765
11	7	120	80	96	103	114	70	583
14	16	106	109	77	107	119	64	582
16	10	121	112	81	120	112	70	616
15	19	122	143	153	119	155	77	769
16	13	116	110	98	122	123	71	640
9	13	119	107	100	121	122	65	634
8	10	118	95	72	100	119	64	568
16	19	108	93	77	102	116	69	565
4	15	101	115	112	122	126	74	650
18	20	109	65	43	83	98	63	461
14	10	127	119	120	104	128	74	672
8	6	114	114	104	106	126	62	626
10	14	101	118	121	108	129	68	645
12	3	111	77	60	106	84	69	507
20	21	112	137	128	101	139	69	686
10	11	122	76	60	122	107	65	552
18	14	101	90	47	109	112	71	530
8	12	105	111	81	112	132	64	605
10	11	98	76	47	96	83	51	451
13	15	74	60	23	100	66	58	381

	A	B	C	D	E	F	G	H
272	257	T	D-U/G	31	132	21	15	7
273	258	T	D-U/G	31	79	8	4	4
274	259	T	D-U/G	31	91	9	22	2
275	260	T	D-U/G	16	81	13	14	2
276	261	T	D-U/G	30	93	14	25	18
277	262	T	D-U/G	29	94	15	11	10
278	263	T	D-U/G	32	136	19	17	1
279	264	T	D-U/G	38	124	26	19	8
280	265	T	D-U/G	21	113	14	10	2
281	266	T	D-U/G	35	98	12	18	8
282	267	T	D-U/G	35	112	16	17	5
283	268	NT	D-U/G	28	101	23	28	19
284	269	NT	D-U/G	23	114	21	18	7
285	270	NT	D-U/G	35	148	10	21	10
286	271	NT	D-U/G	19	107	17	21	12
287	272	NT	D-U/G	30	95	19	16	11
288	273	NT	D-U/G	31	111	20	20	18
289	274	NT	D-U/G	35	106	16	14	8
290	275	NT	D-U/G	34	138	16	18	2
291	276	NT	D-U/G	28	105	22	17	4
292	277	NT	D-U/G	30	80	0	9	0
293	278	NT	D-U/G	34	134	12	24	8
294	279	NT	D-U/G	30	135	19	18	9
295	280	NT	D-U/G	33	143	25	20	22
296								
297	281	T	B-U/CO	34	100	26	12	12
298	282	T	B-U/CO	34	105	17	14	9
299	283	T	B-U/CO	29	58	13	3	1
300	284	T	B-U/CO	25	105	17	17	9
301	285	T	B-U/CO	24	130	26	26	6
302	286	T	B-U/CO	27	92	26	18	14
303	287	T	B-U/CO	30	88	18	16	10
304	288	T	B-U/CO	34	103	24	12	8
305	289	T	B-U/CO	32	103	22	20	10
306	290	T	B-U/CO	23	70	12	10	13
307	291	T	B-U/CO	26	109	12	10	18
308	292	T	B-U/CO	24	65	8	8	10
309	293	T	B-U/CO	21	103	19	15	9
310	294	NT	B-U/CO	29	60	12	24	10
311	295	NT	B-U/CO	24	113	24	20	16
312	296	NT	B-U/CO	28	103	18	28	10
313	297	NT	B-U/CO	22	130	28	26	11
314	298	NT	B-U/CO	30	120	25	19	8
315	299	NT	B-U/CO	25	109	19	22	10
316	300	NT	B-U/CO	33	106	18	13	8
317	301	NT	B-U/CO	21	129	22	18	9
318	302	NT	B-U/CO	33	71	7	8	4
319	303	NT	B-U/CO	28	93	25	21	9
320	304	NT	B-U/CO	29	134	29	28	9
321	305	NT	B-U/CO	31	104	24	22	6
322	306	NT	B-U/CO	30	152	28	22	18
323	307	NT	B-U/CO	28	63	27	26	19
324	308	NT	B-U/CO	30	149	19	11	1
325	309	NT	B-U/CO	29	139	10	19	15
326	310	NT	B-U/CO	25	81	26	14	10
327	311	NT	B-U/CO	32	114	27	20	21
328								
329	312	NT	B-U/CO	30	119	22	16	26
330	313	NT	B-U/CO	25	120	24	18	11
331								
332	314	NT	C-U/CO	29	104	28	28	30
333	315	NT	C-U/CO	29	125	22	16	20
334	316	NT	C-U/CO	27	142	26	22	24
335								
336	317	NT	C-U/CO	29	154	14	24	24
337	318	NT	C-U/CO	23	156	28	12	10
338	319	NT	C-U/CO	26	139	23	22	21
339	320	NT	C-U/CO	18	143	21	23	18

I	J	K	L	M	N
16	2	7	9	3	14
0	0	2	6	2	6
2	1	4	9	2	10
6	2	8	8	2	12
26	7	14	12	8	24
8	2	5	8	6	12
17	3	11	11	1	16
23	7	11	17	7	13
6	2	8	14	2	16
10	3	10	19	1	17
10	2	4	16	2	16
22	7	15	14	5	22
20	4	17	17	3	17
20	3	12	20	3	23
19	5	14	14	6	16
19	2	10	15	3	21
19	2	10	13	6	21
11	6	13	19	6	20
12	1	10	12	6	19
18	2	14	18	5	18
10	5	9	10	4	4
22	6	18	15	5	28
11	4	10	20	3	25
30	4	11	11	6	23
18	3	12	14	5	14
16	4	13	13	6	18
11	3	14	11	4	7
11	7	15	19	6	18
9	4	14	14	3	22
16	6	16	15	6	17
11	4	10	18	5	13
10	2	11	18	2	12
14	2	12	17	2	16
15	4	10	21	3	15
14	6	16	16	0	22
22	8	7	12	6	12
18	5	8	15	3	16
12	4	10	20	2	24
26	4	12	14	4	24
24	4	6	15	4	20
13	5	11	12	11	20
22	7	14	20	2	15
9	8	13	11	6	20
17	4	12	11	5	15
23	6	15	14	4	11
1	5	14	11	3	8
20	4	13	24	1	17
24	8	16	21	5	24
12	3	11	13	3	14
31	8	20	24	6	18
28	6	19	24	9	26
26	7	13	8	6	15
15	5	5	13	5	15
21	7	12	21	9	20
20	8	17	23	6	21
20	10	16	20	4	22
17	7	12	13	9	18
26	8	16	26	10	24
30	8	16	20	4	16
24	9	14	14	2	20
16	8	14	18	8	18
28	10	16	18	8	26
28	10	16	22	9	22
13	2	14	20	8	14

Contd. V

O	P	Q	R	S	T	U	V	W
4	6	120	103	27	102	117	69	538
12	8	100	70	34	110	103	68	485
3	13	99	60	29	107	90	61	446
12	4	113	103	60	114	103	65	568
15	16	116	96	105	116	120	78	631
9	8	106	117	64	106	127	75	596
12	9	128	135	160	127	151	84	785
19	10	129	153	98	117	160	80	737
18	10	103	86	96	94	89	58	526
9	18	109	88	77	103	120	72	569
14	16	119	130	109	113	141	75	687
19	20	126	122	110	106	136	77	677
19	9	122	144	164	118	143	81	772
15	12	83	79	62	73	62	35	394
14	13	118	110	110	118	121	73	650
17	6	105	100	112	63	116	70	566
17	12	118	120	127	116	133	80	694
9	8	107	141	139	108	139	74	708
14	10	139	163	166	119	160	81	828
13	18	107	80	89	97	104	64	541
16	12	102	89	109	97	105	69	571
11	16	108	129	133	120	120	68	678
16	9	128	162	147	115	150	80	782
16	14	134	160	148	135	161	87	825
18	17	112	102	155	119	100	68	656
14	15	66	61	43	83	65	35	353
6	10	70	60	22	80	60	33	325
18	18	117	60	42	105	95	65	484
11	18	97	76	101	99	102	67	542
17	17	93	50	32	88	54	44	361
20	16	120	77	112	114	89	58	570
18	18	101	83	47	114	79	52	476
14	18	87	60	60	89	60	32	388
18	16	91	90	107	104	91	51	534
18	19	105	50	87	97	73	56	468
12	16	109	67	93	110	72	45	496
12	18	73	41	48	72	51	30	315
18	16	86	44	44	87	64	30	355
22	17	105	44	62	78	60	36	385
17	14	102	50	71	108	76	43	450
10	14	99	81	78	114	94	53	519
14	12	105	60	42	98	67	34	406
17	18	78	79	132	101	89	52	531
14	18	101	72	137	117	103	49	579
17	17	115	69	101	108	94	56	543
16	6	97	60	65	113	65	30	430
17	15	104	67	93	90	60	45	459
15	19	114	85	98	110	87	51	545
13	15	108	100	130	112	100	58	608
22	20	110	73	108	101	92	61	545
15	18	78	88	135	132	83	57	573
15	9	104	66	78	105	77	51	481
19	17	103	73	115	102	95	56	544
17	19	93	52	63	80	60	40	388
24	19	107	83	150	104	107	65	616
18	20	52	35	27	95	50	38	297
18	17	69	52	22	112	71	64	390
26	16	44	31	28	66	39	37	245
22	20	100	88	105	107	94	62	556
18	20	91	61	102	88	62	55	459
24	16	66	47	36	73	70	23	315
12	16	40	52	42	113	67	35	349
22	18	68	38	35	90	65	42	338
20	12	79	41	60	90	45	30	345

Contd. V

	A	B	C	D	E	F	G	H
340								
341	321	NT	C-U/CO	21	150	28	27	24
342	322	T	C-U/CO	21	93	20	22	12
343	323	T	C-U/CO	21	104	28	19	13
344	324	T	C-U/CO	20	87	22	20	10
345								
346	325	T	C-U/CO	26	109	18	16	7
347	326	T	C-U/CO	40	119	10	15	9
348	327	T	C-U/CO	34	95	19	10	11
349	328	T	C-U/CO	29	90	16	24	4
350								
351	329	T	C-U/CO	18	115	16	16	14
352	330	T	C-U/CO	26	134	28	24	18
353								
354	331	T	C-U/CO	25	75	20	14	16
355	332	T	C-U/CO	26	67	24	16	18
356	333	T	C-U/CO	22	98	27	20	10
357	334	T	C-U/CO	23	48	12	10	19
358								
359	335	T	C-U/CO	22	80	23	19	10
360	336	T	C-U/CO	34	76	11	13	11
361	337	T	C-U/CO	30	112	20	15	8
362	338	T	C-U/CO	25	122	23	19	22
363	339	T	C-U/CO	24	82	15	11	7
364								
365	340	T	C-U/CO	30	124	28	25	17
366	341	T	C-U/CO	23	47	26	13	17
367	342	T	C-U/CO	25	94	5	12	9
368	343	T	C-U/CO	21	70	23	17	10
369	344	T	C-U/CO	31	54	19	21	12
370	345	T	C-U/CO	35	76	23	17	12
371	346	T	C-U/CO	30	93	21	19	9
372	347	T	C-U/CO	27	93	17	18	3
373								
374	348	T	C-U/CO	23	89	22	26	12
375	349	T	C-U/CO	24	40	20	22	11
376	350	T	C-U/CO	32	60	19	17	15
377	351	T	C-U/CO	28	67	15	23	19
378	352	NT	C-U/CO	31	135	26	24	10
379	353	NT	C-U/CO	19	107	30	23	28
380	354	NT	C-U/CO	20	110	15	15	10
381	355	NT	C-U/CO	24	83	11	23	16
382	356	NT	C-U/CO	20	114	28	24	16
383	357	NT	C-U/CO	18	124	16	6	3
384	358	NT	C-U/CO	24	141	18	14	21
385	359	NT	C-U/CO	26	92	21	24	12
386	360	NT	C-U/CO	26	0	18	27	7
387	361	NT	C-U/CO	22	98	20	16	22
388	362	NT	C-U/CO	25	125	24	11	6
389	363	NT	C-U/CO	26	155	22	20	10
390	364	NT	C-U/CO	21	107	25	23	12
391	365	NT	C-U/CO	29	90	24	15	11
392	366	NT	C-U/CO	25	71	20	16	8
393	367	NT	C-U/CO	29	116	21	18	11
394								
395	368	NT	D-U/CO	32	87	23	21	15
396	369	T	D-U/CO	26	57	26	20	26
397	370	T	D-U/CO	27	103	23	25	16
398	371	T	D-U/CO	25	51	18	22	16
399	372	T	D-U/CO	30	81	16	22	10
400	373	T	D-U/CO	34	72	18	19	7
401	374	T	D-U/CO	28	82	15	14	19
402	375	T	D-U/CO	29	74	26	23	28
403	376	T	D-U/CO	31	118	12	17	18
404								
405	377	T	D-U/CO	34	136	16	14	17
406	378	T	D-U/CO	19	78	6	21	9
407	379	T	D-U/CO	26	125	15	14	11

I	J	K	L	M	N
30	8	11	20	10	29
20	6	13	12	8	22
20	4	12	8	8	14
16	2	8	14	3	20
12	3	10	18	2	14
9	4	10	10	3	16
20	4	14	15	6	18
21	4	14	18	7	20
21	6	15	7	4	21
20	8	12	18	8	17
12	4	10	12	7	16
18	8	14	14	6	20
16	5	12	16	5	26
18	5	10	16	6	11
20	6	16	17	8	18
13	3	9	8	7	6
24	5	12	13	9	22
24	5	15	16	8	18
22	1	8	15	3	9
26	7	18	23	10	21
28	5	14	19	9	15
10	0	9	6	4	10
30	7	17	15	8	22
28	6	12	18	5	17
21	7	15	20	9	13
17	5	13	15	4	20
26	3	9	19	4	11
16	6	14	14	6	26
17	6	18	20	4	23
25	6	19	18	12	19
16	3	5	22	4	22
32	8	14	18	10	26
25	4	9	18	7	21
25	7	13	8	3	12
23	5	11	18	7	12
24	8	12	21	9	22
7	2	5	9	1	7
24	4	16	17	4	15
31	6	16	13	3	15
11	4	11	17	2	17
26	4	14	20	5	21
19	0	12	18	6	20
30	4	13	16	5	28
16	8	17	19	6	16
26	4	16	19	8	23
14	0	12	12	4	22
15	4	10	16	4	22
20	7	18	17	3	18
31	6	17	16	6	23
28	7	18	15	5	26
23	5	15	15	7	26
20	3	14	14	6	17
11	6	12	15	5	13
27	6	12	18	7	18
31	7	15	18	8	26
23	5	15	22	4	20
28	5	17	19	8	19
10	1	14	12	3	18
17	6	10	15	8	10

Contd. VI.

O	P	Q	R	S	T	U	V	W
23	10	71	65	70	62	74	34	376
15	14	89	66	65	97	82	37	436
14	15	70	61	69	92	68	40	400
20	12	83	75	67	106	83	34	448
14	20	103	64	133	94	75	49	518
6	17	118	87	125	106	106	65	607
20	19	113	65	104	89	88	48	507
15	16	126	90	125	112	101	65	619
18	19	113	81	79	123	82	48	526
22	16	80	60	44	96	69	33	382
10	12	79	63	73	67	60	40	382
20	12	70	63	68	65	66	45	397
21	14	82	74	67	84	67	38	412
14	13	89	77	68	101	82	35	452
21	14	66	44	38	87	76	41	352
18	11	101	49	43	111	82	39	425
20	14	73	29	33	106	67	31	339
15	17	67	18	21	103	49	30	288
12	19	83	51	60	102	73	30	399
22	18	99	71	60	94	91	48	463
16	18	83	45	78	84	80	39	409
12	10	77	39	60	86	76	41	379
19	17	106	76	70	73	81	46	452
16	18	110	108	146	89	91	56	600
15	17	119	95	115	95	106	61	591
14	17	106	66	43	75	70	37	397
11	13	101	72	105	77	62	32	449
12	12	63	36	40	77	58	50	324
18	10	71	39	34	90	52	38	324
20	11	75	38	38	95	57	34	337
24	20	88	88	60	64	82	58	440
20	20	59	40	34	60	52	30	275
18	9	36	41	14	55	23	17	186
19	12	74	51	27	72	56	25	305
14	18	75	42	65	100	44	45	371
22	18	50	39	39	53	54	30	265
9	18	66	36	32	46	54	21	255
13	11	85	60	63	53	93	59	413
18	18	103	76	60	66	112	68	485
16	16	75	81	73	86	71	32	418
13	13	101	67	71	84	56	32	411
22	17	63	87	64	86	72	39	411
19	16	100	82	125	117	87	57	568
24	19	95	63	120	125	85	64	552
20	20	105	86	135	132	118	69	645
22	14	85	41	19	90	53	32	320
12	11	91	69	113	127	100	60	560
21	15	105	67	86	81	72	52	463
16	21	135	114	135	124	97	64	669
21	16	91	48	60	89	75	30	393
12	17	92	42	60	92	60	35	381
21	13	80	40	74	71	60	34	359
19	17	119	97	138	122	77	52	605
15	19	107	60	62	90	60	32	411
18	20	82	69	71	82	70	43	417
19	18	100	52	76	80	60	35	403
20	20	146	148	149	132	135	78	788
12	20	130	143	171	120	121	71	756
18	12	89	48	82	77	62	41	399

Contd. VI

	A	B	C	D	E	F	G	H
408	380	T	D-U/CO	23	105	22	21	11
409	381	T	D-U/CO	28	69	27	23	17
410	382	T	D-U/CO	31	91	8	15	8
411	383	T	D-U/CO	29	109	18	18	7
412	384	T	D-U/CO	26	87	8	12	10
413	385	T	D-U/CO	25	71	0	12	2
414	386	T	D-U/CO	19	118	16	26	20
415	387	T	D-U/CO	33	116	22	23	10
416	388	T	D-U/CO	29	114	16	18	28
417	389	T	D-U/CO	31	124	21	28	24
418	390	T	D-U/CO	30	60	24	20	11
419	391	T	D-U/CO	32	84	6	18	14
420	392	T	D-U/CO	36	155	26	18	8
421	393	T	D-U/CO	25	109	20	28	15
422	394	T	D-U/CO	26	41	20	18	15
423	395	T	D-U/CO	31	65	20	13	20
424	396	T	D-U/CO	29	62	6	16	12
425	397	T	D-U/CO	20	90	3	22	8
426	398	NT	D-U/CO	35	66	8	8	6
427	399	NT	D-U/CO	33	92	22	25	18
428								
429	400	T	D-U/CO	30	134	21	22	5
430	401	T	D-U/CO	37	125	22	24	13
431	402	T	D-U/CO	26	79	21	20	8
432	403	T	D-U/CO	29	92	18	28	23
433	404	T	D-U/CO	34	82	9	17	6
434	405	T	D-U/CO	24	112	17	23	13
435	406	T	D-U/CO	34	131	24	18	14
436	407	T	D-U/CO	34	83	12	18	12
437	408	T	D-U/CO	39	115	15	27	26
438	409	T	D-U/CO	26	95	15	19	8
439	410	T	D-U/CO	31	103	12	24	7
440	411	T	D-U/CO	28	78	20	11	10
441	412	T	D-U/CO	25	121	17	10	10
442	413	T	D-U/CO	31	111	21	24	22
443	414	T	D-U/CO	36	108	12	22	14
444	415	T	D-U/CO	25	101	9	15	4
445	416	T	D-U/CO	28	96	28	14	4
446	417	T	D-U/CO	27	103	15	20	5
447	418	T	D-U/CO	31	83	6	7	2
448	419	T	D-U/CO	30	83	11	8	3
449	420	T	D-U/CO	34	62	17	13	12
450	421	T	D-U/CO	29	118	30	27	25
451	422	T	D-U/CO	31	99	21	25	2
452	423	T	D-U/CO	31	132	28	25	18
453	424	T	D-U/CO	25	129	25	18	10
454	425	T	D-U/CO	32	139	21	15	6
455	426	T	D-U/CO	34	124	17	20	6
456								
457	427	NT	B-R/G	29	93	15	18	17
458	428	T	B-R/G	33	91	22	9	14
459	429	T	B-R/G	17	102	26	14	15
460	430	T	B-R/G	23	101	30	16	13
461	431	T	B-R/G	21	111	24	16	15
462	432	T	B-R/G	28	93	11	16	5
463	433	T	B-R/G	23	82	26	16	11
464	434	T	B-R/G	21	50	7	6	8
465	435	T	B-R/G	24	107	20	14	10
466	436	T	B-R/G	21	90	26	10	10
467	437	T	B-R/G	25	84	24	14	17
468	438	T	B-R/G	36	76	28	23	13
469	439	T	B-R/G	22	56	19	19	26
470	440	T	B-R/G	28	103	15	14	16
471	441	T	B-R/G	23	105	24	13	8
472	442	T	B-R/G	24	73	20	22	10
473	443	T	B-R/G	29	57	18	4	2
474	444	T	B-R/G	17	90	20	11	10
475	445	T	B-R/G	17	106	22	10	20

I	J	K	L	M	N
22	5	7	12	4	18
24	7	18	14	9	27
21	4	14	10	6	13
24	6	14	5	2	15
24	1	3	15	3	16
4	0	10	8	2	6
22	6	10	16	5	24
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8	1	11	11	6	18
22	5	12	15	6	22
18	8	17	11	7	23
27	6	12	18	5	15
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17	5	17	22	8	24
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4	0	14	15	5	15
16	4	10	12	9	14
19	6	11	21	6	24
25	7	9	14	5	18
26	5	10	23	3	21
15	4	12	9	6	9
31	6	13	22	12	19
16	6	8	8	3	10
30	4	12	16	7	21
9	7	7	16	6	17
32	2	14	22	10	23
19	8	14	10	8	19
8	5	10	15	2	8
14	3	5	6	5	11
7	0	6	5	1	9
9	4	9	12	3	14
23	5	16	17	5	21
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9	4	8	7	5	9
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14	5	12	10	6	10
3	0	5	2	2	5
7	1	9	8	4	7
20	5	10	15	5	17
32	7	19	21	9	27
15	6	9	23	2	19
25	4	15	17	2	27
12	4	9	19	3	16
13	4	13	12	2	15
24	3	16	7	0	10
17	5	13	12	4	16
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21	5	10	10	1	24
25	8	16	15	7	24
26	6	8	18	2	17
8	5	9	3	1	11
16	4	12	12	2	18
14	3	7	10	1	9
15	7	13	4	0	17
13	5	10	10	4	14
24	5	14	7	6	19
28	5	16	12	4	22
24	4	12	14	6	20
15	3	9	12	4	18
19	5	8	16	1	16
14	3	13	8	0	22
3	2	13	6	2	8
11	4	7	7	2	11
16	6	14	12	2	22

Contd. VII.

O	P	Q	R	S	T	U	V	W
16	13	136	68	60	113	85	54	516
20	17	117	61	46	94	88	44	450
10	12	95	60	105	96	66	53	475
13	9	140	131	166	127	132	76	772
17	13	118	133	135	137	158	72	753
6	13	69	64	86	96	80	42	437
18	12	61	89	55	81	100	51	437
15	16	91	42	77	87	71	49	417
22	13	60	103	81	110	95	43	492
13	11	115	78	112	104	85	58	552
10	14	107	96	68	134	114	61	578
12	11	112	110	117	116	99	73	627
15	14	78	88	93	112	120	53	544
15	16	107	136	84	68	127	72	594
17	13	136	130	151	135	134	84	770
17	17	108	69	96	115	93	48	529
15	16	74	67	89	81	90	44	445
9	16	78	118	76	110	101	55	538
6	15	131	103	102	103	117	61	617
20	16	67	103	51	81	87	47	436
18	20	98	91	111	105	78	47	530
18	18	119	89	120	120	98	53	599
14	13	132	126	142	112	135	77	724
19	20	118	87	82	76	89	43	495
12	12	131	108	163	101	103	56	662
22	21	130	117	131	91	112	70	651
11	16	124	108	126	90	96	49	593
20	13	123	105	132	103	103	65	631
12	11	122	60	42	77	76	39	416
17	15	120	106	116	99	89	47	577
11	8	126	92	121	80	91	48	558
12	12	126	128	149	100	119	65	687
15	14	97	53	49	104	86	63	452
24	17	90	68	74	111	71	30	444
11	12	111	84	60	95	102	58	510
16	8	110	53	37	90	88	31	409
20	12	95	71	117	86	89	34	492
4	10	135	101	74	98	107	49	564
9	8	132	132	120	108	132	81	705
7	6	87	67	72	99	82	39	446
12	19	120	110	134	100	113	57	634
21	21	127	95	104	91	96	60	573
13	12	114	53	35	86	76	42	406
18	11	138	134	161	100	139	82	754
18	15	137	101	140	86	95	62	621
19	16	112	106	73	103	89	53	536
16	14	139	141	160	110	140	80	770
19	17	80	89	48	94	76	48	435
13	11	110	145	150	121	136	65	727
22	14	88	89	122	95	68	55	511
23	12	97	112	95	106	92	62	538
21	9	83	65	145	108	72	61	504
12	13	83	60	79	99	82	61	464
20	18	99	85	73	117	93	61	528
9	8	70	72	85	82	71	53	433
16	12	79	64	83	107	66	25	424
16	16	96	64	60	100	89	57	466
10	12	97	98	120	102	95	58	570
20	13	118	125	147	107	105	67	669
18	10	66	53	89	105	53	46	412
17	9	98	97	102	105	89	60	551
19	11	79	71	65	89	74	52	430
16	18	99	89	129	116	88	50	571
10	12	88	90	93	111	74	61	517
19	8	77	91	74	116	71	44	473
18	12	67	103	51	81	87	47	436

Contd. VII

	A	B	C	D	E	F	G	H
476								
477	446	T	B-R/CO	20	93	21	15	17
478	447	T	B-R/CO	27	65	27	20	27
479	448	T	B-R/CO	25	82	20	18	10
480	449	T	B-R/CO	29	75	26	20	12
481	450	T	B-R/CO	24	102	22	17	22
482	451	T	B-R/CO	21	100	14	18	13
483	452	T	B-R/CO	25	90	23	10	10
484								
485	453	T	B-R/CO	29	51	15	21	19
486	454	T	B-R/CO	32	98	21	24	20
487	455	T	B-R/CO	34	72	24	20	24
488	456	T	B-R/CO	32	105	24	21	17
489	457	T	B-R/CO	25	66	22	18	22
490	458	T	B-R/CO	22	112	26	21	27
491	459	T	B-R/CO	25	48	23	10	10
492	460	T	B-R/CO	22	77	26	17	15
493	461	T	B-R/CO	20	54	22	15	14
494	462	T	B-R/CO	21	124	28	26	34
495	463	T	B-R/CO	28	48	25	24	26
496								
497	464	T	B-R/CO	30	90	21	21	14
498	465	T	B-R/CO	21	120	30	26	21
499	466	T	B-R/CO	23	74	15	23	21
500	467	T	B-R/CO	22	109	24	24	18
501	468	T	B-R/CO	31	122	16	8	14
502	469	T	B-R/CO	26	106	23	18	17
503	470	T	B-R/CO	26	87	15	13	13
504	471	T	B-R/CO	26	100	20	17	13
505	472	T	B-R/CO	22	93	21	15	15
506	473	T	B-R/CO	28	67	17	13	12
507	474	T	B-R/CO	18	99	20	15	8
508	475	T	B-R/CO	25	66	23	13	10
509	476	T	B-R/CO	30	81	23	28	30
510	477	T	B-R/CO	27	20	16	14	10
511	478	T	B-R/CO	27	55	19	22	20
512	479	T	B-R/CO	27	77	19	22	20
513	480	T	B-R/CO	27	85	20	13	12
514	481	T	B-R/CO	23	54	14	6	6
515	482	T	B-R/CO	27	87	12	6	11
516	483	T	B-R/CO	23	92	2	12	18
517	484	T	B-R/CO	24	78	20	10	26
518	485	T	B-R/CO	20	107	22	13	12
519	486	T	B-R/CO	15	83	20	24	18
520	487	T	B-R/CO	28	86	20	13	9
521	488	T	B-R/CO	31	75	26	16	4
522	489	T	B-R/CO	25	75	16	20	24
523	490	T	B-R/CO	21	105	19	7	6
524	491	T	B-R/CO	28	72	22	11	16
525								
526	492	T	C-R/CO	23	65	20	9	9
527	493	T	C-R/CO	27	94	20	10	4
528	494	T	C-R/CO	20	109	26	23	21
529	495	T	C-R/CO	27	112	26	23	31
530	496	T	C-R/CO	25	101	20	18	17
531	497	T	C-R/CO	23	103	27	20	20
532	498	T	C-R/CO	27	117	22	23	30
533								
534	499	T	C-R/CO	22	84	20	24	22
535	500	T	C-R/CO	27	88	28	21	18
536	501	T	C-R/CO	16	91	15	15	10
537	502	T	C-R/CO	27	100	16	19	20
538	503	T	C-R/CO	23	128	29	18	6
539	504	T	C-R/CO	19	131	28	18	8
540	505	T	C-R/CO	21	98	16	18	16
541	506	T	C-R/CO	20	81	26	15	16
542	507	T	C-R/CO	20	26	21	12	6
543	508	T	C-R/CO	22	119	8	21	10

I	J	K	L	M	N
21	5	17	14	4	15
20	7	11	17	4	20
20	4	14	11	4	21
20	6	12	16	6	16
20	8	11	19	3	17
20	6	10	12	2	19
18	5	11	16	5	20
21	6	9	11	8	21
23	5	16	22	5	21
30	4	14	16	2	20
28	4	13	12	3	21
30	2	8	6	8	24
24	10	6	14	12	26
9	3	4	13	5	15
24	3	10	18	4	16
13	2	10	11	4	18
36	8	18	22	8	28
27	4	14	15	5	16
28	2	14	14	21	4
33	10	18	22	28	8
18	4	11	14	6	28
31	10	18	22	6	26
18	4	10	12	0	12
14	5	11	12	22	7
16	3	5	11	3	18
16	2	7	14	0	22
10	13	8	12	18	18
12	7	7	14	5	8
16	5	8	10	3	15
18	4	9	11	3	23
26	9	13	18	8	24
20	4	14	14	2	22
22	6	11	14	6	26
20	7	11	14	6	28
18	2	5	12	4	14
6	2	10	4	0	10
21	6	9	4	4	9
19	9	13	13	15	19
12	4	2	6	0	20
17	8	13	11	5	17
19	9	12	8	4	20
17	4	7	14	6	15
19	0	7	12	2	12
25	6	12	17	6	26
14	4	11	10	3	20
17	6	9	9	14	6
20	6	18	12	1	18
19	6	12	8	4	18
25	4	14	19	4	24
29	8	9	22	4	24
26	6	11	17	4	21
28	6	18	14	5	21
29	8	13	15	4	24
24	2	15	18	4	20
30	5	18	18	4	20
16	3	7	11	2	16
20	5	15	10	5	14
33	3	16	23	5	20
20	2	12	16	8	16
26	8	18	12	6	10
22	6	9	12	1	12
22	3	3	18	3	15
18	2	8	16	5	14

O	P	Q	R	S	T	U	V	W
18	15	74	60	35	98	75	50	392
17	17	55	36	15	87	49	43	285
19	9	66	60	33	94	63	41	357
20	22	90	60	60	95	81	48	434
20	13	50	71	81	107	62	47	418
20	13	55	51	41	92	67	50	356
19	12	90	60	60	96	74	53	433
15	15	69	60	60	117	82	64	452
21	18	128	102	86	108	106	70	600
14	16	113	111	95	116	115	63	613
18	13	97	83	74	107	77	59	497
20	8	89	82	63	110	97	58	499
22	13	70	66	36	108	102	51	433
14	12	105	76	46	110	95	55	487
10	11	93	91	77	101	94	52	508
9	8	84	84	77	108	97	56	506
24	20	80	60	69	100	61	44	414
16	15	114	121	129	110	124	72	670
18	18	93	106	153	108	88	74	622
24	20	67	60	82	97	72	40	418
14	20	93	82	101	92	78	45	491
24	16	117	91	102	118	85	66	579
16	6	66	83	92	105	75	50	471
17	13	82	99	133	105	98	59	576
13	7	76	89	108	96	85	68	522
12	10	82	69	83	108	69	52	463
4	8	68	88	98	101	69	62	506
14	21	109	115	140	113	107	71	655
17	10	94	89	121	116	89	68	577
16	14	91	84	84	99	80	58	496
20	22	114	117	129	119	108	81	668
18	10	53	60	127	82	85	54	461
12	20	67	88	128	104	79	52	518
14	20	77	81	120	87	85	62	512
12	8	68	79	89	104	79	37	456
16	4	81	79	65	97	88	49	459
12	8	99	130	139	102	105	60	635
18	12	94	90	111	112	90	61	558
24	12	72	75	89	103	84	56	479
16	13	93	79	87	111	74	55	499
19	14	38	60	85	96	60	30	369
18	12	92	83	85	108	80	60	508
10	14	126	105	144	127	108	54	664
16	18	65	86	130	108	78	66	533
18	5	54	74	96	103	73	30	430
11	14	82	87	131	111	86	66	563
17	6	54	41	48	94	50	47	334
9	10	66	39	44	100	63	41	353
18	17	75	61	43	104	66	34	383
22	20	45	32	32	95	47	44	295
20	11	42	27	32	67	30	30	228
22	14	70	32	25	77	60	30	294
21	14	76	75	60	94	82	43	430
18	10	66	43	31	99	49	31	319
22	18	112	119	105	111	119	68	634
19	11	55	61	60	103	67	44	390
19	14	49	62	60	96	67	45	379
12	12	98	95	97	109	103	60	562
16	12	88	98	80	102	105	64	537
16	12	66	76	60	105	75	61	443
18	12	47	37	26	78	60	24	272
8	6	66	60	60	90	67	44	387
17	20	55	27	60	97	48	40	327

Cont'd III

	A	B	C	D	E	F	G	H
544								
545	509	T	C-R/CO	26	108	24	16	4
546	510	T	C-R/CO	21	118	28	10	19
547								
548	511	T	C-R/CO	29	144	26	14	14
549	512	T	C-R/CO	17	100	28	21	19
550	513	T	C-R/CO	32	149	28	20	10
551								
552	514	T	C-R/CO	29	109	17	12	2
553	515	T	C-R/CO	28	99	20	11	9
554	516	T	C-R/CO	26	109	20	13	10
555								
556	517	T	C-R/CO	25	79	21	16	13
557	518	T	C-R/CO	21	98	18	15	14
558	519	T	C-R/CO	20	111	29	28	27
559	520	T	C-R/CO	20	85	19	22	23
560	521	T	C-R/CO	22	68	14	11	16
561								
562	522	T	C-R/CO	27	43	28	24	20
563	523	T	C-R/CO	25	66	24	18	22
564	524	T	C-R/CO	17	84	18	17	23
565	525	T	C-R/CO	17	92	24	14	13
566	526	T	C-R/CO	22	93	23	17	15
567	527	T	C-R/CO	22	59	18	18	7
568	528	T	C-R/CO	28	84	25	17	21
569	529	T	C-R/CO	26	112	26	19	25
570	530	T	C-R/CO	24	154	24	21	13
571	531	T	C-R/CO	21	64	22	22	21
572								
573	532	T	C-R/CO	21	136	28	16	24
574	533	T	C-R/CO	25	148	27	23	19
575	534	T	C-R/CO	26	126	23	20	10
576	535	T	C-R/CO	26	157	25	15	10
577	536	T	C-R/CO	28	153	11	17	10
578	537	T	C-R/CO	27	92	30	18	19
579								
580	538	T	C-R/CO	30	80	19	15	15
581	539	T	C-R/CO	21	120	14	6	8
582	540	T	C-R/CO	24	168	16	15	15
583	541	T	C-R/CO	31	70	24	10	12
584	542	T	C-R/CO	23	98	26	20	22
585	543	T	C-R/CO	25	76	26	17	26
586								
587	544	T	C-R/CO	27	97	25	9	21
588	545	T	C-R/CO	17	112	19	18	10
589	546	T	C-R/CO	20	117	29	13	18
590	547	T	C-R/CO	20	122	18	19	4
591	548	T	C-R/CO	24	90	22	16	17
592	549	T	C-R/CO	22	83	16	20	11
593	550	T	C-R/CO	19	72	24	9	9
594	551	T	C-R/CO	31	84	18	16	6
595	552	T	C-R/CO	27	108	21	21	15
596								
597	553	T	C-R/CO	20	64	25	22	6
598	554	T	C-R/CO	29	61	22	19	9
599	555	T	C-R/CO	23	80	14	22	17
600	556	T	C-R/CO	25	75	24	26	24
601								
602	557	T	C-R/CO	20	138	25	20	16
603	558	T	C-R/CO	22	108	20	19	21
604								
605								
606								

	J	K	L	M	N
22	8	12	12	8	20
24	6	17	16	6	19
16	6	12	14	6	22
24	6	14	14	7	16
16	2	12	18	6	22
14	1	4	10	2	9
15	1	8	14	2	16
19	5	13	12	7	15
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15	6	9	14	4	16
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22	10	4	14	4	22
24	6	10	8	7	22
36	6	16	18	4	24
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14	7	9	5	6	11
22	7	8	18	8	20
27	6	14	17	5	23
17	4	16	18	5	21
25	4	6	9	11	20
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26	6	16	19	8	22
26	3	12	19	9	16
22	5	12	12	5	16
18	3	9	12	8	21
26	6	20	18	14	21
21	5	9	15	8	21
8	0	8	6	4	12
20	5	11	13	13	18
9	3	13	15	2	17
16	2	12	14	4	26
23	4	16	12	7	22
23	2	16	13	10	28
4	5	10	11	6	10
25	3	11	13	6	27
14	10	9	20	6	17
18	7	8	10	4	16
15	4	6	12	6	19
8	3	7	8	3	15
12	4	6	9	2	12
13	6	8	17	1	25
15	5	12	6	2	19
17	4	11	17	4	8
14	4	8	10	2	14
27	8	9	17	10	24
22	5	12	18	9	19
23	4	14	16	6	19

Contd. IX

O	P	Q	R	S	T	U	V	W
22	14	29	60	37	112	42	51	331
18	16	35	45	41	104	46	58	329
22	10	103	60	60	110	72	48	453
18	12	71	51	62	107	60	43	394
24	16	101	65	63	123	76	53	481
18	7	72	60	60	112	67	51	422
20	10	78	61	60	93	84	65	441
18	11	79	45	38	128	60	64	414
16	12	67	41	73	94	42	31	348
18	12	68	42	15	84	37	32	278
19	9	66	39	35	76	54	30	300
21	7	48	30	35	85	25	30	253
15	10	50	36	26	74	43	30	259
22	12	66	72	68	113	60	62	441
20	16	66	53	36	97	68	41	361
18	16	66	60	45	92	66	45	374
14	16	68	68	48	100	60	40	384
11	11	89	77	91	117	82	50	506
10	7	53	60	76	95	67	44	395
21	12	48	72	75	112	60	45	412
22	18	103	72	93	109	79	50	506
19	19	74	77	81	118	63	47	460
16	13	23	70	78	98	60	40	369
18	17	57	43	60	108	50	41	369
22	14	56	52	60	94	60	49	371
19	17	54	43	48	98	61	43	347
11	17	66	45	34	116	64	51	376
20	18	100	68	74	132	103	62	539
22	20	41	37	22	113	45	31	289
21	15	88	66	33	106	68	51	412
12	6	36	45	19	100	52	32	284
16	17	48	44	60	103	53	35	343
21	9	114	87	84	99	100	70	554
20	14	105	60	47	105	79	43	439
18	11	72	36	30	95	52	35	320
16	15	45	33	25	114	40	37	294
12	6	37	32	34	102	36	38	279
20	16	66	60	82	125	60	51	444
18	15	82	74	73	119	79	62	489
18	12	66	30	22	115	45	35	313
16	13	54	42	60	108	43	44	351
18	8	40	43	34	110	38	30	295
12	10	44	42	21	124	42	45	318
17	8	66	50	62	126	52	50	406
15	17	70	49	41	116	74	54	404
15	20	102	45	41	112	80	56	436
18	14	72	54	62	96	85	46	425
23	18	84	69	104	118	77	48	500
22	16	88	24	29	94	61	32	328
18	13	56	39	38	88	59	37	317

Contd. IX

Note : U: Urban
R: Rural
G: Girls only schools
Co: Co-education schools
A: Government schools
B: Deficit schools
C: Grant-in-aid schools
E: Unaided schools
NT: Non-tribal
T: Tribal

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