

NORTH EASTERN HILL UNIVERSITY
MAWKYNROH - UMSHING
SHILLONG

No.AC: 52-2/Conf/96- 3894

Dated 23rd February, 1996.

To

The Members of the
Academic Council,
NEHU.

Sub: Agenda papers for the 52nd meeting of the
Academic Council.

Sir/Madam,

I am forwarding herewith the agenda papers for the
52nd meeting of the Academic Council to be held on 28. 2. 96 at
11.00 a.m. at the Seminar Hall, Mayurbhanj Complex, Nongthymmai,
Shillong, for favour of your perusal and consideration.

Yours faithfully,

Mrs. S. Rynjah 23/2/96

(Mrs. S. Rynjah)
Registrar

Encl: as above.

AGENDA PAPERS FOR THE FIFTYSECOND MEETING OF THE ACADEMIC COUNCIL

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Confirmation of the Minutes of the 51st meeting of the Academic Council.

The minutes of the 51st meeting of the Academic Council was circulated amongst members. The following comment was received from one of the members.

The matter is placed before the Council for consideration of confirmation of the Minutes:

1. From Prof.A.L.Verma:

On resolution No.AC;51:95:6:3(i) regarding Duty Leave

" I am writing this in connection with the decision of the 51st Academic Council meeting held on 3rd and 4th November, 1995 on the Subject " To treat the University/College teachers on duty for availing Fellowship/Visiting Professorship awarded to them by Foreign/Indian Agencies which do not come under the purview of University Grants Commission" under item 6:3:1(2). This communication, received from UGC as per Ref.No.132-1/92(IC-I) dated 30th November, 1993 was placed as Annexure 'A' and approved in the 51st AC Meeting held on 2nd and 3rd November, 1995 as such. The Minutes of this meeting do not reflect this decision while decision under item No.AC;51:95:6:3(1) only is recorded. I therefore request you to take up this matter for correction in the forthcoming AC meeting due to be held on 28th February, 96 and incorporate this decision explicitly in the minutes of the 51st AC meeting."

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3:Ratification of action taken by the Vice-Chancellor:

3:1(1)

(i) Affiliation cases considered and approved by the Vice-Chancellor

1. TURA GOVT. COLLEGE : The Principal, Tura Govt. College, Tura applied for provisional affiliation in B.Sc(Major) Physics, Botany, Mathematics, B.A/B.Sc(General), Geography, B.Com(Genl) English, MIL(Garo, Bengali, Assamese) G.F.C., Business (Economics, Financial Accounting, Business Organisation and Management. The Inspection Team consisting 6(six) members inspected the College on 29.1.96. The Inspection recommends provisional affiliation in Physics(Major) only upto 1995-96 session. The Team recommends permanent affiliation in Botany(Major) and B.Com(Genl) Provisional Affiliation is being granted for the general course in Geography for the session 1996-97 only. In Mathematics(Major) the Team recommends that Major in Mathematics should be started only after the vacant posts are filled and the Library is strengthened.

2. MAMIT COLLEGE: The Principal of Mamit College applied for B.A(Genl) in English, Mizo MIL, Mizo Elect, Economics, Pol.Science, History and Education. B.A(Major) in Economics, Pol.Sc. History & Education. The Inspection Team consisting six(6) members inspected the college on 16th Nov.1995 and recommends the following Points :-

(A) The College may be granted provisional affiliation for 3 years to start B.A(Pass) in the following subjects without any conditions. (a) English, (b) Economics (c) Pol.Sc (d) History (e) Mizo MIL & Elect and (f) Education.

(B) They may start Major courses in Economics and Pol.Science with immediate effect for 3 years.

(C) Major courses in Education and History may be started subject to prior fulfilment of the following conditions.

(1) Library may be considerably expanded

(2) At least 4 more class rooms are constructed.

(3) Some journals in the concerned subjects may be added.

(4) At least 2 teachers in Education & 1 in History are added.

3. DURAMA COLLEGE: The Principal Durama College applied for opening of B.A. Degree (General) in English, Alt. English, Garo (MIL) Bengali (MIL), History, Economics, Education, Pol. Science, Philosophy and also for opening of B.A (Major) in English, History, Pol. Science and Garo. The Inspection Team consisting of 3 (three) members inspected the college on 14th Dec. 95 and recommends that the college be granted provisional affiliation for two years with a centre for examinations with the following conditions.

(1) Lectures in Pol. Science, Education and one in English have below 55% in M.A.

(2) The titles of books in the Library are still short of requirements and

(3) The college is being run in the Govt. Girls' H.E. School building.

But as the College has advertised for the Post of Lecturers and the Principal assured us to increase the titles of books and the lands have been acquired and the process of construction have been initiated, the Inspection Team recommends that the college be granted provisional affiliation for two years with a centre for Examinations.

4. BUNGKAWN COLLEGE: The Principal, Bungkawn College in Degree level (Genl) English, Mizo (Elect) Economics, Pol. Science History, Education, MIL (Mizo) and also Degree in MAJOR, Education History and Pol. Sc. The Inspection Team consisting of seven (7) members inspected the college on the 10.11.95 and the Team (1) recommends Provisional Affiliation for two year 95-96 to 96-97 with Major in Education, Pol. Science and History (2) The Team also recommends two years provisional affiliation in B.A (Genl) in English, Mizo (Elect) Economics, Pol. Science, History and that Major in Economics may be granted if and when the College fulfills the University Norms.

5. AIZAWL NORTH COLLEGE: The Principal, Aizawl North College, applied for Introduction of Honours/Majors in English, Economics, Education, History, Pol. Science & Geography. The Inspection consisting of seven(7) members inspected the college on 17-11-95. The Inspection Team recommended Provisional Affiliation for 3(three) years B.A(Major in Economics, Education, Pol.Sc and Provisional Affiliation in English, History, Geography is conditional to the appointment of 1(one) teachers each in History and English and two in Geography.

However, in response to the assurance given by the Director, Higher & Technical Education, Mizora (21.11.95) who was also present in the affiliation committee, the latter approved Major in English, History and Geography.

The above cases may be placed before the Academic Council for ratification.

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3:1(4)
NORTH-EASTERN HILL UNIVERSITY
S H I L L O N G

Inspection Committee Report(to be submitted to the University
in Duplicate).

1. Name of the College. Tura Govt,College
2. Its sponsoring authority- Govt. of Meghalaya
3. The Legal status of the College(whether college is a registered body under societies Registration Act).
4. Whether the College is having a Governing Body duly constituted for the purpose:
Yes
(attached a copy of the constitution)
5. Any special features of the Governing Body consitution which deserve special attention for the grant of affiliation:

6. Physical and financial resources
Whether the college is already located at its own site: Yes
(a) If not, whether the college has already acquired land.
(b) Given below a brief report on the suitability of the site and plan after inspection:
7. The College is seeking affiliation for offering the following course:
Degree Level
B.Sc(Major) - Physics, Botany, Maths
B.Com(General)- English,M.I.L.(Garo,Bengali,Assamese), General Founda-
tion Course, Business Economics,Financial Accounting,
Business in organisation and Management.
B.A./B.Sc.(General) Geography
B.A./B.Sc.(Major) Mathematics
8. Students seeking Admission:

P.U.Arts(2nd yr.) 621	B.A. 716	Class xi(Arts) 541
P.U.Sc. (2nd yr.) 85	B.Sc. 196	Class xi(Sc.) 37
P.U.Com.(2nd Yr.) 39	B.Com. 19	Class xi(Com.Ø) 25
9. Whether the college has adequate number of titles of Books and Jour-
nals for the courses of study mentione& at para 7 above:
-----Yes-----
- 10.(a) Reading Room facilities.
Size..As per requirement
(b) Classrooms
Size As per requirement
(c) Students Common Room
Size As per requirement
(d) Teachers Common room
Size As per requirement
11. Whether the college has adequate equipment/laboratory facilities for
practical classes:
-----Yes-----

12. Name of the Teachers with Post-Graduate Degree/Specialisation :

<u>Name</u>	<u>Lecturerin</u>	<u>P.G.Degree with grade of specialisation</u>
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List attached in Appendix 3

NOTES: The University Regulation Stipulates the following :-

<u>Level/Class</u>	<u>Minimum No. of Teachers in each subject.</u>
a) P.U. Non-lab.	One
b) P.U. Laboratory	Two
c) Degree Non-laboratory(Pass): P.U.Non-Laboratory	Two in all subjects and Three in English.
d) Degree Laboratory(Pass + P.U.Laboratory)	Six of whom four should be Lecturers.
e) Degree Non-Laboratory(Pass)* Hons + P.U.-	Four in all subjects other than English & other elective languages in which there should be at least five.
f) Degree Laboratory(Pass) + Hons + P.U. -	Seven of Whom Six shall be Lecturers.

13. Whether the College has adequate No. of qualified teachers in the subjects for which affiliation is sought:

Yes List attached

14. Whether the College is maintaining a fixed term deposit of Rs,1.00,000/- in any bank:

Yes/No: The Institution is being run by the Govt. of Meghalaya.

15. Any other observation:

16. Recommendations:

NOTES: a) If conditional recommendation is made kindly specify the conditions and the period by which the same are expected to be fulfilled by the college for the Provisional/Extension of Affiliation.

b) If provisional affiliation is recommended upto a certain period only, this may be mentioned.

Please see the attached report for recommendation.

Signature of the members of the Inspection Team.

Sd/-

(Y.S.Chauhan)
29.1.96Sd/- (K. Kumar)
29.1.96Sd/- (S.S.Khare)
29.1.96

Sd/- (S.K.Mishra)

29.1.96

Sd/ (M.S.Sangma)

29.1.96

Sd/- (A.G.Momin)
Jt. D.P.I.

29.1.96

TURA GOVT. COLLEGE

APPENDIX - I

Name of Lecturers in concerned subjects with Post-Graduate Degree/
Specialisation.

Sl.No.	Name and Designation	P.C.of marks	Date of Joining.	P.G.Degree/Refresher course.
<u>Department of Physics.</u>				
1.	Shri.Manab Jyoti Deb, M.Sc.	55.1%	13.8.79	1) 1 orientation programme. 2) Final stage of completion of Ph.d.
2.	Shri Sukumar Dey, M.Sc.	61.75%	20.9.80	= 1(one)Refresher Course.
3.	Shri Foster Momin M.Sc.	54%	29.11.84	- Nil -
4.	Smti.Silmeritha P.Marak-M.Sc.	55.4%	7.12. 90	- Nil +
<u>Department of Botany</u>				
1.	Shri Goering D.Sangma M.Sc.	55%	18.11.71	Nil
2.	Shri Godwin K.Marak M.Sc.	55.1%	9.12.74	Nil
3.	SmtiDevita M.Momin M.Sc.	57%	3.11.76	2(two) Orientation prog.
4.	Shri.Keneth Smooth Momin M.Sc.	-	28.2. 93	1(one)Refresher course-
5.	Shri Laithpangchwa Ksoo M.Sc.	-	19.12.94	- Nil -
6.	Shri Kevin H.M.Pala M.Sc.	-	19.12.94	- Nil -
7.	Shri Rajeev Marak M.Sc.	58.5%	22.12.94	- Nil -
<u>Department of Geography</u>				
1.	Shri Niren Sangma M.A./M.Sc	50.2%	1.11.74	2(two)Orientation Prog.
2.	Shri Mawsonsing Kharlukhi M.A.	-	5.11.85	- Nil -
3.	Smti.Sukriti Devi Rema M.A.	61%	18.12.91	- Nil -
<u>Department of Commerce</u>				
1.	Shri Tijendra Kr.Basu M.Com	48%	19.1.72	- Nil -
2.	Shri Mahes Sharma M.Com	-	30.8.84	1(one)Orientation Prog.
3.	Shri Sengrak R.Marak M.Com	IClass	16.12.91	1(one)Refresher Course.
<u>Department of Mathematics</u>				
1.	Shri Sudhangshu Bimal Das M.Sc.	70%	2.9.74	- Nil -
2.	Smti Santa Dutta Choudhury M.Sc.	48%	24.2.87	1(one Refresher Course.

Sd/-
Principal
Tura Govt. College

Report of the Inspection Committee Tura Govt. College

Report of the Inspection Team constituted by the Vice-Chancellor, NEHU, Shillong, to examine the feasibility for extension of major in Physics and Botany, B.Com (General) and Geography (General) together with fresh affiliation of Major in Mathematics in Tura Govt. College.

The inspection Team consisting of Prof. M. Sangma (Convener), Prof. S. S. Khare, Prof. S. K. Mishra, Prof. Y. S. Chauhan, Prof. Kamal Kumar and Shri A. G. Momin (representing D. P. I., Govt. of Meghalaya, visited the departments of Mathematics, Physics, Botany, Commerce and Geography together with the Principal of the College on 29.1.96. The Team observed/recommended the following:-

1. Major in Physics : The Department of Physics is conducting undergraduate programme with the help of one laboratory and one dark room. The team was informed that more space will be provided for the laboratory and more equipments will be procured shortly. The department has fairly good number of books in Physics, which, however, needs to be further strengthened by procuring suggested readings mentioned in the Syllabus. The Team observed that as against the seven sanctioned faculty positions, which is the minimum requirement for condition of major course, the college has only four (4) faculty members in physics. In the opinion of the team, four faculty members are not sufficient to conduct the full fledged major programme. Therefore the provisional affiliation in physics major shall not be extended beyond 1995-96 unless the 3 (three) vacant positions of the faculty are filled prior to the commencement of 1996-97 session. However, looking at the interest of students the provisional affiliation may be continued till 1995-96 session.

2. MAJOR IN BOTANY: The Department of Botany has three big size room for laboratory and 1 (one) small room. The team was informed that some additional accommodation will be made available shortly. The equipment are fairly adequate for the undergraduate programme. The books in the library are in sufficient numbers, but suggested readings as mentioned in the Major syllabus need to be purchased. The Principal assured the team that this will be done on priority. The team is of the opinion that the individual facility of the department will considerably improve, if a projection microscope is purchased. The team felt that museum and herbarium besides the botanical garden will further strengthen the facility in the subject. The Department has seven (7) Faculty members, a number of whom attended orientation/refresher courses in the recent past. In view of the above, the team recommended that the permanent affiliation in Major in Botany may be granted.

3. B.Com(Genl): There is sufficient accommodation for B.Com. in the college. The number of books also is satisfactory. The department has three(3) faculty members, which makes the minimum requirement. The Team is of the opinion that the two vacant position may be filled at the earliest. In view of the above, the Team recommends that the permanent affiliation may be granted for B Com(Genl).
4. Geography (Gen): The department has sufficient space and fairly satisfactory number of books in the Library. The number of faculty members are three(3) which is the minimum requirement for the general course. The Team feels that the laboratory facilities are inadequate and should be improved. In view of the above, the Team recommends Provisional affiliation for the general course in Geography for the session 1996-97 only.
5. Mathematics(Major): The department has only three(3) faculty members against 5(five) sanctioned positions which is very inadequate to start Major in Mathematics. The Library has fairly satisfactory number of books in Mathematics, upto the General level. but the Books prescribed in the Major syllabus need be purchased. In view of the above, the Team recommends that the Major in Maths should be started only after the three(3) vacant posts are filled, and Library is strengthened.

Sd/-M. S. Sangma,
Convener.

Sd/-S. S. Khare,
29/1/96

Sd/-Chauhan
29/1/96

Sd/ISK. Kumar
29/1/96

Sd/-S. K. Mishra
29/1/96

Sd/-A. G. Momin.
29/1

3:1(9)

NORTH-EASTERN HILL UNIVERSITY

MIZORAM CAMPUS : AIZAWL - 796007

No.P.11016/1/91/MC(FNG)/
Dated Aizawl, the 20th Nov.'95

To,

The Director,
College Development Council,
North-Eastern Hill University,
Shillong.

Madam,

I am enclosing the inspection report of
Mamit College.

Thanking you,

Yours sincerely,

Sd/-

(DR. S. GANGULY)
Convenor.

3:1(10)
NORTH-EASTERN HILL UNIVERSITY
SHILLONG

FOR NEW COURSE / UPGRADATION

INSPECTION REPORT

1. Name of the College : MAMIT COLLEGE
2. (a) Year of affiliation and corresponding: 1991, No.CDC/A-106/91-1454
University Notification No. dt. 14.5.92. EC:74:92:05:07 9/3/92
- (b) Level to which affiliation : P.U.(A), Eng, Mizo MIL, Economics
Pol Sc., History, Education.
3. Affiliation/Permanent sought to
Upgrade to or B.A./B.Sc Pass Course in BA(Pass) & (Major)
Introduce (a new subject) (in Major) Eco, Pol Sc, History & Education
BA Pass in Eng, Mizo MIL, Mizo Elect, Economics, Pol Sc,
History and Education
4. Admission (for the last three years)

Year	P.U.I	B.A.I	B.Com.I.	B.Sc.III	B.Com.III
92-93	43				
93-94	52	31			
94-95	35	29			
95-96		51			

5. Result of University examination during the last three years.

Examination	Year	Percentage of pass
PU	93	84%
PU	94	55%
PU	95	67.5%

6. In case the college is seeking Honours in a subject(s) for which it has already a Pass Course please give below the No. of students admitted in the last three years and their results for these years in the SUBJECT in which College has applied for Honours.

YEAR	NO. OF STUDENTS APPEARS	% SUCCESS
1995	Eci - 12	23.87%
	Pol Sc. - 51	98%
	History - 15	28.84%
	Education - 28	53.84%

7. FUNDS :

- (a) Whether the College is having a Reserve Fund in long term Fixed Deposit Yes
Rs. 3 Lakhs
- If yes, the details thereof : J.559250 in SBI Mamit
(Bank No. of Term Deposit Receipt, etc) for 60 months
- (b) Present working fund : Rs. 2 lakhs in SBI A/C No.4/c 22/456)
in SBI Mamit

B. Qualification/Specialization of the Teaching Staff (of the relevant subjects only)

<u>Name and Designation</u>	<u>Qualification (with grade and subject in P.G.)</u>
1.	
2.	
3.	
4.	
5.	See Appendix - A
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	

NOTE : THE UNIVERSITY REGULATION STIPULATES THE FOLLOWING STAFFING REQUIREMENT

<u>Level/Class</u>	<u>Minimum No. of Teaching in each subject</u>
a) P.U. Non-Laboratory	One
b) P.U. Laboratory	Two
c) Degree Non-Laboratory (Pass)	Two in all subjects and 3 in Eng.
d) Degree Laboratory (Pass)	Six of whom four should be Lecturers
e) Degree-Non-Laboratory (Pass)	Four in all subject other than English & other Elective Languages in which there should be atleast five.
f) Degree Laboratory (Pass) + Hons. + P.U. Laboratory	Seven of which six shall be Lecturers.

9. LAND AND SITE

- a) Whether the College is having permanent building on its own land : Yes ~~VP~~ Pass of 3/12/90
- b) Area of the College Campus : 12,000 Sq. mts.
- c) Accomodation (give size) :
 - 1. One room for the Principal : 24" X 24"
 - 2. One room for the Vice-Principal : No
 - 3. One room for the College office : 24' X 18'
 - 4. For staff common room 24' X 36' Adequate/Inadequate
 - 5. Common room for Boys and Girls : No
 - 6. Library with reading room : 24' X 18'
 - 7. Class room 4 Adequate/Inadequate
- 10. Workload of Teachers : Eng-(8) Education(8), Hist (8)
Pol Sc (8), Eco (10), Mizo (8)
- 11. Library books : 2259 Volumes
Total Volumes Eng 312, Mizo 436, Pol Sc 399, Edu 302, Eco 318
Hist 307 Others 185 Newspaper 1
Whether the College has a trained Librarian : No
- 12. Laboratory facilities :
 - a) Whether accomodation is adequate or not : NA
 - b) No. of shifts the students do their praticals.
- 13. When was the last Governing Body meeting : 6 Nov 95

4. Any other relevant information(s)/points.

It is the only College in Western Mizoram.

RECOMMENDATIONS

Please make your recommendation without any ambiguity.

In case you suggest provisional affiliation for a particular period please mention the academic year specifically. Please also mention the conditions, if any, to get fulfilled if extension of affiliation is to be considered.

Signature of the members of
the Inspection Team.

- A. The College may be granted provisional affiliation for 3 years to start BA (Pass) in the following subjects without any conditions. (a) English, (b) Eco, (c) Pol Sc (d) History (e) Mizo MIL & Elect & (f) Education
- B. They may start Major Course in Economics & Pol Sc with immediate effect for 3 years
- C. Major Courses in Education & History may be started subject to prior fulfilment of the following conditions.
 - 1. Library may be considerably expanded
 - 2. Atleast 4 more class rooms are constructed
 - 3. Some journals in the concerned subjects may be added
 - 4. Atleast 2 teachers in Education and in History are added.

Sd/-

Dr. C. LALKIMA
Dept. of P.A.
NEHU MC

Sd/-

DR. A.K. AGGARWAL
Deptt. of Eco
NEHU MC

Sd/-

DR. R.S. WANGUL
Deptt. of Edu
NEHU MC

Sd/-

DR. R.L. THANGMAWIA
Deptt. of Mizo
PUC

Sd/-

DR. H.L. MALSAWMA
Jt. Dir. HTE

Sd/-

DR. S. GANGULY
Convenor

3:1(14)

APPENDIX 'A'

<u>NAME</u>	<u>LECTURER</u>	<u>QUALIFICATION (WITH GRADE & SUBJECT IN P.G.)</u>
1. Y, N.C. Singh	Economics	53% M.Phil/90
2. Ksh, Birlal Singh	-do-	64%
3. Damodar Neprem	-do-	65%
4. S. Sarstchandra Singh	-do-	62%
5. Vanramropuia Sailo	Mizo-	56% (Sociology)
6. H.K. Vanlalhuaiia	-do-	56% (Geography)
7. C. Laltani	-do-	62% (Geog M.Phil/94)
8. Lalchungnungi	History	55%
9. V. Vungliana	-do-	56%
10. Jesleen Lalmunawmi	-do-	57%
11. A.I. Meitei	Education	58%
12. Lynda Vanlalruati	- do -	58%
13. Thanchhungi	- do -	51%
14. Kh. Arun Kumer Singh	English	55%
15. Lalrinpuii Chhangte	-English	55%
16. Tanphasana M.	English	57%
17. A.P. Ki Singh	Pol.Sc.	66% (Mphil/90)
18. Lalsangsuala Khiangte	-do-	55%
19. B.D. Lalhrieta	-do-	55.25%
20. Marilyn Zeranthengi	-do-	57.33%
21.		

3:1(15)

NORTH-EASTERN HILL UNIVERSITY
S H I L L O N G

FOR UPGRADATION

INSPECTION REPORT

1. Name of the College : DURAMA COLLEGE, TURA (MEGHALAYA)
2. a) Year of affiliation and corresponding University Notification No. 1993 vide CDC/A-124/93-5926 dated 18.1.1993.
b) Level to which affiliation : P.U./B.A./B.Sc./B.Com upto P.U. Level
3. Affiliation/Permission sought to upgrade to or BA/B.Sc Pass Course in B.A. and Major Introduce (a new subject) Degree - English, Alt. Eng., Garo (MIL) Bengali (MIL), History, Eco., Education, Pol. Sc. and Philosophy.
B.A. Hons in English, History Pol. Sc., and Garo.
B. Com in
4. Admission (for the last three years)
Year BA I B.Sc I B.Com I BA III B.Sc III B.Com III
1995 87
5. Result of University examination during the last three years :

Examination	Year	Percentage of Pass
P.U. (Arts)	1994	46.47%

6. In case the college is seeking Honours in a subject(s) for which it has already a Pass Course please give below the No. of students admitted in the last three years and their results for these years in the SUBJECT in which College has applied for Honours.

- Does not arise. The College has just started the B.A. Courses this year only

Year	No. of Students appeared	% success
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7. FUND:

(a) Whether the college is having a Reserve Fund in long term Fixed Deposit: (i) Rs. 1,00,000/- (Rupees one Lakh only vide A/c No. TD/A 246436 dt. 6.10.93

If yes, the details thereof: (ii) Rs. 2,00,000/- (Rupees Two Lakh only) vide A/c. No. 196/95 (FDR.No.022526 dt. 20.11.95

(b) Present working Fund : Balance on 14.12.95 - Rs. 91,700/-

8. Qualification/Specialization of the Teaching Staff (of the relevant subjects only)

Name and Designation	Qualification (with grade and subject in P.G.)
----------------------	--

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
7. In separate sheet
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.

APPENDIX - A

16, Attach extra sheets if necessary

3:1(17)

NOTE : THE UNIVERSITY REGULATION STIPULATES THE FOLLOWING
STAFFING REQUIREMENT

<u>Level/Class</u>	<u>Minimum No. of Teachers in each subject</u>
a) P.U. Non-Laboratory	One
b) P.U. Laboratory	Two
c) Degree Non-Laboratory(Pass) + P.U. Non-Laboratory	Two in all subjects and 3 in English
d) Degree Laboratory (Pass) + P.U. Laboratory	Six of whom Four should be Lecturers
e) Degree Non-Laboratory(Pass) + Hons. + P.U. Non-Lab.	Four in all subjects other than English & other Elective Languages in which there should be at least five.
f) Degree Laboratory(Pass) + Hons + P.U. Laboratory	Seven of whom six shall be Lects.

9. LAND AND SITE

a) Whether the college is having permanent building on its own land : The college has its own land comprising 71 bighas construction work is being started soon in the current financial year, 1995.

b) Area of the College Campus 71 bighas

c) Accommodation (give size):- Not possible to indicate at this stage.

1. One room for the Principal The college is being run in the Govt. Girls' High School and they have enough space there.
2. One room for the Vice-principal
3. One room for the college office
4. For staff common room Adequate/Inadequate
5. Common room for Boys and Girls.
6. Library with reading room
7. Class room Adequate/Inadequate.

10. Workload of Teachers : 3 periods a day per Lecture.

11. Library Books :-

Total Volumes

Subjectwise break-up (of relevant subjects only):

1. English	-	126	X	List is enclosed
2. Education	-	27	X	
3. History	-	61	X	
4. Pol. Science	-	39	X	
5. Economics	-	50	X	
6. Sans	-	53	X	
7. Others	-	18	X	

Whether the College as a trained Librarian
12. Laboratory facilities
a) Whether accommodation is adequate or not :
b) Whether the students do their practicals :
c) Whether the students attend the Staff Meeting :
d) Whether the students attend the Staff Meeting :
e) Whether the students attend the Staff Meeting :
f) Whether the students attend the Staff Meeting :
g) Whether the students attend the Staff Meeting :
h) Whether the students attend the Staff Meeting :
i) Whether the students attend the Staff Meeting :
j) Whether the students attend the Staff Meeting :
k) Whether the students attend the Staff Meeting :
l) Whether the students attend the Staff Meeting :
m) Whether the students attend the Staff Meeting :
n) Whether the students attend the Staff Meeting :
o) Whether the students attend the Staff Meeting :
p) Whether the students attend the Staff Meeting :
q) Whether the students attend the Staff Meeting :
r) Whether the students attend the Staff Meeting :
s) Whether the students attend the Staff Meeting :
t) Whether the students attend the Staff Meeting :
u) Whether the students attend the Staff Meeting :
v) Whether the students attend the Staff Meeting :
w) Whether the students attend the Staff Meeting :
x) Whether the students attend the Staff Meeting :
y) Whether the students attend the Staff Meeting :
z) Whether the students attend the Staff Meeting :

b) No. of staff

13. When was the last Govt.

14. Any other relevant information(s)/point(s)

RECOMMENDATIONS

Please make your recommendation without any ambiguity. In case you suggest provisional affiliation for a particular period, please mention the academic year specifically. Please also mention the condition, if any, to be fulfilled if extension of affiliation is to be considered.

The college was inspected on the 14th Dec., 1995 and was found lacking in the following conditions -

- 1) Lecturers in Pol. Sc., Education and one in English have below 55% in M.A.
- 2) The titles of books in the Library are still short of requirements and
- 3) The college is being run in the Govt. Girls' High School building.

But as the College has advertised for the Posts of Lecturers and the Principal assured us to increase the titles of books and the lands have been acquired and the process of construction has been initiated, the Inspection Team recommends that the College be granted Provisional affiliation for two years with a Centre for Examinations.

Signature of the members of the
Inspection Team

Sd/- (Dr. L. S. Gassah)

Sd/- (Dr. E. D. Thomas)
dt. 16.12.95

Sd/- (Prof. M. S.)
16.12.95

APPENDIX - A

<u>SL NO.</u>	<u>NAME & DESIGNATION</u>	<u>MARKS OBTAINED</u>	<u>P.C. OF PASS.</u>
1.	Miss Roma Das, B.A. Lecturer, English deptt.	1003/1600	62.69%
2.	Miss. Dhira Bhattacharya, M.A. Lect. English deptt.	935/1600	58.44%
3.	Miss. Indrani Roy Talukdar, M.A. B.Ed. Lecturer, English Deptt.	-	58%
4.	Miss Judith C. Momin, M.A. Lect. History deptt.	939/1600	58.69%
5.	Smt. Jyotsna D. Singara, M.A. Lect. History deptt.	-	58.38%
6.	Miss Ruby X. Des M.A. Lect. Economics Deptt.		62.56%
7.	Smt. Tapati Bora, M.A. Lect. Economics deptt.	1080/1600	67.5%
8.	Mr. Jeesie K. Morak, M.A. Lect. Po. Science deptt.		53.80%
9.	Mr. Shri. Pranesh Ch. Ghosh, M.A. BEd. Lect. Pol. Science Deptt.		58.9%
10.	Smt. Sunita S. Sangma, M.A. Lect. Education deptt.		49.2%
11.	Smt. Giribala B. Momin, M.A. Lect. (Part time) Education deptt.		50%
12.	Mr. Sagar Dey, M.A. Lect. Philosophy deptt.		59.5%

3:11(19)

3:1(20)

<u>SL NO.</u>	<u>NAME & DESIGNATION</u>	<u>MARKS OBTAINED</u>	<u>P.C. OF MARKS</u>
13.	Mr. Paullinus R. Marak, M.A. Lect. Philosophy deptt.	61	61%
14.	Smt. Garine Balsri K. Sangma, M.A. Lect. Garo deptt.	55	55%
15.	Mr. Timir Manuaj, M.A. Lect. Bengali deptt.	57	57.7%

3:1(21)

NORTH EASTERN HILL UNIVERSITY
MIZORAM CAMPUS: AIZAWL

CONFIDENTIAL

TO

The Director,
College Development Council,
NEHU, Shillong.

SUB: INSPECTION REPORT

Sir,

Kindly find herewith the Inspection Report in duplicate of Bungkawn College, Aizawl, Mizoram

The Team recommends Provisional Affiliation for 2 years (1995-96) to 1996-97) with Major in Education, History & Pol. Science

Two years Provisional Affiliation (1995-96 to 1996-97) in B.A. Genl. in English, Mizo (Elect) and Economics, Pol. Science, Hist, Education, MIL (Mizo).

Major in Economics is recommended when the College fulfills UGC norms in respect of the teaching staff.

Thanking you.

Yours faithfully,

Sd/-Dr. LIANZELA
CONVENER 10/11/95
INSPECTION TEAM OF BUNGKAWN
COLLEGE: AIZAWL

3.1(22)

NORTH EASTERN HILL UNIVERSITY
B IJNI COMPLEX: SHILLONG - 3
SHILLONG

FOR NEW COURSE/UPGRADATION

INSPECTION REPORT :

1. Name of the college: BUNGKAWN COLLEGE
2(a) Year of affiliation & corresponding
University; notification No.CDC/A.122/93/ dated 5, 12.94.
(b) Level to which affiliation: P.U/B.A/B.Com.

P.U(ARTS)

3. Affiliation/Permission sought
upgrade to or BA Pass Course in : B.A.with major in English,
Introduction(a new subject) : Pol.Science, Mizo, Economics. &
: Education.

4. Admission(for the last three years)

<u>Year</u>	<u>P.U.</u>	<u>B.A.1st yr.</u>	<u>B.Com.I.</u>	<u>B.A.III.</u>	<u>B.Sc.III.</u>	<u>B.Com.III</u>
1992-93	216	nil				
1993-94	404	-do-				
1994-95	181	nil				
1995-96	225	86				

<u>EXAMINATION</u>	<u>YEAR</u>	<u>PERCENTAGE OF PASS</u>
-do-	1992-93	84.61
-do-	1993-94	62.60
-do-	1994-95	53.00

3:1(23)

-2-

6. In case the college is seeking honours in a "subject(a) for which it has already a Pass Course please give below the No. of students admitted in the last three years and their results for these years in the SUBJECT in which College has applied for Honours.

7. FUNDS:

(a) Whether the college is having a : Yes to the tune of Rs.3 lakhs Reserve fund in long term fixed Deposit:

If yes, the details thereof: (Bank No. : Receipt No. 697164 of term deposit receipt etc. : dated. 22.9.93 for Rs. 1,00,000/- : and receipt No. SD/A 698804 : of 28.9.95 for Rs. 2,00,000/=

(b) Present working funds: Working capital....Rs. 1,86,198/-

3. Qualification/Specilization of the Teaching Staff (of the relevant subjects only)

NAME AND DESIGNATION	QUALIFICATION (WITH GRADE & SUBJECT IN P.G.	
1. Dr. H. Vanllakhina - Principal	M.A. Ph.D. Pol. Science	61.12%
2. Dr. K. Vanlalnwia - Lecturer	M.A. Ph.D. Mizo,	53.19%
3. Lalengzawna -do-	M.A. Mizo	61.94%
4. Theodore Vanlalnwana -do-	M.A. -do-	57.56%
5. Lalrimawii Zadeng - do -	M.A. Eng.	53.8%
6. Rudie Pachuau - do -	-do-	57.8%
7. Lucy Vanlalhlani -do-	-do-	59.55%
8. K. Zomuana -do-	M.A. M. Phil, History	52.88%
9. Vanlalsawma -do-	-do-	57.63%
10. Dr. J. Rosanga -do-	M.A. Ph.D. History.	B. T. Grade
11. J. Zahhuna -do-	M.A. Pol. Sc.	A Grade
12. K. Lalmanpiui -do-	M.A. Pol. Sc.	60.94%
13. T. Zothanpuii -do-	-do-	60.6%
14. Lalmithanga -do-	M.A. Economics	51.38%
15. Lalrimhuma -do-	-do-	59.00%
16. Laithanzauva -do-	-do-	B. Grade (4 point)
17. Lalianzuali F. -do-	M.A. Education.	62.36%
18. Helen C. Zonunmawi -do-	-do-	60.79%
19. Lalhnasai Cg. -do-	-do-	66.66%

contd. 3/1

3:1(24)

NOTE: THE UNIVERSITY REGULATION STIPULATES THE FOLLOWING
STAFFING REQUIREMENT

<u>LEVEL/CLASS</u>	<u>MINIMUM NO. OF TEACHERS IN EACH SUBJ.</u>
a) P.U. non-laboratory	one.
b) P.U. Laboratory	two
c) degree non-laboratory (pass)	To in all subjects & 3 in English.
d) Degree laboratory (pass)	Six of whom four should be lecturers
e) Degree non-laboratory (Pass)	four in all subjects other than English & others Elect. Language in which there should be at least five.
f) Degree Laboratory (pass) Nons.* P.U. Laboratory.	Seven of whom six shall be lects.

9. LAND AND SITE

- a) Whether the college is having permanent building- does not have on its own land: building of its own.
- b) Area of the College Campus The college has land of its own and the area is 3.49 Bighas.
- c) Accommodation * (give size):- NO DLP 26 of 1994.
 1. One room for the Principal..... 18" x 18"
 2. One room for the Vice-Principal..... Nil
 3. One room for the college office... 18'x13'
 4. For staff common room 23' x 19' Adequate/Inadequate.
 5. Common room for Boys and Girls Nil
 6. Library with reading room..... 23' x 16'
 7. Class room 7nos, 18' x 21' each Adequate/Inadequate.
 10. Workload of Teachers: 9 to 10 periods in a week per Lecturer.

11. Library Books:-

Total Volumes..... 2197.

Subjectwise break-up (of relevant subjects only):

1. Pol. Science..... 408
 2. History..... 209
 3. Education..... 202
 4. Economics..... 200
 5. English..... 456
 6. Mizo 520
 7. General Readings..... 202
 8. News paper & Journals..... 15
- (Mizo & English

3:1(25)

Whether the College has a trained Librarian: Yes with B.Lib.Sc

12. Laboratory facilities -does not arise

a) Whether accommodation is adequate or not: does not arise

b) No. of shifts the students do their practicals: does not arise

13. When was the last Governing Body meeting: 7.11.1995

14. Any other relevant information (s) /points (s)

The college respect to be in Deficit Aided college status soon.

RECOMMENDATIONS

Please make your recommendation without any ambiguity. In case you suggest provisional affiliation for a particular period, please mention the academic year specifically. Please also mention the conditions, if any, to be fulfilled if extension of affiliation is to be considered.

1. The Teams recommends Provisional Affiliation for two years (1995-1997) with major in the following subjects.

1. Education (2) History and (3) Political Science.

(2) Two years Provisional Affiliation in B.A.

GENERAL/Pass course in 1.English (2) Mizo (3) Economic

(4) Pol.Science (5) History and Education. MIL, MIZO.

3. Major in Economic may be granted if and when the college fulfilled as per University Norms.

Signature of the members of the
Inspection Team.

sd/ 10/11/95

(DR LIANZELA
CONVENER

sd/ 10/11/95
(DR.C. LALKIMA)

sd/- 10/11/95

~~DR~~
(DR. MARGARET ZAMA)

sd/ 10/11/95

(HSLALSANGPUIA)

sd/ 10/11/95
(DR H.L. MALSEMA)

sd/ 10/11/95
(DR.K.P.NATH)

sd/ 10/11/95
(DR.LALILLIANGLIANA)
KHIANLITE

3:1(26)

NORTH-EASTERN HILL UNIVERSITY
MIZORAM CAMPUS : AIZAWL-796007

Prof. Tlangkawn
Dept. of Economics.

Dated. Aizawl
the 18th Nov. (95)

To

The Pro-Vice-Chancellor,
NEHU, Mizoram Campus,
Aizawl.

SUB: Inspection Report: Aizawl North College.
Ref: Your No. I.11011/16/95(MC(PVC)dt.25.9.95.

Sir,

With reference to your letter No. given above, I am forwarding herewith the Inspection Report of Aizawl North College in duplicate for necessary action. The Inspection of the College was conducted yesterday the 17th Nov. 1995.

Yours faithfully,

Sd/-Tlanglawna
16/11/95

Copy to:-

Director, Higher & Technical Education, Govt. of Mizoram, Aizawl.

3:1/27)

NORTH EASTERN HILL UNIVERSITY
SHILLONG.

FOR NEW COURSE

INSPECTION REPORT

1. Name of the college: AIZAWL NORTH COLLEGE.

2(a) Year of affiliation & corresponding
University Notification No. CDC/A.70/89-90/3305 dt. 17.2.93.

(b) Level to which affiliation : P.U/B.A/B.Sc/B.Com.

B.A. (PASS) LEVEL.

3. Affiliation/Permission sought to
upgrade to or BA/B.Sc. Pass course in
Introduction(a new subject)

B.A. MAJOR IN English, Economics, Education, Geogra-
phy, History & Pol. Science.

4. Admission (for the last three years)

Year.	P.U.I.	P.U.II.	B.A.I.	B.A. II.	B.A.III.	B.A (MAJORS) *styz
1993	566	405	205	156	-	English- 9
1994	119	490	254	205	-	Economics 26
1995	240	107	176	108	94	Geography 16 History 39 Pol.Sc. 60 Edn. 28

5. Result of University examination during the last three years.

Examination	Year	Percentage of Pass
P.U (ARTS)	1993	78.22%
	1994	57.29%
	1995	64%
B.A (PASS)	1993	73.04%
	1994	51.12%
	1995	41.25%

3:1(28)

-- 2 --

6. In case the college is seeking Honours in a subject (a) for which it has already a Pass Course please give below the No. of students admitted in the last three years and their results for these years in the SUBJECT in which college has applied for Honours.

YEAR	NO. OF STUDENTS APPEARS	% SUCCESS
1993-94 & 95	English=123, 168, 69	76.86%, 64.52%, 58.11%
	Economics =26, 34, 12	80.75% 58.82%, 41.66%
	Education =62, 94, 47	66.12%, 41.48%, 53.31%
	Geography =21, 28, 10	90.47%, 78.57%, 50%
	History =24, 52, 20	87.05%, 59.61%, 55%
	Pol.Sc. =106, 151, 68	75.41%, 48.34%, 36.23%

7. FUNDS.

(a) Whether the college is having a Reserve Fund in long term fixed deposit. YES

If yes, the details thereof (Bank No. of term deposit receipt, etc. No. 8650 dt. 3.6.1992
Coop. Apex Bank (Main)
Amount Rs. 3,00,000/-

(b) Present working fund: Rs. 8,68,957/-

8. Qualification/Specialization of the Teaching Staff (of the relevant subjects only)

NAME AND DESIGNATION	QUALIFICATION (WITH GRADE & SUBJ. IN P.G.)
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Separate sheet attached for this column.

3:1(29)

NOTE: THE UNIVERSITY REGULATION STIPULATES THE FOLLOWING
REQUIREMENT

<u>LEVEL/CLASS</u>	<u>MINIMUM NO. OF TEACHERS & IN EACH SUBJ.</u>
a) P.U. Non-laboratory	one.
b) P.U. Laboratory	two
c) Degree non-laboratory (Pass)	To in all subjects & 3 in English.
d) Degree laboratory (pass)	Six of whom four should be lecturers
e) Degree non-laboratory (Pass)	Four in all subjects other than English & other elective languages in which there should be at least five.
f) Degree Laboratory (Pass) + nons. + P.U. laboratory.	Seven of whom six shall be lects.

9. LAND AND SITE

a) Whether the college is having permanent building on its own land: Rented from Education deptt. Govt. of Mizoram.

b) Area of the college campus = 10,000 sq. metre (approx)

c) Accommodation (give size): - 4,000 sq. metre (approx)

1. one room for the principal = one (20' x 20')

2. one room for the vice-principal = one (10' x 15')

3. one room for the college office = one (17' x 30')

4. For staff common room, one (24' x 22) adequate

5. Common room for boys and girls - nil

6. Library with reading room = one (24' x 30')

7. class room 19 (two rooms = 40' x 30' & 40' x 24') inadequate.
8 rooms = 30' x 24' each)

10. Workload of teachers: English & Economics = 7 (weekly)

History & Pol. Sc. = 6 (-do-)
Education & Geog = 9 (-do-)

11. Library books:

Total volumes = 2586 volumes (approx)

Subjects wise break-up (of relevant subjects only):

1. English = 370 vols (approx)

2. Economics = 350 - do -

3. Education = 350 - do -

4. Geography = 350 - do -

5. History = 300 - do -

6. Pol. Science = 320 - do -

NB: Subjectwise books given here is as per the books available at the time of inspection, excluding those lent out to students and teaching staff.

Whether the college has a trained Librarian: YES. B. Lib. Science.

12. Laboratory facilities.

(a) Whether accommodation is adequate or not: Adequate.

(b) No. of shifts the students do their practicals: one shift.

13. When was the last Governing body meeting: 23.10.1995

14. Any other relevant information(s)/point(s)

Four (4) more teaching posts, one each in English and history, and two in geography have been sanctioned and are now in the process of being recruited.

RECOMMENDATIONS.

Please make your recommendation without any ambiguity. In case you suggest provisional affiliation for a particular period, please mention the academic year specifically. Please also mention the conditions, if any, to be fulfilled if extension of affiliation is to be considered.

(Recommendation enclosed in separate sheet of paper)

1) Sd/- LLANGLAWMA - Convener
17/11
deptt. of Eco. NEHU.

Signature of the members
of the Inspection Team.

2) Sd/Smt. Sangkhuni 17/11/95
Jr. Director of Edn. Deptt.

5) Sd/ Dr. Jawaid
Pub. Admn. deptt. NEHU

3) Sd/- Dr. S. Ganguli
English deptt. NEHU.

6) Sd/- H. Slalsangpuia
Hist. deptt. P.U. College.

4) Sd/- Dr. K. P. Nath 17/11/95
Edn. deptt. NEHU.

7) Sd/- Shri. N. K. Sinha
Geo. deptt. P.U. College.

3:1(31)

A BRIEF REPORT OF AIZAWL NORTH COLLEGE LIBRARY

The Aizawl North College Library has been established in 1966. Its main functions, being Academic Library are, Collection & preservation of Knowledge and its dissemination to in students in particulars. The library is managed on the basis of the five laws of library science, i.e. book are for use, Every reader his books, save the time of reader. Every book it readers and library is a growing organization.

A BRIEF REPORT MAY BE GIVEN AS FOLLOWS :-

1. Library room:-24"x30"(including stock room, reading room & space for the staffs.
2. Staff :-three(3)(Dy. librarian, Lib. Asstt & one peon)
3. Book volume(:-2566(including books on Pol. Science, Education, History, English, Mizo, Geography, Economics) 370 volumes in each subjects.
4. Reference book :-140 volumes.
5. Periodicals :-10 periodicals(Journals)are subscribes.
6. Furnitures :-Three tables, circulation table, 6 book shelves & five benches etc.
7. Circulation :-Membership cards system is introduced.
1)for students:-two books are issued at a time for 7 days. 2)for teachers:- 5books are issued for 15 days.
8. Classification :-Library books are classified according to D.D.C. 19th Edition and kept in the shelves accordingly.
9. Cataloguing :-The work of Cataloguing is likely to be started very shortly. This would be done according to AACR-II
10. Working Hours:- 7.00 AM- to 3.00 PM on all working days.
11. Edu. Qualification of the staff in the Library:-
 1. Dy. Librarian: M.A.B.L.B, Sc.
 2. Lib. Assistant: P.U. (Arts)
 - 3) Peon : Matriculate.
12. Overdue charge:- Monetary levy is in effect to regulate circulation system.
13. Accessioning:- Accession Register is maintained systematically.
14. Library Requisites
Materials :-Requisite materials are obtained frequently from "Indian Library Service Depot MEHRA & Co. Library Requisites suppliers. New Delhi.

Viewing all these facts & knowing its reality the library may be able to act as a real study centre or a centre of knowledge which is rightly adequate for degree level as per the existing University syllabus. Therefore, the library is dependable for the degree students. It is being augmented and every step is being taken to improve the library in all respects particularly in procuring more volume to cover all areas of subjects.

Library Rules attached:

3.1(32)

B. QUALIFICATION/SPECIALIZATION OF THE
TEACHING STAFF (OF THE RELEVANT SUBJECTS ONLY)

Sl. No.	Faculty Staff	Designation	Qualification with subject	Grade	Percentage	Year of apptt.	REMARKS
1.	Lal Kinawma	Principal	M.A(HIST)	B	53.4	1-3-88	
2.	Darkhuma	Lecturer	M.A(HISTP)	II	53.81	1991	
3.	Lallura Zota	-do-	-do-	-dI	53	1992	
4.	Pau B Chawnzik	-do-	-do-	II	59.4		
5.	Lalhmingliani	-do-	-do-	II	56.38		
6.	Thangkima	-	M.A.(ECO)	B	54	1988	
7.	R.Lalnuntluanga	-do-	-do- (M.PHIL)	II	58.31		
8.	Lalsangliana	-do-	-do-	II	55.44		
9.	Manlalduha	-do-	M.A(POL.SC)	II	50.63	1988	
10.	H.Zosiamliana	-do-	M.A(-do-	II	53.66	1992	MIZO
11.	Lalhmingliani	-do-	-do-	II	57.01		
12.	K.Vhanlalthaa	-do-	M.A.(Geog)	II	59.26		
13.	C.Lelbiakthanga	-do-	-do-	I	62.31		
14.	Lalchungnunga	-do-	-do-	I	62.69		
15.	Zothanhliira	-do-	-do-	I	62.		
16.	Zohmingliana	-do-	M.A(Eng)	I	51.05	1991	
17.	Soroj Laldingpuii	-do-	B.Ed -do-	II	51.37.		
18.	Ngursangliana Sailo	-do-	-do-	II	55.38		
19.	C.Vanlalvuana	-do-	-do-	II	58		
20.	Angela Zoranthangi	-do-	M.A(Eng)	II	55.90		
21.	Lalzanawi	-do-	-do-	I	62.56		
22.	Maria C.Chawngthangzuali	-do-	-do-	I	65.63		
23.	H.Zounsanga	-do-	MA(SODIA)& (.sc)	I	62.31		MIZO
24.	C.Rahmangaihi	-do-	MA(Pub. Adm & (Pol. Sc)	II	58.94.		
25.	Lalzuittluanga	-do-	MA(THEO) B.D. B.Ed.	I	66.8		MIZO

Additional requirement of Teachers. ENGLISH.....I
HISTORY.....I
GEOGRAPHY...II

RECOMMENDATIONS

- I. On the basis of the Inspection dated 17th Nov. 1995, the Inspection Team recommended Provisional Affiliation for 3 years for B.A. (Major) in the following subjects as all the norms are fulfilled by the college:
1) Economics, ⁽²⁾ Education and (3) Pol. Science.
- II. Recommendation of Provisional Affiliation for the following subjects such as (I) English, (ii) History and (III) Geography, is conditional subject to the appointment of one each teacher in English and History and 2 (two) in Geography.
- III. The Inspection Team also feels that the College should subscribe to at least some academic journals as no journals are available in the College. However, this is not the condition for the present affiliation.

3:1(34)

GOVERNMENT OF MIZORAM
DIRECTORATE OF HIGHER & TECHNICAL EDUCATION

Jt. Director

Date. 21.11.95.

This is to certify that 4 (four) posts of Lecturer, 1 (one) each for History & English, 2 (two) for Geography have been sanctioned to Aizawl North College during the Current financial year. These four posts may be filled up in the near future.

Sd/ -DR. H. L. MAWSAWMA
21/11/95

(ii) Award of Ph.D./M.Phil Degrees.

The evaluation reports of the following candidates have been approved by the respective School Board of Research Studies for award of the Ph.D. and M.Phil Degrees.

The matter is placed before the Council for ratification.

<u>Name of candidates and Degree</u>	<u>Department</u>
1. N.Neraho (Ph.D)	Botany
2. J.Sharma (Ph.D)	Botany
3. Ganesh G.(Ph.D)	Botany
4. Ms.S.Rynjah (Ph.D)	Botany
5. M.Roy (Ph.D)	Botany
6. A.K.Bhuyan (Ph.D)	Bio-Chamistry
7. Ms.P.Pal (M.Phil)	Zoology
8. Mr.R.K.Dutta (Ph.D)	Chemistry
9. Mr.M.L.Kynshi (Ph.D)	Physics
10. Mr.K.R.Reddy (Ph.D)	Chemistry
11. Mr.K.M.Yadav (Ph.D)	Chemistry
12. Mr.J.Satyanarayana (Ph.D)	Chemistry
13. Mr.T.Kr.Sinha (Ph.D)	Physics
14. C.Lyngwa (M.Phil)	Anthropology
15. S.Alexander (M.Phil)	Geography
16. S.Kharshiing (M.Phil)	Geography
17. Kyrodon Donal Stone (M.Phil)	Geography
18. L.S.Singh (M.Phil)	Geography
19. G.Sarin (M.Phil)	Geography
20. T.Imchen (M.Phil)	Geography
21. M.Ann Jyrwa (M.Phil)	Geography
22. R.Ramthara (M.Phil)	Geography
23. B.Panda (M.Phil)	Geography
24. L.Kajee (M.Phil)	Geography
25. K.K.Gogoi (M.Phil)	Geography
26. Alilinda Blah (M.Phil)	Anthropology
27. Persara Lyngdoh (M.Phil)	Anthropology.
28. T.Shyam Sundar (M.Phil)	Economics
29. E.I.Nongkynrih (M.Phil)	History
30. Indrani Dutta (M.Phil)	History
31. L.Zuala Miller (M.Phil)	History
32. Umashanker Nath (M.Phil)	History
33. S.Debbarman (M.Phil)	History
34. Arpita Sen (M.Phil)	History
35. W.Nongsiej (M.Phil)	Pol.Science

Name of candidate and Degree	Department
36. Ms.Sabita Das (Ph.D)	Philosophy
37. Ms.D.Chattopadhyaya (Ph.D)	Philosophy
38. Shri.I.Ao (Ph.D)	Education
39. Ms.E.C.S.Kharpuri (M.Phil)	History
40. Ms.Rani Bose (M.Phil)	History
41. Mr.A.Choudhury (M.Phil)	History
42. Ms.M.Ralte (M.Phil)	History
43. Mrs.P.Goswami (Ph.D)	History
44. Ms.L.R.Singh (M.Phil)	Economic
45. Ashutosh Dey (M.Phil)	Economic
46. Lalit P.Pathak (Ph.D)	Lib. & Information Science
47. Mr.E.D.Thomas (Ph.D)	Economic
48. Mrs.T.Boragohain (Ph.D)	Economic
49. Shri Abdus Shahid (M.Phil)	Economic
50. Joydeep Goswami (M.Phil)	Economic
51. H.Zothangliana (M.Phil)	Economic
52. C.S.Rao (Ph.D)	Botany
53. D.Dutta (Ph.D)	Botany
54. A.Sharma (Ph.D)	Botany
55. J.Dkhar (Ph.D)	Zoology
56. M.Pradhan (Ph.D)	Botany
57. T.Lyngdoh (Ph.D)	Botany
58. Md.Riazur Rehman (M.Phil)	Geography
59. Shri.S.Riepethe (M.Phil)	Geography
60. Smti.Mondira Agarwal (Ph.D)	Geography.
61. A.K.Mavila (Ph.D)	Institute of Self-Organising System and Bio-Physics.
62. C.Bhattacharya (Ph.D)	Anthropology
63. M.Borthakur (Ph.D)	Geography
64. N.S.Borkakati (Ph.D)	English.
65. Margaret Zama (Ph.D)	English.
66. C.P.Alexander (Ph.D)	Philosophy
67. Mr.W.R.Kharlukhi (Ph.D)	Pol.Science
68. Mr.T.J.Haokip (Ph.D)	Pol.Science
69. Ms.R.Ahmed (M.Phil)	Institute of Self-Organising System and Bio-Physics.
70. Meghali Baruah (M.Phil)	Education
71. Bimal Sharma (M.Phil)	English
72. Sushma Rana (M.Phil)	Education
73. C.Verghese (M.Phil)	Philosophy

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Name of candidate & Degree	Department
74. Srabani Das (M.Phil)	Education
75. Mr. Sunil P. Isaac (M.Phil)	History
76. Ms. Sobhan Lamare (M.Phil)	History
77. Usha Verma (M.Phil)	Pol. Science
78. Mr. T. M. Lonakumar (M.Phil)	Sociology
79. Mr. A. H. Vanladika (M.Phil)	Sociology
80. Ms. Y. H. Sema (M.Phil)	Pol. Science.

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(iii) Panel of Examiners M.Phil/Ph.D

The panel of examiners to examine the M.Phil/Ph.D theses of the following Scholars was approved by the respective School Board/Board of Research Studies.

The matter is placed before the Council for ratification.

Name of the candidate and Degree	Department.
1. Mr. M. Dey (Ph.D)	Zoology
2. Mr. Megonieto (Ph.D)	Botany
3. Md. Hussain (M.Phil)	Zoology
4. Ms. Mamoni Dutta (Ph.D)	Zoology
5. Mr. V. Kr. Sharma (Ph.D)	Institute of Self-Organising Systems and Bio-Physics.
6. Mr. P. Sangam Dikhar (Ph.D)	-- do --
7. Mr. E. Pal (Ph.D)	-- do --
8. Ms. Shantha P.K. (Ph.D)	Physics
9. Mr. T.K. Sinha (Ph.D)	Physics
10. Mr. F. Mathew (Ph.D)	Chemistry
11. Mr. S. Choudhury (Ph.D)	Chemistry
12. I. Nongkynrih (Ph.D)	Chemistry
13. Mr. S. Kr. Chettri (Ph.D)	Chemistry
14. T.S. Jaden (Ph.D)	Geography
15. D.D. Nengnong (Ph.D)	Geography
16. A. Saikia (Ph.D)	Geography
17. K. Barua (Ph.D)	Geography
18. L.K. Varte (Ph.D)	Geography
19. S. Das (M.Phil)	Geography
20. J. Bhattacharjee (M.Phil)	Geography
21. N. Deka (M.Phil)	Geography
22. M. Br. Chettri (M.Phil)	Geography
23. A. Dean Syiem (M.Phil)	Geography
24. B. Vanlalhlana (M.Phil)	Geography
25. S. M. Meitei (M.Phil)	Geography
26. Ms. A.K. Sehdeva (M.Phil)	Zoology
27. Mr. B.S. Purkayastha (Ph.D)	Mathematics
28. Mr. S.K. Dhyan (Ph.D)	Botany
29. Ms. K. Saithani (Ph.D)	Botany Contd...2/-

Name of the candidate & Degree	Department
30. Mr.A.Arunachalam (Ph.D)	Botany
31. Mr.Shobhan Lamare (M.Phil)	History
32. Usha Verma (M.Phil)	Pol.Science
33. Ms,Kalpana Devi (M.Phil)	Economics
34. Ms.Sothangliana (M.Phil)	Economics
35. Ms.Sailender Kr.Deka (M.Phil)	Economics
36. Abdus Shahid (M.Phil)	Economics
37. Abdur Rezzaque (M.Phil)	Economics
38. Ms.Y.Honily Sema (M.Phil)	Pol.Science
39. Ms.Sima Saigal (M.Phil)	History
40. Ms.Anita P.Jyrwa (M.Phil)	Sociology
41. Ms.A.H.Vanlaldika (M.Phil)	Sociology
42. Ms.J.Longkumar (M.Phil)	Sociology
43. Ms.R.N.Shangpliang (M.Phil)	Sociology
44. Ms.Jayanti Shadap (M.Phil)	Pol.Science
45. Ms Hepe Nora (M.Phil)	Pol.Science
46. Ms. M.Kharkamni (M.Phil)	Khasi
47. Spital Bor Syiemlieh (M.Phil)	Khasi
48. Remildis Khongwang (M.Phil)	Khasi
49. P.Wanniang (M.Phil)	Khasi
50. Bygrace Raplang (M.Phil)	Khasi
51. Asielie Pusa (Ph.D)	Pol.Science
52. T.T.Hoakip (Ph.D)	Pol.Science
53. Gorkey Buragohain (Ph.D)	Economics
54. Pascal Malngiang (Ph.D)	Pol.Science
55. Ms.A.S.W.Shimray (Ph.D)	History
56. Ms.B.Laltanpuia (Ph.D)	Sociology
57. Ms.R.Jones Nongrum (Ph.D)	Sociology
58. Paul Lokho (Ph.D)	Sociology
59. Ms.P.Sangmawna (Ph.D)	Sociology
60; Ms.J.Mawthon (Ph.D)	Sociology
61. Ms.L.L.Tzudis (Ph.D)	Sociology
62. Ms.Lallungmuana (Ph.D)	Sociology
63. Ms.L.Y.Longchar (Ph.D)	Sociology
64. Ms.K.S.Mawlong (Ph.D)	Sociology
65. Ms.S.L.Kynshi (Ph.D)	Sociology
66. Mr.A.K.Nongkynrih (Ph.D)	Sociology
67. Mr.L.M.Shangpliang (Ph.D)	Sociology.

Name of the candidate & Degree	Department
68. Ms.L.Colney (Ph.D)	Sociology
69. Mrs.Veena Saraf (Ph.D)	Lib. & Information Sc.
70. Mr.R.C.Pandey (Ph.D)	- do -
71. Ms.F.G.Dkhar (Ph.D)	Education
72. Mrs.M.Zama (Ph.D)	English
73. Ms.P.Chakrabarty (Ph.D)	Education
74. Ms.M.Baruah (M.Phil)	Education
75. Ms.S.Das (M.Phil)	Education
76. Ms.S.Rana (M.Phil)	Education
77. Ms.A.Chakrabarty (Ph.D)	Philosophy
78. Mr.C.Verghese (M.Phil)	Philosophy
79. Ms.M.Bhattacharjee (M.Phil)	Philosophy
80. Mr.K.L.Bialchungnunga (M.Phil)	Philosophy
81. Mr.S.Verghese (M.Phil)	Philosophy
82. Ms.A.Myrthong (M.Phil)	Khasi
83. Engasian (Ph.D)	Philosophy
84. M.M.Mazumder (Ph.D)	English
85. S.Roy (Ph.D)	Education
86. V.Kharmawphlang (Ph.D)	Education
87. Daisy Bora (Ph.D)	Education
88. Sr.Philomina (Ph.D)	Khasi
89. P.Suchiang (M.Phil)	Khasi
90. K.S.Cherak (M.Phil)	Philosophy
91. M.Borgohain (M.Phil)	Education
92. Md.S.Islam (M.Phil)	Education
93. Mr.A.Sen (Ph.D)	Botany
94. Mr.A.Chattopadhyaya (Ph.D)	Zoology
95. Mr.S.Deb Choudhury (Ph.D)	Bio-Chemistry
96. Ms.S.Choudhury (M.Phil)	Zoology
97. Mr.N.Kr.Gogoi (Ph.D)	Anthropology
98. Ms.Ila Das (Ph.D)	Anthropology
99. R.Choudhury (Ph.D)	Anthropology
100. M.Mazumdar (Ph.D)	Anthropology
101. R.Khongsilier (Ph.D)	Anthropology
102. J.W.Dkhar (Ph.D)	Anthropology.

Contd.....4/-

Name of the Candidate & Degree	Department
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103. Paul Soren (Ph.D.)	Geography
104. Mr. A.S. Atai Shimray (Ph.D)	Pol. Science
105. Mrs. Cecil Mawlong (Ph.D)	History
106. Mr. K. Debbarma (Ph.D)	Pol. Science.
107. Ms. Zokaitlungi (Ph.D)	Psychology.

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(iv) Setting up of the Entrepreneurship Development Cell.

Placed at Annexure A is the background note of Mr. P. Jhingan regarding the setting up of the Entrepreneurship Development Cell in NEHU. The proposal for setting up the Cell was approved by the Vice-Chancellor subject to the approval by the Academic Council and Executive Council.

The matter is placed before the Council for ratification.

Background regarding formation of the Entrepreneurship Development Cell at North-Eastern Hill University, Shillong.

A workshop on Entrepreneurship Development Programme (EDP) for the Eastern Region was held at Jadavpur on 6th June 1986. The Vice-Chancellor N.E.H.U. was requested to inaugurate the workshop by Department of Science and Technology (DST), Govt. of India, New Delhi. Subsequently NEHU was chosen as one of the Training Institute for Science and Technology EDP. An Entrepreneurship Development Programme of NEHU was started vide Orders: F.19-171/Estt-II/84-6648 dated 5th December, 1987 and confirmed by Executive Council Resolution EC:60:88:03 (i). A formal proposal to open a Entrepreneurship Development Cell at NEHU was submitted as per letter No. F.4/EDP/88 dated September 1, 1988 to the Joint Adviser, NSTEDB, DST, New Delhi.

This was with the following objectives:

1. To develop the Entrepreneurship culture in the North-Eastern States
2. Facilitate action oriented research in the field of Entrepreneurial opportunities.
3. To organise regular need appraisal studies so as to organise relevant Entrepreneurial Development Programmes.
4. Facilitate inter actions between Industry, Educational Institutions, NEHU and the people of North-East.

Subsequently a revised proposal was submitted vide letter D.O. F.4/EDP/88-5 dated August 23rd, 1991. The DST informed NEHU about acceptance of the proposal vide D.O. letter No.11/10/88-NEB dated 19.6.92. This was referred to the University Grants Commission, New Delhi vide letter PL.126/EDP/93-1358 dated 25.6.93 by Registrar, NEHU. The UGC vide letter F.7-9/94/(CU) dated 2 August 1995 informed the Registrar that "The Commission has no objections for the establishment of Entrepreneurship Cell subject to the conditions that the funds for the Cell are generated by the University from their own sources other than UGC grants". The DST subsequently vide letter No.11/10/88-NEB dated August 21, 1995 has confirmed that "DST would be able to support the expenditure for EDC at your University on a year to year basis for a limited period of five years after the financial assistance is commensed for the first time". The DST also requested the formation of a Advisory Committee and formation of a Action Plan and Budget proposal for 1995-96. The VC on 19.12.95 "Approved subject to ratification by Academic Council and Executive Council. Menawhile the proposal may be submitted to DST in consultation with Planning Department". This has been complied with vide letter F.4.2/EDP/96- dated 16 February, 1996 to the DST.

Prabodh Jhingan
Incharge EDP and Coordinator EDC-NEHU

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3:3(1)

(iii) Introduction of Mass Communication and Video Production as a vocational subject:

As authorised by the Academic Council in its 50th meeting, the Vice-Chancellor considered the recommendation of the Expert Committee and has approved introduction of Mass Communication and Video Production. The recommendation of the Expert Committee alongwith the syllabus are placed at Annexure A.

The matter is placed before the Council for ratification.

3:3(2)

Annexure - A

MINUTES OF THE SUB-COMMITTEE ON MASS COMMUNICATION & VIDEO PRODUCTION
APPOINTED BY THE ACADEMIC COUNCIL HELD AT 11.00 A.M. ON JUNE 10, 1995

.....

Members Present:

1. Prof. A.C. Sinha - (in the Chair)
2. Prof. S. J. Lall
3. Prof. A. Hassan
4. Shri. P. Jhingran
5. Fr. Stephen Novely
6. Fr. John D. Jayakumar.

The Chairman welcomed the members to the meeting.

1. The Committee felt that it is feasible to introduce Course on Mass Communication and Video Production at St. Anthony College, Shillong.
2. Examination of proposed Courses:

(a) The details provided for the theory papers were given keeping in mind the vastness of the theories available and both a view to pinpointing the exact syllabus. For the 'practical' papers no need for spelling them out was felt.

(b) Distribution of marks for different papers has been adjusted as per TDC structure of WCHU following the pattern adopted for Computer Science as one of the application Oriented Sciences.

(c) Paper III Mass Communication scene in India - Its Bibliography has been updated by including the following:

- | | |
|------------------|--|
| Bined C. Agrawal | : <u>Anthropological Methods for Communication Research.</u> |
| Bined C. Agrawal | : <u>Sit. of IWSAI - Challenges of Production and Research for Women and Children.</u> |
| A.C. Sinha | : <u>Mass Media and Rural Development.</u> |
| Bined C. Agrawal | : <u>Communication revolution: A study of Video penetration in India.</u> |

(d) Paper IX : Entrepreneurship and marketing : The following additions were made:

The Concept of Entrepreneurship - Meaning and Definition.

The authorities of the St. Anthony's College agreed to present the list of the faculty available to run the courses and the facilities already available as informed (list included).

The meeting ended with a vote of thanks.

Sd/- (A.C. Sinha)
Chairman

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5:1: Statutes Ordinances, Regulations etc.

5:1:1 (1)

(i) Amendment to the Ordinances OA-2 and OA-4 to include the Department of Garo under the School of Humanities and Education.

The opening of M.A. programme in Garo has been considered and approved by the Academic Council and the Executive Council. The syllabus for the programme has also been approved. Further with the establishment of Tura Campus the Department of Garo is one of the Departments decided to be located there.

Since, the P.G. Department of Garo is a new Department, it has not yet been included in the Ordinances.

The matter is placed before the Council to consider inclusion of the Department of Garo in the relevant Ordinances under the School of Humanities and Education.

5:1:2(1)

- (ii) Amendments to Statutes 6, 7 and 17 regarding the term of office of the Deans of Schools and the Heads of Departments and on the composition of the Departments.

The proposal for amendment of Statutes as per Annexure A was placed before the Executive Council in its 38th meeting held on 14.2.84. The Executive Council approved the same with the suggestion that there will be separate Heads of Departments for the Campus Departments and for the University Departments and subject to the approval by the Academic Council.

Regarding provision of a separate Head of Department for the Campus Department and for the University Department, this has been taken care of while submitting the amendment to the Ministry for Visitor's assent. However, the amendment has not yet been placed before the Academic Council whereas as per the Executive Council decision, the amendment is subject to the approval by the Academic Council.

The amendment is thus placed before the Council for consideration.

5:1:2(x)

Annexure - A

Amendment of Statute

As certain subjects are being taught at more than one campuses, it may be necessary to amend certain portion of Statute 17. Further the terms of the Deans of School/Head of Department is for a period of three years, which may expire at any time during the semester period. This may create some academic/administrative problems for schools/departments. As such, it may be necessary to amend certain portion of Statute 6 & 7 also.

Therefore, the following amendments are placed below for favour of consideration of the Council.

Existing Clause

7. (c) Each Department shall consist of the following members namely:-

- (i) teacher of the Department
- (ii) Persons conducting research in the departments
- (iii) Dean of the School or Deans of the Schools concerned,
- (iv) Honorary Professor, if any; attached to the department; and
- (v) such other persons as may be members of the Department in accordance with the provisions of the Ordinances.

Proposed amendment

1. Statute 17
After the following at the end of Statute 17(5) (c).

Provided that where a subject is being taught at more than one campus the teachers in the concerned campus shall constitute the campus department and the University department shall comprise.

- (a) not less than two teachers from each campus department,
- (b) Head of the Department of Shillong campus department if any
- (c) Dean of School or Deans of Schools concerned; and
- (d) Such other persons as may be members of the department in accordance with the provision of the Ordinance.

Clause after amendment

17. (c) Each department shall consist of the following members namely:-

- (i) teacher of the department
- (ii) Persons conducting research in the department
- (iii) Dean of the School, or Deans of the Schools concerned.
- (iv) honorary Professors, if any attached to the Department; and
- (v) such other persons as may be members of the department in accordance with the provisions of the Ordinances.

Provided that where a subject is being taught at more than one campus the teaching in the concerned campus shall constitute the campus department and the University department shall comprise

- (a) not less than two teachers from each campus department.
- (b) Head of the department of Shillong campus department if any
- (c) Dean of School or Deans of Schools concerned

5:11:2 (2)

Existing Clause

6.(1) Every Dean of a School of Studies shall be appointed by the Vice-Chancellor from among the Professors in the school for a period of three years and he shall be eligible for re-appointment.

7.(1) In the case of Departments which have more than one Professor the Head of the Department shall be appointed by the Executive Council on the recommendation of the Vice-Chancellor from among the Professors.

(2) In the case of Departments where there is only one Professor, the Executive Council shall have the option to appoint, on the recommendation of the Vice-Chancellor, other the Professor or a Reader as the Head of the Department.

Provided that it shall be opened to a Professor or a Reader to decline the offer of appointment as the Head of the Department.

(3) A person appointed as the Head of the Department shall hold office as much for a period of three years and shall be eligible for reappointment.

(4) A Head of a Department may resign his office at any time during his tenure of Office.

(5) A Head of a Department shall perform such functions as may be prescribed by the Ordinances.

Proposed Amendment

2. Statute 6

Add the following after first proviso to Sub-Clause (1)

Provided further that if the term of a Dean ends during academic session, it shall be automatically stand extended up to the end of the concerned Semester.

3. Statute 7

Add the following at the end of Sub-Clause (3)

Provided if the term of the Head ends during academic Session, it shall automatically stand extended up to the end of the concerned Semester.

Clause after amendment

(d) Such other persons as may be members of the department in accordance with the provision of the Ordinance

6.(1) Every Dean of a School of Studies shall be appointed by the Vice-Chancellor from among the Professors in the School for a period of three years & he shall be eligible for reappointment.

Provided further that if the term of a Dean ends during academic session, it shall be automatically stand extended up to the end of the concerned Semester.

7. (1) In the case of Departments which have more than one Professor, the Head of the Department shall be appointed by the Executive Council on the recommendation of the Vice-Chancellor from among the Professors.

(2) In the case of the Deptt. where there is only one Professor, the Executive Council shall have the option to appoint on the recommendation of the Vice-Chancellor either the Professor or a Reader as the Head of the Department.

Provided that it shall be opened to a Professor or

5:1:2 (4)
- 3 -

Clause after Amendment

of Appointment as the Head of the Department.

- (3) A person appointed as the Head of the Department shall hold office as such for a period of three years and shall be eligible for re-appointment.

Provided if the term of the Head end during academic session it shall automatically stand extended upto the end of the concerned semester.

- (4) A Head of a Department may resign his office at any time during his tenure of office.
- (5) A Head of a Department shall perform such functions as may be prescribed by the Ordinances.

5:2: Syllabus etc:

5:2:1(1)

Revised syllabus for M.Sc Chemistry

The revised syllabus for M.Sc in Chemistry was approved by the School Board of Physical Sciences in its meeting held on 16. 10. 95. The revised syllabus is placed at Annexure A for consideration of the Council

5:2:1(2)

ANNEXURE - A

CHEM-401

INORGANIC CHEMISTRY - I

UNIT-1 Bonding

Brief review of the following : ionic bonding, covalent character in predominantly ionic bonds, valence bond theory and LCAO-MO theory for homonuclear and heteronuclear diatomic molecules. Orbital symmetry and overlap, delocalisation and aromaticity, Linnett double quartet theory, bond energy and covalent radii. Electronegativity (calculations using Pauling, Mulliken and Allred Rochow methods) and polarity of bonds. Brief review of metallic bonding, band theory, hydrogen bonding, clathrates and VSEPR model; the use of outer d-orbitals.

UNIT-2 Symmetry and Structure

Symmetry elements and symmetry operations, symmetry groups with examples from inorganic compounds, groups of very high symmetry, molecular dissymmetry and optical activity, molecular symmetry for compounds having coordination number 2 to 9.

UNIT-3 Selected Topics on Non-transition Elements

Synthesis, properties and structures of boranes, carboranes, borazines, silicates and S,N compounds. Non-stoichiometric oxides, zeolites and clay. Polymorphism of carbon, phosphorus and sulphur.

UNIT-4 Environmental Pollution and Bioinorganic Chemistry

Air pollution (SO_2 , O_3 and NO_x), water pollution (heavy

5:2:1(3)

metals and phosphates), toxicity of Hg, Pb, Cd and As. Essential and trace elements in biological systems, biochemistry of sodium and potassium, membrane structure, mechanism of ion transport across membranes, ionophores, valinomycin and crown ether complexes of Na and K.

UNIT-5 Kinetics and Mechanism of Inorganic Reactions

Mechanism of ligand replacement reactions, ligand displacement reactions in octahedral and square planar complexes, trans-effect, isomerisation and racemisation in tris-chelate complexes, electron-transfer reactions, stereochemical nonrigidity and fluxional molecules.

5.2.1(4)

Text Books

1. F.A. Cotton, Chemical Applications of Group Theory, Wiley Eastern, 1972.
2. J.E. Huheey, E.A. Keiter and R.L. Keiter, Principles of Structure and Reactivity, Harper Collins College Publishers, 1993.
3. F.A. Cotton and G. Wilkinson, Advanced Inorganic Chemistry, Academic Press, 1976.
4. D.F. Shriver, P.W. Atkins and C.H. Langford, Inorganic Chemistry, Academic Press, 1991.
5. J.W. Moore and E.A. Moore, Environmental Chemistry, Academic Press, 1976.
6. A.K. De, Environmental Chemistry, Wiley Eastern, 1989.
7. R.P. Hanzlik, Inorganic Aspects of Biological and Organic Chemistry, Academic Press, 1976.

Reference Books

1. N.N. Greenwood and A. Earnshaw, Chemistry of the Elements, Pergamon Press, 1984.
2. T. Moeller, Inorganic Chemistry, A Modern Approach, John Wiley, 1982.
3. K.V. Raman, Group Theory and its Applications to Chemistry, Tata McGraw Hill, 1990.
4. F. Basolo and R.G. Pearson, Mechanism of Inorganic Reactions, Wiley Eastern, 1967.

5:2:1(5)

CHEM-421

ORGANIC CHEMISTRY - I

UNIT-1 Brief Review of Bonding and Structure

Covalent bonds, polar bonds, coordinate covalent bonds, molecular bonds, hydrogen bonds, and non bonding intermolecular forces, electronegativities, intermolecular forces and charge distribution and molecular properties. Dissociation of acid and bases. Scales of acidities of organic molecules and Lewis acid base concepts. Concept of aromaticity, Huckel's $(4n + 2)$ rule, homoaromaticity, n-annulene, hetero-annulene, fullerenes (C_{60}).

Organic Reactions

Reaction rates, transition state theory and parameters influencing reaction rates. Nucleophilic substitution at saturated carbon, reaction mechanism, stereochemistry, relative reactivity and cyclization reactions. Synthetic applications of nucleophilic substitution involving alcohols, thiols, amines and hydrides. C-C and C-O bond formation, Gabriel synthesis of amines. Phase transfer catalysts and crown ethers.

UNIT-2 Basic Concepts of Stereochemistry

Stereochemical features of the carbon atom, bond characteristics, molecular models, conformations (Rotational isomerism), geometrical isomerism, optical isomerism, (Enantiomerism) projection formulae, racemates and diastereoisomerism, Asymmetry and

5:2:1(E)

chirality, enantiotopic and diastereotopic relationships of atoms and groups. The sign of rotation and the configuration, Nomenclature of optical isomers and the special structure of rings. Geometrical and optical isomerism in alicyclic system, types of optically active substances, stereochemical specificity of reactions. Newer methods of asymmetric synthesis including enzymatic and catalytic nexus, enantio and diastereo selective synthesis.

UNIT-3 Carbonyl and Related Groups (PART-A)

Reactivity of carbonyl group; Nucleophilic addition of hetero atoms (N,O,S,Y), hydride donors, as nucleophiles, carbanion additions, organometallic reagents, addition-elimination and the aldol type of condensations. Vinylogous or conjugate additions.

UNIT-4 Carbonyl and Related Groups (PART-B)

Introduction to carboxylic acid family. Substitution by hydrides and organometallic carbanions. Acylation of carbon, carbonyl cyclization reactions and cleavage of carbonyl compounds. Carboxylic acid derivatives and decarboxylation reactions. Nucleophilic substitution in related unsaturated groups and vinylogous substitutions. Other aromatic nucleophilic substitutions, nucleophilic addition and substitution in synthesis. Summary of carbonyl reactions.

5:2:1(7)

UNIT-5 Elimination Reactions

Introduction to Elimination reactions: formation of alkenes by eliminations with proton loss and by other elimination reactions. Formation of other double bonds (C = N, C = O) and triple bonds by elimination reactions.

Electrophilic Additions to Multiple Bonds

Direction and stereochemistry of addition, alkyl halides from additions, hydration to alcohols and related compounds. Other trans additions, cis additions and the addition - elimination reactions in organic synthesis.

Electrophilic Substitution: Aromatic Compounds:

The mechanism of electrophilic substitution with reference to halogenation to aryl halides, nitration to aryl nitro compounds and sulphonation to arylsulphonyl compounds. Protons as electrophiles, alkylation and acylation including the synthesis of aromatic compounds. Sandmeyer, Gatterman, Ullmann and Vilsmeier reactions.

5:2:1(8)

Text Books:

1. L.N. Ferguson - The Modern Structural Theory of Organic Chemistry, Prentice Hall of India (1973).
2. S.H. Pine, J.B. Hendrickson, D.J. Cram and G. Hammond - Organic Chemistry, McGraw Hill (1981).
3. E.L. Eliel - Stereochemistry of Carbon Compounds, McGraw Hill Book Company Inc. (1962).
4. T.W.G. Solomons - Organic Chemistry, John Wiley (1992).
5. D. Nasipuri - Stereochemistry of Organic Compounds, Wiley Eastern (1994).

PHYSICAL CHEMISTRY - IUNIT-1 Equilibrium Thermodynamics-I

(1) Brief resume of the concepts of laws of thermodynamics: State function and differentials; thermodynamic view of the entropy; Clausius inequality; the Helmholtz and Gibbs free energies; some consequences of the third law of thermodynamics - unattainability of absolute zero.

(2) Application of Thermodynamics - Part 1:

(a) Partial molar properties; the Gibbs-Duhem equation; determination of partial molar quantities; the chemical potential and its significance; (b) Phase equilibria- the derivation of the Gibbs Phase Rule; brief review of the stability of phases and methods of depiction and interpretation of phase equilibria in one-component and two-component systems; first and second order phase transitions; phase equilibria in three component systems.

UNIT-2 Equilibrium Thermodynamics-II

Application of Thermodynamics - Part 2:

(a) Thermodynamics of ideal and real gases and gas mixtures; mixing of gases; fugacities of gases and their determination; chemical potentials of liquids and liquid mixtures.

5:2:1(10)

(b) Thermodynamics of ideal and non-ideal binary solutions; activity and activity coefficients; excess functions for non-ideal solutions; determination of activity coefficients; regular solutions.

(c) Activity coefficients of electrolytes; mean activity coefficient; theoretical calculation of activity coefficients; Debye-Huckel theory; ionic strength.

(d) Thermodynamic criteria for chemical equilibrium; equilibrium constants of chemical reactions; dependence of equilibrium constant on temperature and pressure; standard Gibbs free energies of formation; enthalpy and Gibbs free energy functions.

UNIT-3 Non-Equilibrium Thermodynamics

Thermodynamic functions for non-equilibrium states; entropy production and entropy flow; phenomenological equations; microscopic reversibility and Onsager's reciprocity relations; transformations of the generalized fluxes and forces; electrokinetic phenomena; diffusion; electric conduction; the stationary non-equilibrium states; states of minimum entropy production.

UNIT-4 Chemical Kinetics-I

Methods of determining rate laws; collision theory of reaction rates; steric factor; activated complex theory; Arrhenius equation and the activated complex theory;

5:2:1(11)

ionic reactions-kinetic salt effects; steady state kinetics; kinetic and thermodynamic control of reactions; treatment of unimolecular reactions.

UNIT-5 Chemical Kinetics-II

Dynamics of chain (hydrogen-bromine reaction, pyrolysis of acetaldehyde, decomposition of ethane), photochemical (hydrogen-bromine and hydrogen-chlorine reactions), and oscillatory reactions (Belousov-Zhabotinsky reaction); homogeneous catalysis; kinetics of enzyme reactions; general features of fast reactions; study of fast reactions by flow methods, relaxation methods, flash photolysis and the nuclear magnetic resonance method.

Text Books:

1. P.W. Atkins - Physical Chemistry, Oxford (1985).
2. V. Fried, U. Blukis and H.F. Hamerka - Physical Chemistry, Macmillan (1975).
3. I. Prigogine - Introduction to Thermodynamics of Irreversible Processes, Interscience Publishers (1961).
4. G.L. Agrawal - Basic Chemical Kinetics, Tata McGraw Hill (1990).
5. J. Rajaram and J.C. Kuriacose - Kinetics and Mechanisms of Chemical Transformations, Macmillan (1993).

5:2:1(12)

CHEM-461

QUANTUM CHEMISTRY

UNIT-1 Wave Theory of Matter and Wave Equation:

- (a) Particle and Waves - de Broglie relation; Heisenberg's Uncertainty Principle; one dimensional wave equation of a vibrating string and its solution; Schrodinger equation.
- (b) Operators - Linear operators; commutation of operators; eigen values and eigenfunctions.
- (c) Postulates and general principles of Quantum mechanics (related theorem).
- (d) Exact solutions of the Schrodinger equation: Linear motion - particle in a box (one dimension); application to conjugated systems. Particle in a box (three dimension); potential energy barriers and tunnel effect.

UNIT-2 Exact Solution of Schrodinger Equation:

- (a) One dimensional harmonic oscillator.
- (b) Rotational motion - particle in a ring; particle on a sphere; spherical harmonics; angular momentum operators; shift operators; eigen values and eigen functions of angular momentum.
- (c) Rigid rotator.
- (d) Hydrogen atom; wave functions of hydrogen atoms; atomic orbitals; space quantization; Zeeman effect and electron spin; vector model of atom, Atomic term symbols; spectroscopic states and spin orbit coupling.

5:2:1(13)

UNIT-3 (a) Approximate Methods:

(i) Perturbation theory for non-degenerate states and its applications.

(ii) Variation theory - variation treatment of the helium atom.

(iii) Qualitative treatment of Hartree-Fock SCF model for many electron atoms.

(b) Valence Bond Theory of Diatomic Molecules:

(i) The H_2 molecules; homonuclear and heteronuclear diatomic molecules; quantum mechanical structure; resonance and resonance energy; singlets and triplets.

(ii) Molecular Orbital Theory - 1: Diatomic molecules (Homonuclear); Born-Oppenheimer approximation; LCAO approximation; coulomb and bond integrals; hydrogen molecule ion, H_2^+ , hydrogen molecule.

UNIT-4 (a) Molecular Orbital Theory - 2: Heteronuclear diatomic molecules; correlation diagram and non-crossing rule (both homonuclear and heteronuclear diatomics); types of molecular orbitals; isoelectronic principle.

(b) Comparison of Molecular Orbital and Valence Bond Methods:

Charge densities and polarity; equivalence of the M.O and V.B. methods; configuration interactions.

5:2:1(14)

UNIT-5 Chemical Binding

Localised bonds in poly atomic molecules -- bond properties; non-localised orbitals (water molecule as an example); equivalence of pairing approximation; principal types of s-p hybridization; factors determining molecular shapes; atomic radii; bond lengths and bond energies.

Text Books:

1. A.K. Chandra - Introductory Quantum Chemistry, Tata McGraw Hill (1991).
2. D.A. McQuarrie - Quantum Chemistry, Oxford University Press (1983).
3. R. McWeeny - Coulson's Valence, ELBS (1979).
4. I. Levine - Quantum Chemistry, Tata McGraw Hill (1994).

5:2:1(15)

CHEM - 403

LABORATORY COURSE IN INORGANIC CHEMISTRY

1. Semimicro qualitative analysis:
Complete systematic analysis of inorganic mixtures containing six ions including two of the following elements: W, Mo, Au, Pt, Pd, Se, Te, V, Ti, Zr, U, Th and Ce, and one interfering anion (arsenate/ phosphate/ borate/ fluoride).
2. Quantitative estimation (involving volumetric - redox and complexometry, gravimetric and spectrophotometric methods) of constituents in three component mixtures and alloys.
3. Preparation of the following compounds, related complementary work and physical studies (at least 8 preparations are to be completed by turn):
 - (1) Reinecke salt
 - (2) Tris (oxalato) manganese(III)
 - (3) Tetrapyridinesilver (II) peroxodisulphate
 - (4) Tris (acetylacetonato) iron (III)
 - (5) Tris(acetylacetonato) ruthenium(III)
 - (6) Bis (N,N-diethyldithiocarbamato) nitrosyliron(II)
 - (7) Optical isomers of tris (ethylenediamine) cobalt(III) chloride
 - (8) Linkage isomers of dithiocyanato bis (triphenylarsine) palladium (II) or Nitro and nitrito-pentamminecobalt(III) chloride

5:2:1(16)

- (9) Ferrocene or dibenzene chromium.
- (10) Hydrido-chloro-carbonyl tris(triphenylphosphine) ruthenium(II)
- (11) Tetrapyridine silver(II) nitrate (by electrochemical method)
- (12) Beryllium acetate, $\text{Be}_4\text{O}(\text{OCOCH}_3)_6$.
- (13) $[\text{PNCI}_2]_3$
- (14) Tris(2,2'-bipyridine) ruthenium(II) perchlorate
- (15) Dipyridine iodine (I) nitrate.

Physical studies include magnetic susceptibility and conductance measurements, infrared, uv-visible spectroscopy and cyclic voltammetry.

4. Nuclear Chemistry experiments:

- (1) Determination of the operating voltage plateau for the G.M. tube.
- (2) Studying counting statistics through measurement of radioactivity.
- (3) Determination of linear absorption coefficient and half-thickness of different materials.
- (4) Verification of the inverse square law.
- (5) Determination of half-life of ^{137}Ba radionuclide.
- (6) Determination of radioactivity in the solid samples (soil, cement and ash).

5:2:1(17)

Text Books

1. G. Svehla, Vogel's Qualitative Inorganic Analysis, Orient Longman, 6th Edition, 1987.
2. J. Basset, R.C. Denney, G.H. Jeffery and J. Mendham, Vogel's Text Book of Quantitative Inorganic Analysis, ELBS, 4th Ed., 1978.
3. H.H. Willard, L.L. Merritt and J.A. Dean, Instrumental Methods of Analysis, East-West Press, 4th Ed., 1974.
4. G. Marr and B.W. Rockett, Practical Inorganic Chemistry, Van Nostrand, 1972.
5. G. Pass and H. Sutcliffe, Practical Inorganic Chemistry, Chapman & Hill, 2nd Ed., 1974.
6. G.W. Parshall (Ed. in Chief), Inorganic Synthesis, Vol.15, McGraw Hill, p. 48, 1974.
7. D.D. Sood, S.B. Monahar and A.V.R. Reddy, Experiments in Radiochemistry Theory and Practice, IANCAS Publications, (1994).
8. R.A. Faires and G.G.J. Boswell, Radioisotopes Laboratory Techniques, Butterworths, London, 4th Edition, 1981.

5:2:1(18)

CHEM-402

INORGANIC CHEMISTRY - II

UNIT-1 Magnetic Properties and Electronic Structure of Transition metal Complexes

Brief review of different types of magnetic behaviours, spin-orbit coupling, quenching of orbital angular momenta, temperature independent paramagnetism.

Term symbols for metal ions, crystal field theory and its application to explain magnetic properties of coordination compounds, spin cross-over. Structural effects: ionic radii and Jahn-Teller effect; Thermodynamic effects: hydration, ligation and lattice energy, octahedral vs. tetrahedral coordination.

UNIT-2 Electronic Structure of Transition metal Complexes

Electronic absorption spectra of octahedral and tetrahedral complexes, Orgel diagrams, Selection rules, band intensities and band widths, spectra of high-spin octahedral and tetrahedral complexes for various d^n configurations, spectrochemical series.

Adjusted crystal field theory, Nephelauxetic series, Molecular orbital theory of complexes (qualitative principles involved in complexes with no π -bonding and with π -bonding), charge-transfer spectra.

UNIT-3 Aspects of Transition Elements, Lanthanides and Actinides

Elements of first transition series and their comparison with the second and third series, general

5:2:1(19)

periodic trends, Chemistry of the various oxidation states of first row transition metals and their comparison based on electronic configuration.

The splitting of f-orbitals in Octahedral field, lanthanide contraction, lanthanide shift reagent; Oxidation states, complexes, magnetic and optical properties of lanthanides and actinides.

UNIT-4 Transition metal π -acid Complexes

Structure, bonding, synthesis and reactivity of Complexes with CO, CS, N₂, NO, group V donor ligands and extended π - system ligands (phen, bipy); metal carbonyl hydrides and metal carbonyl clusters: LNCC and HNCC, Wade's rule and the Capping rule.

UNIT-5 Aspects of Bioinorganic Chemistry

Iron-Sulphur proteins: Rubredoxin and Ferredoxins; Metalloporphyrins, Heme proteins: Hemoglobin, Myoglobin and Cytochrome c; Non-heme proteins: Hemerythrin and Ferritin; Hemocyanin, Nitrogen fixation and nitrogenases; Photosynthesis: PSI and PSII.

5:2:1(20)

Text books

1. F.A. Cotton and G. Wilkinson, Advanced Inorganic Chemistry, Wiley Eastern Ltd. Third Edition, 1972.
2. J.E. Huheey, E.A. Keiter and R.L. Keiter, Principles of Structure and Reactivity, Harper Collins College Publishers, 4th Edition, 1993.
3. A. Earnshaw, Introduction of Magnetochemistry, Academic Press, New York, 1968.
4. T. Moeller, Inorganic Chemistry - A Modern Approach, John Wiley, 1982.

Reference Books

1. M.N. Hughes, The Inorganic Chemistry of Biological Processes, Wiley, 1981.
2. E.I. Ochiai, Bioinorganic Chemistry-An Introduction, Allyn & Bacon Inc., 1977.

5:2:1(21)

CHEM-422

ORGANIC CHEMISTRY - II

UNIT-1 Reductive Reactions

(a) Catalytic Hydrogenation and Dehydrogenation

Introduction to catalytic hydrogenation and dehydrogenation, reduction of functional groups, Raney Nickel desulphurization, homogeneous catalytic hydrogenation (Wilkinson's catalyst).

(b) Dissolving Metal Reduction

Liquid ammonia reduction, Birch Reduction, Clemmensen Reduction and acyloin condensation.

(c) Metal Hydride and Related Reductions

Reduction of carbonyl compounds with metal hydrides, stereochemistry and mechanism of reduction, reduction of other functional groups by metal hydride, Meerwein-Ponndorf-Verley Reduction, hydroboration and related reactions including reaction of alkyl borane. Tributyl tin hydride (including its coupling reactions).

(d) Reduction with Hydrazine and its Derivatives

The Wolff-Kishner reduction and related reduction of tosylhydrazone, reduction with diimide, reduction employing hydrazine and hydrogenation catalysts.

UNIT-2 Oxidation Reactions

(a) Oxidation with Chromium and Manganese Compounds

Oxidation of alcohol, aldehydes, carbon - carbon double bonds, and carbon - hydrogen bonds in organic molecules, pyridinium chlorochromate (PCC) oxidations.

5:2:1(22)

(b) Oxidation with peracids and other peroxides

Oxidation of carbon - carbon double bond, Sharpless asymmetric epoxidation, oxidation of carbonyl compound, Baeyer-Villiger oxidation.

(c) Other methods of oxidation

Prevost and Woodward hydroxylation; cis- and trans-hydroxylation and glycol cleavage reagents; KMnO_4 , OsO_4 , HIO_4 , $\text{Pb}(\text{OAc})_4$, Mercuric acetate, selenium dioxide, oxidation of allylic C-H bond (NBS); singlet molecular oxygen.

UNIT-3 (a) Carbocations

Sources of carbocations, formation of carbocations. Structure and stability of carbocations, classical and non-classical and bridged carbocations, neighbouring group participation; Rearrangement involving carbocations (Wagner - Meerwein Rearrangement, Dienone Phenol Rearrangement), reactions involving acyl cation, PPA cyclization and Fries rearrangement.

(b) Benzyne

Structure of arynes, generation of benzyne, reactions and rearrangements of benzyne.

(c) Free Radical Reactions

Generation of Free radicals, Radical cyclization and coupling reactions, substitution at C-H bond, addition reactions of radical, radical substitution in aromatic compounds.

5:2:1(23)

UNIT-4 (a) Carbenes

Divalent carbon compounds, generation of carbenes, reactivity, stability and structure of carbenes. Singlet and triplet carbene reactions. (cyclopropanation, C-H insertion). Rearrangement of carbenes, Wolff rearrangement, Arndt-Eistert Synthesis.

(b) Nitrenes

Generation and structure of nitrenes, reactions of nitrenes (aziridine formation, C-H insertion, rearrangement of nitrenes, Hoffmann, Curtius and Schmidt Rearrangements.

(c) New organometallic and organosilicon compounds

Organocuprates and organolithium compounds.

UNIT-5 (a) Organic Photochemistry

Light absorption and electronic transitions, excited state of organic molecules, Jablonski diagram, quantum yields, intersystem crossing, photosensitization and energy transfer reactions; photochemistry of olefins and carbonyl compounds, Norrish I and Norrish II type reactions, photooxygenation and photofragmentation, Paterno-Buchi reaction, di- π methane rearrangement, Barton's reaction, photocycloaddition.

(b) Pericyclic Reactions

Orbital symmetry and pericyclic reactions, correlation diagrams, stereochemistry of electrocyclic and cycloaddition reactions, sigmatropic reactions with examples of Somlett-Hauser rearrangement, Fischer Indole synthesis, Claisen rearrangement, Cope rearrangement.

5.2.1(24)

Text Books:

1. H.O. House - Modern Synthetic Reactions, W.A. Benjamin, Inc. (1972).
2. T.L. Gilchrist and C.W. Rees - Carbenes, Nitrenes and Arynes, Nelson, London (1969).
3. W. Lwowski - Nitrenes, Interscience New York (1969).
4. I. Noble - Highlights in Organic Chemistry,
5. C. Depuy and O.L. Chapman - Molecular Reactions and Photochemistry, Prentice Hall of India (1975).
6. R.B. Woodward and R. Hoffmann - Conservation of Orbital Symmetry, Verlag Chemie, Academic Press (1970).
7. I. Fleming - Frontier Orbital and Organic Chemical Reactions, John Wiley and Sons (1976).
8. W. Carruthers - Some Modern Methods of Organic Synthesis, Cambridge University Press (1990).

5:2:1(25)

CHEM-442

PHYSICAL CHEMISTRY - II

UNIT-1 Equilibrium Electrochemistry: Ions and Electrodes

(a) The role of electrodes: the electrochemical potential; interfacial potential difference; electric potential at interfaces.

(b) Electrochemical cells: EMF and electrode potentials; concentration-dependence of EMF; standard electrode potentials and their determination; types of electrodes; membrane potentials; thermodynamic data from cell EMF's; temperature dependence of EMF; cell EMF and direction of spontaneous reactions; applications of EMF measurements; pK and pH.

(c) Ion-solvent interactions: the Born model; entropy and enthalpy of ion-solvent interactions.

UNIT-2 Dynamic Electrochemistry

(a) Processes at electrodes: double-layer at interface; rate of charge transfer; overpotential; aspects of deviations from equilibrium.

(b) Electrochemical processes: Dissolution and deposition at electrodes - current affecting potential of a cell; power generation and storage process fuel cells-power storage.

(c) Corrosion: Thermodynamics of corrosion; kinetics of corrosion; inhibition of corrosion.

5:2:1(26)

UNIT-3 Solid State

(a) Solid state reactions: general principles; experimental procedures - co-precipitation; precursor to solid state reactions; kinetics of solid state reactions.

(b) Crystal Defects: Perfect and imperfect crystals; types of defects (Schottky and Frenkel defects); colour centres; vacancies and interstitials.

(c) Solid Solutions: Requirements for solid solutions; substitutional solid solutions; interstitial solid solutions; mechanism of solid solutions; creating vacancies of different types.

(d) Electronic Properties and Band Theory: metals, insulators and semiconductors; electrical properties of solids; electronic structure of solids; band theory; Brillion Zone; superconductors.

UNIT-4 (a) Surface Phenomena

Surface tension and surface free energy; adsorption on solids; Gibbs adsorption isotherm; estimation of surface area of solids (BET method); catalytic activity at surfaces.

(b) Photoelectron Spectroscopy

Basic principles of photoelectron and X-ray photoelectron spectroscopies and their applications for chemical analysis of surfaces; application of ESCA and Auger spectroscopy for the studies of solids.

5:2:1(27)

UNIT-5 Micelles

Surface active agents; classification of surface active agents; micellization; hydrophobic interactions; critical micellar concentration (CMC); factors affecting the CMC of surfactants - variation in chain length of hydrocarbons, temperature, pressure and electrolytes; counter ion binding to micelles; thermodynamics of micelle formation - phase separation and mass action models; solubilization; reverse micelles; microemulsions; Kraft phenomenon.

Text Books:

1. P.W. Atkins - Physical Chemistry, Oxford (1985).
2. J.O'M. Bockris and A.K.N. Reddy - Modern Electrochemistry, Plenum (1970).
3. A.R. West - Solid State Chemistry and its Applications, John Wiley (1987).
4. Y. Moroi - Micelles : Theoretical and Applied Aspects, Plenum (1992).
5. H. Windawi and F.F.L. Ho (Ed.) - Applied Electron Spectroscopy for Chemical Analysis, Wiley Interscience (1982).

5:2:1(28)

CHEM-462

CHEMICAL BINDING AND MOLECULAR SPECTROSCOPY

(A) CHEMICAL BINDING

UNIT-1 Simple Huckel Theory (HMO) for Congugated Molecules and Aromatic Molecules

Effective one -electron Hamiltonian for pi systems; pi electron approximation; Simple Huckel treatment of ethylene, allyl and butadiene systems; charge densities and bond orders; simple formulae and diagrammatic methods for calculating the energies of linear cyclic polymers; Huckel rule for aromaticity and anti aromaticity; limitations of simple Huckel model.

UNIT-2 Symmetry Simplification of Huckel Molecular Orbital Theory

Matrix representation of groups; reducible and irreducible representations using wave functions as bases; the Great Orthogonality Theorem; character tables; projection operators; symmetry adapted linear combinations (SALC); symmetry factoring of secular equations; a few examples of conjugated molecules; HMO method for hetero atomic compounds; vanishing of integrals; alternant and odd alternant hydrocarbons; charge densities (unpaired spin densities).

(B) OPTICAL SPECTROSCOPY

UNIT-3 (a) Basic Principles: Interaction of electromagnetic radiation with matter; time-dependent perturbation theory; spectral transitions; selction rules; line width; intensity of absorption.

(b) Microwave Spectra: Classification of molecules; rigid and non-rigid rotator models; rotational energies of diatomic molecules; rotational transitions; determination of moment of inertia and bond length; relative intensities of spectral lines; (inversion spectrum of ammonia).

(c) Electronic Spectra: Franck - Condon principle; electronic spectra of polyatomic molecules (free electron model); electronic transitions; change of molecular shape on electronic excitation; selection rule; intensity and oscillator strengths.

(d) Photo Acoustic Spectroscopy (PAS) and Laser Spectroscopy: Basic Principles.

UNIT-4 Molecular Spectra

Vibrational Spectra - deduction of molecular properties from vibration spectra of diatomic molecules; fundamental frequencies; overtones; Morse potential; hot bands; vibration-rotational spectra of HCl, P, Q, R branches; vibrational Raman spectra of diatomic molecules; vibrational theories of polyatomic molecules; characteristic stretching frequencies of common functional groups and their dependence on chemical environment.

UNIT-5 Magnetic Resonance

Spin angular momentum and magnetic moments of electron and nuclei; interaction of magnetic moments with external magnetic field and the relevant Zeeman levels;

5:2:1(30)

requirements for inducing transitions between Zeeman levels and detection of magnetic resonance absorption; selection rules; field-frequency values for e.s.r. and n.m.r. of ^1H & ^{13}C ; Zeeman interaction for nuclei including the screening (σ) by electronic environment; chemical shift scales and origin of chemical shifts; chemical shifts in n electron systems and neighbour group anisotropy effect with respect to proton chemical shifts; chemical shift ranges for different nuclei; spectral features due to spin-spin interaction in NMR; classification of NMR spectra; desirability of working at higher magnetic fields from the point of view of J/ν ratio (measured in Hz, not in ppm) and sensitivity; dihedral angle dependence of vicinal coupling constants; anisotropy of g -factor (case of d -electrons in transition metals); powder e.s.r.; line shapes; examples of NMR spectra of diamagnetic molecules and e.s.r. spectra of paramagnetic systems; classical vector description of magnetic resonance phenomena.

5:2:1(31)

Text Books:

1. D.A. McQuarrie - Quantum Chemistry, Oxford University Press (1983).
2. F.A. Cotton - Chemical Applications of Group Theory, Wiley Eastern (1992).
3. J.M. Hollas - Modern Spectroscopy, John Wiley (1990).
4. R. Chang - Basic Principles of Spectroscopy, McGraw Hill (1971).
5. G.M. Barrow - Introduction to Molecular Spectroscopy, McGraw Hill (1985).
6. A. Carrington and A.D. McLachlan - Introduction to Magnetic Resonance, Harper & Row (1967).

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CHEM-423

LABORATORY COURSE IN ORGANIC CHEMISTRY

1. Separation techniques of organic compounds and their spectroscopic identifications.
2. Organic preparations. At least eight preparations (involving two or more than two steps), involving the following representative reactions: (a) esterification and saponification; (b) oxidation (peracid, chromic acid, Mn(VII)); (c) hydride reductions or hydrogenation; (d) nucleophilic substitutions; (e) cycloaddition reactions; (f) Grignard reactions; (g) condensation reactions; (h) preparation of dyes; (i) aromatic electrophilic substitution; (j) heterocyclic synthesis.
3. Natural product extractions (Solasidine, Caffeine, Nicotine, Piperine, Rosine, Carotenoids).
4. Experiments involving the separation and purification of organic compounds from a mixture, using chromatographic techniques, steam distillation, fractional crystallization and sublimation.

Text Books

1. P.R. Singh, D.S. Gupta and K.S. Bajpai, Experimental Organic Chemistry, Vol. II.
2. R.G. Brewster and W.E. Mcwen, Unitized Experimental Organic Chemistry, East-West Press, New Delhi, (1964).
3. A.I. Vogel, Practical Organic Chemistry.
4. A.O. Fitton and R.K. Smallery, Practical Heterocyclic Chemistry.

5:2:1(33)

CHEM-500

APPLICATIONS OF SPECTROSCOPIC METHODS

A. Applications to Organic Chemistry

UNIT-1 (a) Ultraviolet and Visible Spectroscopy

Various electronic transitions (185 - 800 nm); Beer Lambert's Law, ultraviolet bands for carbonyl compounds, unsaturated carbonyl compounds, dienes, conjugated polyenes, Woodward rule for conjugated dienes and carbonyl compounds, ultraviolet spectra of aromatic, heterocyclic compounds, steric effect in biphenyl.

(b) Infrared Spectroscopy

Characteristic vibrational frequencies of alkanes, alkenes, alkynes, aromatic compounds, alcohols, ethers, phenols, amines; Detailed study of vibrational frequencies of carbonyl compounds (ketone, aldehyde, ester, amide, acid anhydride, lactone, lactam, conjugated carbonyl compounds), effect of hydrogen bonding and solvent effect on vibrational frequencies, overtones, combination and Fermi resonance bands; Extension of these studies to various organic molecules for structural assignments.

(c) Optical Rotatory Dispersion and Circular Dichroism (ORD and CD)

Definition, deduction of absolute configuration, octant rule for ketones.

UNIT-2 Nuclear Magnetic Resonance Spectroscopy

General introduction and definition, chemical shift, spin-spin interaction, shielding mechanism, mechanism of

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measurement; chemical exchange; approximate chemical shift values and correlations for protons bonded to carbon (aliphatic proton, olefinic proton, aldehydic proton, aromatic proton), proton bonded to other nuclei (alcohols, phenols, enols, carboxylic acids, amines, amides, SH), chemical exchange, effect of deuteration, proton attached to other nuclei, complex spin-spin interaction between two, three, four and five interacting nuclei (first order spectra), complex interaction, virtual coupling stereochemistry, hindered rotation, Karplus curve, variation of coupling constant with dihedral angle, nuclear magnetic double resonance, simplification of complex spectra, shift reagent, spin tickling, fourier transform technique, nuclear overhauser effect (NOE); resonance of other nuclei.

UNIT-3 (a) Carbon - ^{13}C NMR Spectroscopy

Chemical shift (aliphatic, olefinic, alkynes, aromatic, heteroaromatic, carbonyl carbon), ^{13}C coupling constants, two dimension NMR spectroscopy; NOISY, DEPT, INEPT terminology.

(b) Mass Spectrometry

Mass spectral fragmentation of organic compounds, common functional group, molecular ion peak, metastable peak, McLafferty rearrangement, examples of mass spectral fragmentation of organic compounds with respect to their structure determination.

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B. Applications to Inorganic Chemistry

UNIT-1 Optical Spectroscopy

Infrared and Raman Spectroscopy: Structural Studies (involving IR and Raman Spectroscopy) of coordination compounds containing the following molecules/ions and ligands:

NH_3 , H_2O , OH^- , SO_4^{2-} , CN^- , SCN^- , NO , O_2 , PR_3 , halides.

Electronic Spectroscopy: Application to coordination compounds for their structural characterization.

UNIT-2 Magnetic Resonance Spectroscopy

Electron spin resonance spectroscopy: ESR of d^1 and d^9 transition metal ions in cubic and tetragonal ligand fields, evaluation of g values and metal hyperfine coupling constants.

Nuclear Magnetic resonance spectroscopy: Applications of ^{31}P & ^{19}F NMR spectroscopy in the structural assessment of inorganic compounds.

UNIT-3 Mass Spectroscopy

Principles of Electron-impact induced mass spectrometry and FAB; qualitative and semiquantitative theories including QET, concept of metastable ions and transitions, Stevensan's rules, basic difference in the fragmentation of σ - and π -bonded metal compounds. Applications to metal compounds containing carbonyl/alkyl/ η -cyclopentadienyl and acetylacetonate.

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Mössbauer Spectroscopy

Principle, Isomershift, Quadrupole effect, Effect of magnetic field, Application to iron and tin compounds.

Text Books:

1. R.M. Silverstein, G.C. Bassler and T.C. Morill - Spectrometric Identifications of Organic Compounds, John Wiley (1991).
2. D. Williams and I. Fleming - Spectroscopic Methods in Organic Chemistry, McGraw Hill (1989).
3. K. Nakamoto, Infrared and Raman Spectra of Inorganic and Coordination Compounds, 4th Ed., John Wiley 1986.
4. A.B.P. Lever, Inorganic Electronic Spectroscopy, Second Edn. Elsevier, 1984.
5. R.S. Drago, Physical Methods in Chemistry, Saunders College Publishers, 1977.
6. M.R. Litzow and T.R. Spelding, Mass Spectroscopy of Inorganic and Organometallic Compounds, Elsevier, 1973.
7. C.N. Banwell, Fundamentals of Molecular Spectroscopy, Tata McGraw Hill, New Delhi, 1975.
8. R.V. Parish, NMR, NQR, EPR and Mossbauer Spectroscopy in Inorganic Chemistry, Ellis Horwood, New York, 1990.

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CHEM-501

INORGANIC CHEMISTRY - III

UNIT-1 Organometallic Chemistry

Synthesis structure, bonding and reactivity of transition metal complexes with olefins, cyclopentadienyl, cyclopentadienide, benzenoid, π -allyl and enyl systems.

UNIT-2 Homogeneous Catalysis

Coordinative unsaturation, Oxidative addition reactions, insertion reactions, reactions of coordinated ligand and activation of small molecules by complexation, catalytic reactions of alkenes (isomerization, hydrogenation, hydroformylation, hydrosilylation and polymerization).

UNIT-3 Applications of Group Theory - I

Brief review of matrix representation of groups, reducible and irreducible representation, the Great Orthogonality Theorem and character tables.

Applications of group theory: Transformation properties of atomic orbitals, hybridization scheme for σ - and π -bonding; hybrid orbitals as LCAO.

UNIT-4 Applications of Group Theory - II

M.O. theory for AB_n - type molecules (e.g. BF_3), relationship of M.O. and the hybridization treatment, determination of symmetry types of the normal modes for AB_2 (C_{2v}) and AB_3 (C_{3v}) type of system, Selection rules for fundamental vibrational transitions (Infrared and Raman).

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UNIT-5 Nuclear and Radiochemistry

Brief review of different modes of radioactive decay (including cluster decay), interaction of radiation with matter : heavy ions, electrons, gamma rays and neutrons. Survey of radiation detection and measurements: solid state active and passive detectors and detection of neutrons. Highlights of nuclear reactions: energetics, Q-value, cross-sections, types of nuclear reactions, nuclear fission and fusion, nuclear reactions on stars.

Text Books

1. F.A. Cotton and G.Wilkinson, Advanced Inorganic Chemistry, Wiley Eastern, Third Edition, 1972.
2. F.A. Cotton and G.Wilkinson, Advanced Inorganic Chemistry, John-Wiley, Fifth Edition, 1988.
3. F.A. Cotton, Chemical Applications of Group Theory, Wiley Eastern, 2nd Edition, 1972.
4. G.Friedlander, J.W.Kennedy and J.M. Miller, Nuclear and Radiochemistry, Wiley International, Second Edition, 1964.
5. H.J. Arnikar, Essentials of Nuclear Chemistry, Wiley Eastern, 4th Edition, 1995.

Reference Books

1. A.Yamamoto, Organo Transition Metal Chemistry, Wiley , 1986.
2. R.H. Crabtree, The Organometallic Chemistry of Transition Metals, John Wiley, Second Edition, 1994.

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CHEM-521

ORGANIC CHEMISTRY - III

UNIT-1 3- and 4- Membered Heterocycles

(a) Synthesis and reactions of 3-membered heterocycles (aziridine, epoxide, thiirane - their reactions and rearrangements).

(b) Synthesis and reactions of 4-membered heterocycles (oxetane, azetidone, thietane with emphasis on β -lactam ring antibiotics).

UNIT-2 5- Membered Heterocycles

(a) Unified approach and specific methods of synthesis of 5-membered heterocycles (thiophene, furan and pyrroles), electrophilic reactivity and electrophilic substitution reactions.

(b) Synthesis and reactions of 5-membered heterocycles with two heteroatoms (imidazole, isoxazole, oxazole, thiazole, isothiazole and pyrazole).

UNIT-3 5- Membered Benzoheterocycles and Pyridines

(a) Synthesis and Reactions of Indoles (Some concept of synthesis of benzofuran and benzothiophene). Synthesis of Reserpene and lysergic acid diethylamide.

(b) Synthesis and Reactions of Pyridines - nucleophilic and electrophilic substitution, structure and synthesis of nicotine and pyridoxal.

UNIT-4 Quinoline and Isoquinoline

General synthetic approaches and reactions, electrophilic and nucleophilic substitution, structure

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of some representative quinoline and isoquinoline alkaloids (synthesis of morphine, thebaine, quinine and cinchonine).

Diazines: Synthesis and general reactivity of pyridazine, pyrimidine, pyrazine and s-triazine.

UNIT-5

(a) Structures of purine and pyrimidine bases, nucleosides and nucleotides and their nomenclature. Structures of RNA and DNA; replication of DNA and mutagenesis. Structures and functions of NADH, NADP and ATP.

(b) Proteins and amino acids

Structure of essential amino acids and their physical and chemical properties. Method of synthesis (including Merrifield synthesis) of peptides and polypeptides, naming of polypeptide chains, amino acid sequence determination (N-terminal and C-terminal), structure of proteins (helical and pleated structures), denaturation of proteins, biosynthesis of proteins: codon, anticodon, t-RNA structure and genetic code, transcription.

5:2:1(41)

Text Books:

1. L.A. Paquette - Modern Heterocyclic Chemistry, W.A. Benjamin, Inc. (1968).
2. Van Der Plas - Ring Transformation of Heterocyclics, Vols. I and II, Academic Press (1976).
3. A.R. Katritzky and C.W. Rees - Comprehensive Heterocyclic Chemistry, Vols. 1-7, Pergamon Press (1984).
4. I.L. Finar - Organic Chemistry, Vol.II, ELBS (1986).
5. E.E. Cohn and P.K. Stumpf - Outlines of Biochemistry, Wiley Eastern (1987).
6. H.R. Mahler and E.H. Cordes - Biological Chemistry, Harper International (1989).
7. T.L. Gilchrist - Heterocyclic Chemistry, Longman (1989).

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CHEM-541

PHYSICAL CHEMISTRY - III

UNIT-1 Statistical Thermodynamics : Part-1

(a) Ensembles- Postulates of ensemble averaging; canonical ensemble; grand canonical ensemble; micro canonical ensemble and their thermodynamics.

(b) Partition Functions - General relations for independent, distinguishable and indistinguishable molecules (Boltzmann statistics); derivation and evaluation of translational partition function using particle in-a-box model for ideal gases; derivation and evaluation of rotational partition function using rigid-rotator model for ideal diatomic molecules; rotational partition function for linear and non-linear molecules (derivation not required).

UNIT-2 Statistical Thermodynamics : Part-2

(a) Derivation and evaluation of vibrational partition function for ideal diatomic gases using harmonic oscillator model; electronic partition function.

(b) Chemical equilibria in ideal gases- Reference state of zero energy for calculation of partition function of a system; expression for equilibrium constant in terms of partition functions; applications to some chemical equilibria.

(c) Some illustrations: Equation of state for ideal gases; heat capacity behaviour of crystals (Einstein's

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model); ideal lattice gas (Langmuir adsorption isotherm); theory of absolute reaction rates.

UNIT-3 Statistical Thermodynamics : Part-3

(a) Fermi -Dirac statistics; ideal Fermi-Dirac gas (electrons in metals).

(b) Bose-Einstein statistics; ideal Bose-Einstein gas (helium).

(c) Statistical mechanics of imperfect gases; derivation of the virial equation of state for a one-component gas; significance of virial coefficients; evaluation of second virial coefficient.

UNIT-4 Macromolecules

Average molecular weights - number average and weight average molecular weights; determination of molecular weights (viscosity, osmotic pressure, light scattering and sedimentation methods); kinetics of polymerization; mechanism of polymerization; optical and geometrical isomerism.

UNIT-5 Magnetic Resonance

(a) System of one electron and one nucleus: Zeroth order Hamiltonian; isotropic hyperfine interaction and dipolar interaction between the electron and nucleus; effects of these interactions as perturbations in the total Hamiltonian for the system of one electron and one nucleus in the presence of an external magnetic field.

(b) Basic function for single spin system and product

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functions for two spin system; calculation of zero order energies; spin angular momentum operators and identification of pure e.s.r. transitions and n.m.r. transitions in the energy level diagram.

(c) Treatment of isotropic (aI.S) hyperfine interaction; calculation of first-order and second-order energies and the relevant energy level diagrams; identification of 'allowed' and 'forbidden' transitions.

(d) Dipolar coupling tensor for the interaction of two nuclear spins; expression for the Hamiltonian in polar coordinates and with raising and lowering spin operators; calculation of coupling constant in dipolar coupled n.m.r. spectra and application to structural studies; first moment and second moment of NMR lines and application to structural studies.

(e) Mechanism of hyperfine coupling; McConnell's relation; hyperfine coupling to ^{13}C and ^{14}N nuclei; g-tensor and hyperfine tensor of inorganic radicals; ESR spectra of transition metal ions.

Text Books:

1. T.L. Hill - An Introduction to Statistical Thermodynamics, Dover Publications Inc., New York (1986).
2. L.K. Nash - Elements of Classical and Statistical Thermodynamics, Addison-Wesley (1970).
3. V.R. Gowarikar, N.V. Vishwanath and J. Sreedhar - Polymer Science, Wiley Eastern (1988).
4. A. Carrington and A.D. McLachlan - Introduction to Magnetic Resonance, Harper & Row (1967).
5. M.C. Gupta - Statistical Thermodynamics, Wiley Eastern (1990).

5:2:1(45)

CHEM-443

LABORATORY COURSE IN PHYSICAL CHEMISTRY

1. Calibration of volumetric apparatus
2. Determination of equilibrium constant of the reaction,
$$\text{KI} + \text{I}_2 \rightleftharpoons \text{KI}_3$$
3. Determination of energy of activation for hydrolysis of an ester, using an acid catalyst.
4. Study of the reaction between acetone and iodine in the presence of an acid.
5. Determination of the partial molal volume of a solute in solution.
6. Determination of molecular weight of a non-electrolyte/electrolyte, by cryoscopy.
7. Determination of dissociation constant of a weak electrolyte conductometrically, and verification of Ostwald's dilution law.
8. Determination of specific rotation of sucrose, and rate constant of its hydrolysis, using a polarimeter.
9. Solubility curve for a ternary system of liquids (water-acetic acid-chloroform).
10. To obtain the phase diagram for a two - component system forming a congruent compound (benzophenone-diphenylamine).
11. Determination of transport number of Cu^{2+} ions by Hittorf's method.
12. Determination of strengths of strong and weak acids, in a given mixture, using the pH meter.

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13. Determination of: (a) cell constant (b) strengths of strong and weak acids, in a given mixture, conductometrically.
14. Determination of the order of saponification for the reaction of ethyl acetate with sodium hydroxide, conductometrically.
15. Determination of the equivalent conductivity of strong electrolytes at different dilutions (HCl , NaCl , CH_3COONa), and hence to determine the equivalent conductivity of a weak electrolyte (CH_3COOH) at infinite dilution.
16. Determination of solubility and solubility product of sparingly soluble salts (PbSO_4 and BaSO_4), conductometrically.
17. Determination of strengths of halides in a mixture, potentiometrically.
18. Determination of the valency of mercurous ions, potentiometrically.
19. Determination of the hydrolysis constant of ammonium chloride, and the dissociation constant of ammonium hydroxide, potentiometrically.
20. Determination of the dipole moment of a polar molecule using the dipole meter.
21. Determination of phase transition temperature through differential thermal analysis.
22. Determination of glass transition temperature of a given salt, conductometrically.
23. Determination of the pK_a of an indicator, spectrophotometrically.

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24. Determination of the pK_a of an indicator in micelle medium, spectrophotometrically.
25. Determination of the rate constant for the oxidation of iodide ions by hydrogen peroxide, studying the kinetics as an iodine-clock reaction.
26. Determination of the composition and the stability constant of a complex, spectrophotometrically.

Text Books:

1. J.C. Ghosh - Experiments in Physical Chemistry, Bharati Bhavan (1974).
2. J.N. Gurtu and R. Kapoor - Advanced Experimental Chemistry (Physical), S. Chand & Co (1980).
3. W.J. Popiel - Laboratory Manual in Physical Chemistry, ELBS (1970).
4. A. Findlay - Practical Physical Chemistry (Revised by B.P. Levitt), Longman (1978).

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CHEM-502

ANALYTICAL CHEMISTRY AND COMPUTERS

PART - A : ANALYTICAL CHEMISTRY

- UNIT-1 Brief review of statistical treatment of experimental data (error, precision, accuracy, significant figures, mean and standard deviation, methods of least squares).
Experimental Techniques of Purification and Separation:
Ion exchange, Partition and Adsorption Chromatography, Gas Chromatography and High Performance liquid Chromatography (HPLC)
Magnetic Susceptibility Measurements: Gouy method, Faraday method and Vibrating Sample Magnetometer.
- UNIT-2 Electrochemical and Thermal Methods of Analysis
Electrochemical: Polarography, Voltammetry, Cyclic voltammetry, Anodic stripping voltammetry, Coulometry and Amperometry and their applications; and ion-selective electrodes.
Thermal: Thermogravimetric Analysis (TGA), Differential Thermal Analysis (DTA), and Differential Scanning Calorimetry (DSC).
- UNIT-3 Nuclear Methods
Neutron Activation Analysis (NAA) and X-ray Fluorescence spectroscopy (XRF & PIXE): Principles, instrumentation and applications; Radioactive Dating Techniques including carbon-14 and fission track dating.
Atomic Absorption Spectroscopy: Principles, instrumentation, methodology and applications.

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PART - B : COMPUTERS

UNIT-1 (a) General Introduction to Computers

Introduction of basic components and functions of computers; peripheral devices; computer organisation:

(i) Hardwares - Arithmetic Logic Unit (ALU), Central Processing Unit (CPU), Memory Units, I/O Units, Buses;

(b) Softwares - Machine Language, Assembly Language, Assemblers and Compilers, High Level Languages, Operating System Software: DOS.

(b) Programming on Personal Computers

Algorithm design and flow charts; Introduction to BASIC and FORTRAN Languages. Use of LOTUS-1, 2 and 3.

UNIT-2 Development of Application Programmes for Chemical Problems

Regression analysis involving linear and polynomial functions; method of least squares; curve fitting; numerical integration; solving simple chemical problems:

(a) Huckel Molecular Orbital calculations; (b) use of MOPAC package for simple molecules.

(including demonstration and practicals).

5:2:1(51)

PART - B

1. V. Rajaraman, Computer Programming in FORTRAN-77, Prentice Hall of India (1988).
2. S.C. Chapra and R.P. Canale, Numerical Methods for Engineers, McGraw Hill (1985).
3. J.S. Mattson, H.B. Mark, H.C. MacDonald, Computer Fundamentals for Chemists, Vol. 1, Marcel Dekker (1973).
4. H.H. Willard, L.L. Merritt, Jr., J.A. Dean and F.A. Settle, Jr., Instrumental Methods of Analysis, Wadsworth Publ. Co. (1981).
5. J.A. Holt, Cases and Applications in LOTUS 1-2-3 with HAL, Calgotia Publ. Pvt. Ltd. (1989).
6. S. Lipschutz and A. Poe, Theory and Problems of Programming with FORTRAN, Schaum's Outline Series, McGraw Hill (1982).
7. Programming with BASIC, Schaum's Outline Series, McGraw Hill (1989).
8. P.R. Bevington, Data Reduction and Error Analysis for the Physical Sciences, McGraw Hill Book Co. (1989).

5:2:11(52)

CHEM - 503

INORGANIC CHEMISTRY - IV

UNIT-1 Transition metal to carbon σ - and π -bonds

Complexes with metal - carbon σ - bonds: synthesis, reactivity and structural aspects of σ -alkyl and aryl compounds (per or hemolectic alkyls, mixed alkyls alkylate anions, chelate alkyls, compounds with CR_2 and CR bridges); decomposition of compounds with metal-carbon π - bonds: intramolecular reductive eliminations and α -hydrogen transfer; Complexes with metal - carbon multiple bonds: alkylidene and alkylidyne complexes; low-valent metal carbene complexes.

Complexes with metal-carbon π -bonds: Complexes containing three and four membered rings, metal compounds of heterocycles, multidecker sandwich compounds.

UNIT-2 Photochemistry of metal complexes

Excited states and excited state processes: Ligand field states, charge-transfer states; Thexi and DOSENCO states; Photophysical processes (radiative and nonradiative transitions).

Photochemical reactions: L-F excited states and Cr(III) complexes; LMCT states and MLCT states. Survey of photoreactions of complexes of d-transition elements. Applications of photochemical reactions of coordination compounds: synthesis and catalysis; chemical actinometry; photochromism.

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UNIT-3 Radiochemical Methods of Analysis

Tracers in Chemical Analysis: The tracer technique, isotopic exchange and other tracer reactions, analytical applications, Hot atom chemistry.

Methods of Radiochemical separation: Carriers, precipitation, Ion-exchange, Solvent extraction, Electrochemical method, Isotope dilution technique and its applications.

UNIT-4 Bioinorganic Chemistry

Copper: Ceruloplasmin, cytochrome c oxidase and Superoxide dismutase;

Cobalt: Vitamin B₁₂, B₁₂ coenzymes and cobalamines;

Zinc: Carbonic anhydrase, carboxy peptidase and metallothioneins, interchangeability of Zinc and Cobalt in enzymes;

Magnesium: complexes with ATP and ADP; Active transport of ions across membrane: Sodium pump; Biological defence mechanism.

UNIT-5 Metal-metal Multiple Bonds and Inorganic Materials

Metal-metal multiple bonds: Major structural types, quadrupole bonds, relation of clusters to multiple bonds, one dimensional solids.

Inorganic materials: synthetic procedures, properties and applications of some selected Inorganic materials.

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Text Books

1. F.A. Cotton and G. Wilkinson, Advanced Inorganic Chemistry, John-Wiley, 5th Edition, 1988.
2. A. Yamamoto, Organo Transition Metal Chemistry, Wiley 1986.
3. C. Kutal and A.W. Adamson in "Comprehensive Coordination Chemistry", Vol.1, Editor-in-Chief, G.Wilkinson, 1987, p. 385-411.
4. G. Friedlander, J.W. Kennedy and J.W. Miller, Nuclear and Radiochemistry, Wiley International, Second Edition, 1964.
5. H.J. Arnikar, Essentials of Nuclear Chemistry, Wiley Eastern, 4th Edition, 1995.
6. E.I. Ochiai, Bioinorganic Chemistry - An Introduction, Allyn & Bacon Inc., 1977.
7. M.N. Hughes, The Inorganic Chemistry of Biological Processes, Wiley, Second Edition, 1981.

Reference Books:

1. R.H. Crabtree, The Organometallic Chemistry of the Transition Metals, John-Wiley, Second Edition, 1994.
2. R.P. Hanzlik, Inorganic Aspects of Biological and Organic Chemistry. Academic Press, 1976.
3. A.N. Nesmeyanov, Radiochemistry, Mir Publishers, Moscow, 1974.
4. C.N.R. Rao, Chemical Approaches to the Synthesis of Inorganic Materials, Wiley Eastern, 1994.

5:21(55)

CHEM - 523

ORGANIC CHEMISTRY -IV

UNIT-1 Biogenesis of carbocyclic natural products based on coenzymes and their role in biochemical transformations with reference to coenzyme A, lipoic acid, pyridoxal phosphate, thiamine pyrophosphate, tetrahydrofolic acid, pyridine nucleotide, flavin coenzyme, heme coenzyme, biotin and vitamin B₁₂.

Introduction to methods of isolation of natural products and structural determination by chemical degradation and spectroscopic data.

UNIT-2 Studies on biosynthetic pathways of natural products using coenzymes and enzymes. Synthesis of selected natural products based on biogenetic classification: fatty acid derivatives and related compounds (including general biogenesis). Synthesis of cis-Jasmone, Methyl Jasmonate, prostoglandins, exaltone and muscone.

UNIT-3 General biogenetic studies of mono and sesquiterpenes and trans-chrysanthemic acid cyclopentano monoterpene lactones. Biosynthetic and synthetic studies of loganin and secologanin-synthesis of cis - Juvenile hormone, transannular cyclization of caryophyllene and synthesis of caryophyllene and isocaryophyllene. Rearrangement of santonic acid and bisabolene type of sesquiterpene. Rearrangement of longifolene and the synthesis of longifolene and isolongifolene.

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UNIT-4 Carbohydrates - definition and classification: Monosaccharides, D-Glucose, glucose anomers; hemiacetals, conformation of monosaccharides. Disaccharides: maltose, cellulose, lactose; polysaccharide: starch; structures of amylase, amylopectin, cellulose, maltose and lactose.

UNIT-5 Biosynthetic studies on diterpenes, and higher terpenes and steroids; nomenclature of steroids and synthesis of squalene, lanosterol and carotenoids; Synthesis of equilenins, estrogens and the total synthesis of non-aromatic steroids (Progestrogens), corticosteroids, degradation of diosgenin to progesterone and its synthesis; miscellaneous transformations in steroid molecules.

5:2:1(57)

Text Books:

1. K. Nakanishi, T. Goto, S. Ito, S. Natori and S. Zoske, Natural Product Chemistry, Vols. I and II, Academic Press (1974).
2. Ranganathan and S. Ranganathan, Art in Biosynthesis, Vol. 1, Academic Press, New York (1989).
3. E.E. Cohn and P.K. Stumpf, Outlines of Biochemistry, Wiley Eastern (1987).
4. J.D. Buloch, The Biosynthesis of Natural Products, McGraw Hill (1986)
5. H.R. Mahler and E.H. Cordes, Biological Chemistry, Harper International Edition (1989).
6. T.W. Goodwin, Aspects of Terpenoid Chemistry and Biochemistry, Academic Press (1982).
7. T.W. Goodwin, Chemistry and Biochemistry of Plant Pigments, Vol. I, Academic Press (1989).

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CHEM-543

PHYSICAL CHEMISTRY - IV

PART-A

UNIT-1 Spectroscopy

(a) Photoacoustic Spectroscopy (PAS): Principles of photoacoustic spectroscopy (instrumentation in brief); absorption of light; rate equation for a two level system; excitation of acoustic wave; photoacoustic signal (intensity); photoacoustic spectra of metals, semiconductors, insulators and catalysis; applications of PAS in the studies of natural products, medicines and biological systems.

(b) Lasers: Population inversion; qualitative description of ruby and He-Ne lasers; chemical lasers; characteristic laser radiation; applications of lasers in spectroscopy and holography.

UNIT-2 Solid State

(a) Physical Properties of Solids:

(i) Thermoelectric effects : Thomson, Peltier, Seebeck and Hall effects; dielectric materials; ferro-, pyro-, and piezo electricity and its applications.

(ii) Optical Properties; Absorption, photoconductivity and luminescence.

(b) Electrically conducting organic solids:

Organic metals; conjugated systems; electrically conducting polymers; organic charge-transfer complexes; organic superconductors.

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PART-B

UNIT-3 Liquid State

Cohesion in liquids and internal pressure; intermolecular forces and pair potential functions - hard-sphere and Lennard-Jones potential functions.

Partition function for liquids; classical partition function, cell theory of liquids considering hard-sphere potential function; concept of communal energy and communal entropy; Radial distribution function method for liquids: Clausius virial theory; equation of state in terms of radial distribution function.

UNIT-4 Chemical Dynamics

Dynamics of molecular motions; probing the transition state; dynamics of barrierless chemical reactions in solution; dynamics of unimolecular reactions (Lindemann-Hinshelwood and the Rice-Ramsperger-Kassel-Marcus (RRKM) theories of unimolecular reactions).

UNIT-5 Advanced Molecular Orbital Theories (only the main frame of the following theories to be discussed)

Extended Huckel method (EHMO) with H_2 as an example; Pariser-Parr-Pople approximation (PPP approximation); Ab initio SCF theory; semi-empirical SCF theory; π -Electron Calculations; All-valence-electron self consistent field methods; comments on above theories.

5:2:1(60)

Text Books:

1. A. Rossencwigh - Photoacoustics and Photoacoustic Spectroscopy, John Wiley (1980).
2. D.C.O'Shea, W.R. Callen and W.T. Rhodes - Introduction to Lasers and Their Applications, Addison - Wesley (1978).
3. N.B. Hannay - Solid State Chemistry, Prentice Hall of India (1976).
4. J.A. Pryde - Liquid State, Hutchinson & Co (1966).
5. N. Sathyamurthy (Ed.) - Reaction Dynamics : Recent Advances, Narosa Publishing House (1991).
6. H. Eyring, S.H. Lin and S.M. Lin - Chemical Kinetics, John Wiley (1992).
7. R. McWeeny - Coulson's Valence, ELBS (1979).

5:2:1(61)

DEPARTMENT OF CHEMISTRY

M.SC. CHEMISTRY

COURSE STRUCTURE

<u>Semester</u>	<u>Course Number</u>	<u>Course Name</u>	<u>Marks</u>
I	CHEM-401	Inorganic Chemistry-I	100
	CHEM-421	Organic Chemistry-I	100
	CHEM-441	Physical Chemistry-I	100
	CHEM-461	Quantum Chemistry	100
	CHEM-403	Laboratory Course in Inorganic Chemistry	100
II	CHEM-402	Inorganic Chemistry-II	100
	CHEM-422	Organic Chemistry-II	100
	CHEM-442	Physical Chemistry-II	100
	CHEM-462	Chemical Binding and Molecular Spectroscopy	100
	CHEM-423	Laboratory Course in Organic Chemistry	100
III	CHEM-500	Applications of Spectroscopic Methods	100
	CHEM-501	Inorganic Chemistry-III	100
	CHEM-521	Organic Chemistry-III	100
	CHEM-541	Physical Chemistry-III	100
	CHEM-443	Laboratory Course in Physical Chemistry	100
IV	CHEM-502	Analytical Chemistry and Computers	100
	<u>Electives*</u>		
	CHEM-503	Inorganic Chemistry-IV	100
	CHEM-523	Organic Chemistry-IV	100
	CHEM-543	Physical Chemistry-IV	100
	<u>Project Work*</u>		
	CHEM-504	Project Work (Inorganic)	100
	CHEM-524	Project Work (Organic)	100
	CHEM-544	Project Work (Physical)	100

*Students must choose any one of the Electives, and the Project Work in the corresponding branch of specialization.

5:2:11(62)

DEPARTMENT OF CHEMISTRY

M. SC. CHEMISTRY

COURSE STRUCTURE

<u>Semester</u>	<u>Course Number</u>	<u>Course Name</u>	<u>Marks</u>
I	CHEM-401	Inorganic Chemistry-I	100
	CHEM-421	Organic Chemistry-I	100
	CHEM-441	Physical Chemistry-I	100
	CHEM-461	Quantum Chemistry	80
	CHEM-403	Laboratory Course in Inorganic Chemistry	120
II	CHEM-402	Inorganic Chemistry-II	100
	CHEM-422	Organic Chemistry-II	100
	CHEM-442	Physical Chemistry-II	100
	CHEM-462	Chemical Binding and Molecular Spectroscopy	80
	CHEM-423	Laboratory Course in Organic Chemistry	120
III	CHEM-500	Applications of Spectroscopic Methods	80
	CHEM-501	Inorganic Chemistry-III	100
	CHEM-521	Organic Chemistry-III	100
	CHEM-541	Physical Chemistry-III	100
	CHEM-443	Laboratory Course in Physical Chemistry	120
IV	CHEM-502	Analytical Chemistry and Computers	80
	<u>Electives*</u>		
	CHEM-503	Inorganic Chemistry-IV	100
	CHEM-523	Organic Chemistry-IV	100
	CHEM-543	Physical Chemistry-IV	100
	<u>Project Work*</u>		
	CHEM-504	Project Work (Inorganic)	120
	CHEM-524	Project Work (Organic)	120
	CHEM-544	Project Work (Physical)	120

*Students must choose any one of the Electives, and the Project Work in the corresponding branch of specialization.

5:3: Research etc.

5:3:1(1)

(i) Inter-disciplinary research in the Centres.

As per Ordinance Clause 3 of OA-11, a Centre may have one or more of the following functions:

- (i) Inter-disciplinary research.
- (ii) Teaching of inter-disciplinary courses or teaching in any discipline not specifically assigned to any Department or which may be necessary as a common service facility to a number of Departments or teaching-cum-research in such disciplines.
- (iii) To provide guidance, facilities and opportunities for development of certain facilities of the student over a wide spectrum including creative arts.
- (iv) Field studies in relation to any facet of social and cultural life of the people including activities involving collection, preservation in the relevant areas and also providing facilities for training in relation thereto.
- (v) Basic studies in any aspect of education including pilot programmes and field studies associated therewith.
- (vi) Formulate and conduct programmes as a pilot basis to make the new advances in various fields of knowledge in a form which can be appreciated and assimilated by the people and become a living link between the University or any section thereof and the community.
- (vii) To provide any services by way of studies, lectures, training and such like for the advancement of social and economic conditions of the people living in the hill areas and instilling scientific temper in the community."

The Centre for Science Education has requested formulation of detailed guidelines for carrying out inter-disciplinary research leading to M.Phil/Ph.D degrees in various Centres. The School Board of Physical Sciences in its meeting held on 16.10.95 decided to endorse the matter to the Academic Council for consideration.

5:5:1(1)

ORDER OF THE GAUHATI HIGH COURT, AIZAWL BENCH UNDER
CIVIL RULE NO. 65/94/(AB) REGARDING THE CASE OF MS.
L.V.ZADINPUII FOR CONDONATION OF LATE SUBMISSION OF
HER MA(EDUCATION) DISSERTATION).

Miss L.V. Zodinpuii was admitted into M.A.Education Programme in Shillong Campus in May 1989. This was confirmed by the Head of the Deptt., Shillong vide his copy of letter No. F.No29/Edn/94-95/184 Dt. 11.10.94 as per the list of the admitted students for the session May 1989.

As per our records of the Tabulation Sheets Miss L.V. Zodinpuii appeared the Ist Semester Exam held in September 1989 only in 3 courses and 1 course viz. EC 4 the candidate cleared in October 1990 (in the Repeat Exam). She completed the 2nd Semester Exam in December 1989 and 3rd Semester held in July 1990. Then she had asked for transfer to continue her IVth Semester courses in Mizoram Campus and appeared the IVth Semester Exam held in December 1990; and cleared 2 courses keeping pending one course i.e. the Dissertation work. Clause 15 of DC 7 says "No candidate will be allowed to appear in any Course more than twice and no candidate shall be allowed to appear in any course beyond six Semesters of his/her first admission to the programme." L.V. Zodinpuii therefore should have submitted her Dissertation within December 1991, but after a lapse of 2 years only she had submitted her Dissertation i.e. on 19.8.93 to the Head of the Department of Education Mizoram Campus due to the unfortunate Road accident in March 1991.

NEHU has been conducting M.A.Course in Education in all the 3 Campuses of Shillong, Mizoram and Nagaland. Shillong Campus has been running smoothly and all candidates who took admission in Education till date submitted their dissertation in time and no request for condonation was received and granted. However, in a few cases for shortage of staff upto 1987-89 batch condonation for their submission had been granted to the students of Mizoram Campus. However, from 1989 onwards as per the decision of the A.C. no condonation has been ever granted as in the instant case of L.V.Zodinpuii.

The Head Department of Education, Mizoram Campus had forwarded the 2 copies of Dissertation submitted by L.V. Zodinpuii to the Dean School of Education vide his letter No. MC/Edn/13/9336 Dt 10/8/93 with a request for getting permission for extension of time to the Chairman BPGS in Education. Incidentally before the meetings of the BPGS and School Board, one candidate of Nagaland Campus, viz Huzo Meru of 1982-84 batch had submitted a representation

for condonation of late submission of his Dissertation with the Head Deptt's recommendation that Huzo Meru be allowed to opt for Courses in lieu of Dissertation to enable him to complete his M.A. Degree. The matter was referred to the Head Deptt of Education Shillong with a request to place the matter to the BPGS and then to the School Board of Education. The decision thereof may be seen at Annexure-I.

However, the matter was placed to the AC in its 46th Meeting which was held in May 14th 1993. The Council however did not accede to the request of Huzo Meru as it was beyond the provision of the Ordinance. (Annexure-II). He had again represented and the matter was placed to the School Board on 5th November 1993.

Then the Dean, School of Education Shillong Campus forwarded the 2 copies of Dissertation of L.V. Zodinpuii vide his letter NO.F.47/DE/92-93/173. Dt. 12-11-93 to the office quoting the decision of the BPGS as follows :-

Item 4:

2. Extension of time to complete M.A. Education Programme.

The following candidates had applied through their respective Heads of Deptts for extension of time to submit their Dissertations.

Mizoram Campus: 1. Lalzinmawia Chhangte
2. Lalbiakdiki
3. L.V. Zodinpuii

Naganald Campus: 1. Huzo Mero

The Board considered their requests in the light of the relevant Academic Ordinance of the University and resolved that extension of time in these cases is not permissible under provisions of the Ordinances. The decision shall be forwarded to the School Board for its decision (Annex-III).

In the meeting of the School Board in Education held on 5-11-93 the resolution was :-

- Item 9: Extension of time for submission of M.A. Education Dissertation/Completion of the Course.

The Board considered the cases of (1) Huzo Meru (2) L.V. Zodinpuii (3) Lalzirmawia Chhangte (4) Lalbiakdiki who had asked for extension of time for the submission of M.A. Degree Dissertation/Completion of the Course which was beyond six Semesters permitted by the NEHU Ordinances. The Board also considered the recommendations made by the BPGS in Education. The School Board resolved that it regrets the grant of extension of time, prayed for by the above mentioned candidates (Annexure-IV).

The decision of the School Board was conveyed to Miss Zodinuii vide the Dean's letter NO.F.47/DE/92-93/173 Dt 12.11.93 (Annexure V). On this, the Supervisor of the candidate Dr.R.S.Wangu made a fresh representation recommending the case of L.V.Zodinuii to the University vide his letter No.MC-EDN-13/93.Dt 19-11-93 enclosing alongwith the petition of Miss L.V.Zodinuii (Annexures VI & VII). As per Dr.Wangu's letter vide para (iii) it was stated that in the past also, for the reasons recorded in the files of the Examination Deptt at Shillong, the late submission of Dissertation by the students for Mizoram Campus has been condoned by the University and the results of the students have been declared. Hence the case of L.V.Zodinuii keeping in view her Medical ground be considered.

In response to this, a letter was sent to the Head Deptt. of Education Mizoram vide letter NO.EX/PG/Repeat/92-93 Dt.26-4-94.(Annexure VIII). In reply to our letter the Head Department Dr.K.P.Nath has asked Dr.R.S.Wangu for explanation of the queries made in our letter, since it was Dr.Wangu who had made a fresh representation, recommending the case of L.V.Zodinuii. Again on 28th May 1994, Dr.K.P. Nath sent a letter to Dr.R.S.Wangu for explanation of the erratic and irregular attendance in the Deptt, which had caused great inconvenience to students writing Dissertation under his supervision, so much that the students had faced failures to complete their Dissertation Work and that his careless comments on L.V.Zodinuii's case, it has encouraged L.V.Zodinuii to write to the V.C. intimating him of legal action if her Dissertation was not examined and result declared (Annexure-IX).

Dr.Wangu's explanation dt.31-5-94 (Annexure X) had forwarded, the names of the students whose results have been announced after late submission of the Dissertations. Dr.K.P. Nath's letter No.MC/Edn/13/94 dt. 11-6-94 (Annexure XI) referring to the letter of explanation of Dr.Wangu, that as per the list of names of the students whose results have been announced after late submission of Dissertations, the students were of M.Ed. Programme and their time for submission of dissertations was probably relaxed as they were of part time nature meant for teachers and educational administrators. Dr.Wangu as earlier Head of the Deptt continued to follow the practice of accepting dissertations practically any time grossly violating the University regulations.

In view of the encouragement for L.V.Zodinpuii to move her case again, to the V.C. and to the Governor of Mizoram, she has gone to the extent of threatening the University authority with legal action (Annex XII). In response to L.V. Zodinpuii's last petition, a letter dt.21.7.94 was sent to her regretting the inability by the School Board to accede her request since the delay was much beyond the stipulated period and of her remaining silence for a couple of years instead of moving the University for extension in time. (Annexure XIII).

On receipts of the letter Miss Zodinpuii filed a writ petition to the Gauhati High Court, Aizawl Bench which was heard on 22-1-96 and the judgement as below passed on 23-1-98.

Para 18: "For the reasons aforestated, the impugned order dated 21.7.94 (Annexure-I) is hereby quashed and set aside. Petitioner is directed to file a fresh representation before the respondent No.1 stating the entire backgrounds mentioned in this writ petition, particularly in paragraphs 6 and 7 of the petition within a period of two weeks from today. On representation being received, the respondent No.1 shall cause it to place before the Academic Council alongwith other documents including the recommendation dated 19.11.93 by Dr.R.S.Wangu, Supervisor (Annexure-II) of the writ petition, within a period of one month from the date of receipt of the representation and the decision shall be taken on the same day. It is made clear, that if the petitioner is aggrieved by any decision that may arrived at by the Academic Council, she is at liberty to approach this Court again."

In accordance with the order of the High Court Ms. Zodinpuii has appealed to the Vice-Chancellor with the request that the matter may be considered by the Academic Council (Annexure-XIV).

With the background given as above and in accordance with the order of the Gauhati High Court, Aizawl Bench, the matter is placed to the Academic Council for consideration and decision.

No. LX/PG/Repeat/92-93/1330

Dt. the 17th May, 1993.

To:

The Head,
Deptt. of Education,
Nehu, Shillong.

Subject:- Prayer for special Permission to complete M.A. Degree in respect of Shri Huzo Meru.

Sir,

On the subject mentioned above, I am directed to enclose a copy of letter received from Shri Huzo Meru of Education Deptt., Nagaland Campus which is self explanatory and to request you to kindly place the matter to the P.B.Gs, and then to the School Board of Education. The decision thereof is to be placed before the Academic Council.

Enclo:- a.a.

Yours faithfully,
Sd/-
Deputy Registrar, Exam.

Copy to:-

Pro Vice Chancellor, NEHU, Nagaland Campus, Kohima for favour of information.

Sd/-
Deputy Registrar, Exam.

ANNEXURE - II

EXTRACT OF THE MINUTES OF THE FORTY SIXTH OF THE ACADEMIC COUNCIL HELD ON 14TH MAY, 1993.

Item No. 8 ITEMS FROM THE CHAIR:

No. AC:46:93:8(iii): A request was placed before the Council to allow Shri Huzo Meru., of the Department of Education, Nagaland Campus, to condone the late submission of his Dissertation for M.A. Education beyond the period admissible. The Council however, did not accede to his request as it was beyond the provision of the ordinance.

.....

ANNEXURE - III

2. Extension of time to complete M.A. Education Programme.

The following candidates had applied through their respective Heads of Deptt. for extension time to submit their Dissertations.

Misoram Campus: 1. Lalzirmawia Chhangte.
2. Lalbiakdiki.
3. L.V. Zodinpii

Nagaland Campus: 1. Huzo Meru.

The Board considered their requests in the light of the relevant Academic Ordinance of the University and resolved the extension of time in these cases is not permissible under provisions of the Ordinance. The decision shall be forwarded to the School Board for its decision.

.....

5:5:1(6)

ANNEXURE IV.

Item 9:- Extension of time for submission of M.A Education Dissertation/Completion of the Course.

The Board considered the cases of (1) Huzo Meru (2) L.V Zodinpuui, (3) Lalzirmawia Chhange, (4) Lalbiakr'iki who had asked for extension of time for the submission of M.A.Degree Dissertation/Completion of the course which was beyond six semesters permitted by the NEHU Ordinances.

The Board also considered the recommendations made by the Board of Post Graduate Studies in Education. The School Board resolved that it regrets the grant of extension of time prayed for by the above mentioned candidates.

ANNEXURE V

Prof(Mrs)M.S.Padma
Dean,
School of Education

No.F.47/DE/92-93/173
12th November,1993

To,

The Deputy Registrar(Exam)
NEHU,Shillong.

Sir,

I am herewith enclosing for your needful action the two copies of M.A. dissertation submitted by Ms.L.V.Zodinpuui (Roll No.A-004) of 1989-90 batch which was sent to the Dean by the Head,Department of Education,NEHU,Mizoram Campus,Aizawl subject to the candidates getting extension of time,the request for which was submitted (vide his letter No.MC/Edn/13/9336 dt.10.8.93) to the Chairman,Board of Post Graduate Studies in Education.In this regard,the resolution of the School Board of Education in continuation to that taken by the Board of Post-Graduate Studies in Education is as follows :-

The Board considered the cases of (1) Huzu Meru, (2)L.V.Zodinpuui, (3) Lalzirmawia Chhange (4) Lalbiakdiki who had asked for extension of time for the submission of M.A. Degree Dissertation/Completion of the course which was beyond six semesters permitted by the NEHU Ordinances. The Board also considered the recommendations made by the Board of Post Graduate Studies in Education. The School Board resolved that it regrets the grant of extension of time prayed for by the above mentioned candidates.

Since extension of time is not granted in this case, necessary action may be taken at your end,

Yours faithfully,
Sd/-

Enclo: a.a.

Copy to:- The Head,Department of Education,NEHU,Mizoram Campus,Aizawl.
(M.S. Padma)

ANNEXURE VI

5:5:1(7)

Dr.R.S.Wangu
Reader
Department of Education

NC,MC/Edn-13/93
Dated 19th Nov., 1993

To

Dr.A. Patton,
Controller of Examinations
North-Eastern Hill University
Shillong.

Ref:- No.F.47/DE/92-93/173 Dated 12th Nov., 1993 from
Dean Faculty of Education, NEHU, Shillong.

Sir,

With reference to the letter cited above regarding the dissertation submitted by Ms.L.V.Zodinpuui (Roll No.A-004) of the Department of Education, NEHU, Mizoram Campus, Aizawl (1989-90 Batch), I have to state the following

i) Ms.L.V.Zodinpuui had been regularly working for her dissertation till she met the unfortunate road accident in Madras in March 1991 and was advised complete bed rest. Though she had recovered and had started working again, she had another spell of complete bed rest on advice of specialists from Medical College Guwahati. This had adversely effected the progress of her work. The Medical Certificate in support of these facts have already been attached with her request for extension of time. In spite of all these problems she has done her level best and completed her work.

ii) She is a very hard working student and has obtained more than 60% marks in the other theory papers.

iii) In the past also, for the reasons recorded in the files of the examination department at Shillong, the late submission of dissertation by the students from Mizoram Campus, has been condoned by the University and the result of the students has been declared. The case of Ms. L.V.Zodinpuui is more genuine, keeping in view her Medical grounds and therefore I request for a favourable consideration of her case.

Yours faithfully,

Sd/-

(R. S. WANGU)
Research Supervisor

Enclosure

Application copy
of Ms.L.V.Zodinpuui

Copy of the above for kind consideration of

1. Shri N.R.Chakraborty, Deputy Registrar (Exam), NEHU, Shillong, with reference to their letter No.F.47/DE/92-93/173 dated 12 Nov., 1993.
2. Prof.(Ms) M.S.Padma, Dean, Faculty of Education, NEHU, Mawkyroh-Umshing, Mawlai, Shillong-793008. (Meghalaya).
3. Prof.P.P. Gokulanathan, Chairman, BPGS in Education, NEHU, Mawkyroh-Umshing, Mawlai, Shillong.
4. Head, Department of Education, NEHU, Mizoram Campus, Aizawl.

(R. S. Wangu)
Research Supervisor.

Miss L.V.ZODINPUII
Roll No.A-004,
Deptt of Education,
Chandmari,Aizawl,
Mizoram.

To,

The Controller of Examinations,
N.E.H.U. Shillong

(Through the Faculty Supervisor)

Sub:- Submission of Case report for mercy.

Ref:- No.47/OE/92-93/173 dt.12th Nov.1993 from Dean
Faculty of Education,NEHU Shillong.

Sir,

I humbly beg to submit that I have studied M.A.Education in the academic session of 1989-1990 and completed all the internal and external examinations with 60% marks, Leaving Dissertation work to be submitted within the stipulated period. While I was referred for medical check-up to C.M.C. Hospital Vellore Madras, in February 1991, unfortunately I met with Road accident on 5th March,1991 at Madras, sustaining serious injury of Pelvic bone fracture and Lumber disc propapse and hospitalised for many days. I was unable to move myself and kept in bed for many months.Copy of case report attached as appx.'A'

After 8 months,I was sent down to Institute of Neurological sciences Guwahati for further check-up,due to no-progress noticed in my health, clinical diagnosis found lumber disc prolapse on 12.11.91 which caused non-progressive of my health. Copies of case report attached as Appx'B'. Finally, I was operated on 20.11.91 as Excision of Lipone. Copy of case report attached as Appx C-I, C-II,C-III. However, complete bed rest as advised by the Doctor continued.

Gradually, with the help of God my health improved and I approached the Head of Deptt.Education NEHU Mizoram campus and requested him to allow me to continue my dissertation work to complete if after a long gap. He was kind enough to let me continue my Dissertation work verbally. He had asked me to submit an application to the Head of Deptt,Education,NEHU Mizoram Campus,copy attached as appx 'D'.After completion of Dissertation on "A study of Teenage female Dropouts between 13 to 19 Age Group from High Schools in Aizawl" the same was submitted to the Head of Deptt NEHU Mizoram Campus on 8th October 1993.

Under the reference letter,an intimation of regrets to extension of time for submission of Dissertation along with other students was received by me against much hope and desire on 19th November,1993 at Aizawl.

Sir, on medical and humanitarian grounds I may please be granted a special mercy to accept my Dissertation which is already submitted to the Examination section NEHU Shillong and award me a Master Degree in Education.

I shall ever remain grateful to you.

Date:-19th Nov.,1993 Thanking you,

Yours faithfully,
(L.V. Zodinpuui)

April 26, 1994

The Head
Department of Education
Mizoram Campus
Aizawl.

Sub:- Petition for waiving of time limit for submission of M.A.(Education) dissertation in respect of Miss L.V. Zodinpuii (Roll No A - 004) forwarding of.

Ref:- Your letter No.MC/Edn-13/93 dt. 19-11-93.

Sir,

With reference to the above, I would like to draw your kind attention to the Dean, School of Education letter No.F.47/DE/92-93/173 dt. 12-11-93 whereby the decision of the BPGS/SB regarding Ms.L.V.Zodinpuii was communicated to you.

Here, it may be pointed out that the BPGS, S.B. & A.C. are the authorities to consider and to recommend for such cases. However, inspite of the BPGS/SB decisions communicated to you vide the above cited letter you have again requested the examination department to accept the dissertation for evaluation without referring to the permissibilities under the provisions of the ordinance. Further you have mentioned that in the past similar cases of M.A. Education dissertation of Mizoram Campus had been condoned. Perhaps this is not true and this has created an impression that the University is at a fault and redressal is possible by going to the Court.

Further, you are aware that the candidate belonged to 1988-90 batch and she could submit the dissertation within six semesters i.e. not after 1991. Without information about the Rules, you permitted her sometime in the middle of 1992 to write the dissertation which is beyond the power of the Head of the Department.

Therefore, I am to request you kindly to clarify the following:-

- (i) The Rules under which you have permitted the candidate to complete the dissertation and forwarded to the Examination Branch,
- (ii) Names of the candidates of M.A. Education of Mizoram Campus for whom condonation of late submission was permitted.

This may kindly be treated as most urgent.

Yours faithfully,

Sd/-

(A. Patton)
Controller of Examinations.

Department of Education.
Dr.K.P.Nath,
Head of the Department

No.MC/Edn-13/94
Dt. 28 May, 1994.

To

Dr.R.S.Wangu,
Reader,
Department of Education,
North-Eastern Hill University,
Mizoram Campus, Aizawl.

Sub:- Explanation

Dear Sir,

You left the Department yesterday, the 27th May, 1994 before 11.30 a.m. never to return for the whole day keeping students waiting for you. Also, there has never been a day on which you remained in the Department beyond 1 p.m., though the University Ordinance stipulates every teacher to be in the Department for at least four hours a day. Your erratic and irregular attendance in the Department has caused great inconvenience to students writing dissertation under your supervision so much so that at least four students now face debarment from receiving M.A. Degree for their failure to complete dissertation work under your supervision in time. Two students Lalzirmawia and Lalbiakdiki, whose dissertations have not been accepted in the Department for non-completion within the time limit, are now approaching me frequently urging me to accept their dissertation as, what they say, you allowed them to submit dissertation just any time. Another student, Elizabeth Ringdinliani, whose dissertation has been supervised and forwarded to the Examination Branch by you much beyond usual time limit, shall not receive her M.A. Degree from the University for faults lying as much on her as on you. Yet you have given her false hope that her result will be published soon.

Your careless comment in your letter No.MC/Edn-13/93 dt.19.11.93 addressed to the Controller of Examinations has encouraged Miss L.V.Zodinpuii to write to the Vice-Chancellor intimidating him of legal action if her dissertation is not examined and result declared. You cannot evade your responsibility for annoyance caused thereby to the University authority (vide letter No.Ex/PG/Repeat/92-93/1431 dt.26.4.94 from the Controller of Examinations a copy of which has been forwarded to you).

You are, therefore, requested to defend your stand for your (a) irregular attendance in the Department and (b) loose comment under para (iii) of your letter No.MC/Edn-13/93 dt.19.11.93 addressed to the Controller of Examinations.

Yours faithfully,

Sd/-
(K. P. Nath)
Head of Department ...2/-

Copy forwarded for information and necessary action to:

1. The Pro Vice-Chancellor, NEHU, Mizoram Campus, Aizawl,
2. The Controller of Examinations, North Eastern Hill University, Shillong - 793 022.
3. The Dean, School of Education, Department of Education, North-Eastern Hill University, Shillong-793 022.

4. The Chairman, BPCS, Department of Education, North-Eastern Hill University, Shillong-793 022.

Sd/-

(K. P. Nath)
Head, Department of Education
NEHU, Mizoram Campus.

DEPARTMENT OF EDUCATION
NEHU MIZORAM CAMPUS AIZAWLDr. R. S. Wangu
Reader
Deptt. of EducationNo. MC/Edn-13/94
Dt. 31.5.94

To

Dr. A. Patton
Controller of Examinations
North Eastern Hill University
Permanent Campus
Shillong - 793 022Ref:- MC/Edn-13/94, dated 26.5.94 from Head, Deptt.
of Education, NEHU, Mizoram Campus, Aizawl.

Dear Sir,

With reference to the letter cited above whereby I have been asked to explain the queries made by your goodself in your letter No. Ex/PG/Repeat/92-93/1431 dated April 26, 1994, I have to state the following

1. I am the supervisor of the dissertation of Ms. L. V. Zodin-puii and I knew that her case was more genuine than the other cases considered by the B.P.C.S. and the School Board and she deserved attention on Medical and humanitarian grounds. Therefore the petition sent vide No. MC/Edn-13/93, dated 19.11.93 was submitted with a request to reconsider her case on these grounds.

2. There have been instances in the department in the past where the dissertations submitted by students even after more than five years from the date of admission were processed by the examination department at Shillong and the result of the students was declared. A list of dissertation with the date of their submission is enclosed for your ready reference.

3. The dissertations of M. Ed (two years) which has already been resolved to be equivalent to M. A. (Education) were also forwarded beyond six semesters time and these were accepted for evaluation.

4. On my taking over as Head of the Department in September 1988, on personal enquiry from the dealing officer of the examination department at Shillong, I was told that the late submission of dissertations from Mizoram Campus was being allowed as a special case due to the shortage of faculty members of the department and due to other reasons recorded in the files of the examination department. The strength of the faculty in the department has rather become more tight since then, after the exit of Dr. M. A. Sudhir. The number of courses which was only six in M. Ed has increased up to sixteen since the 1985 session. Help was taken by the department from Guest Teachers to share the teaching load but supervision of dissertations could not be given to them.

5. There was thus a precedent of late acceptance of dissertations submitted by the students of this campus who were working under difficult conditions with lack of sufficient facilities. The dissertations were thus forwarded from time to time to the examination department and there has been no communication about the ineligibility of these students. The results of all of them has been declared by the University condoning the delay.

6. The dissertations submitted by the students have thus been forwarded by all the Heads of the department including the present Head, Dr.K.P.Nath. He had forwarded the dissertation of Mr. C. Lalbiakchhunga much after the permitted time. Dr. Nath has himself continued supervising dissertations beyond the time limit and has even taken pains to deliver the late submitted dissertations of his students personally at Shillong. It was only when none of his old students were ready to submit their dissertations that he started writing about late submission.

Hope the enclosed list will help you in clarifying the points made by me in para (iii) of my letter MC/Edn-13/93, dated 19.11.93.

Enclo: a.a.

Yours faithfully,

Sd/-

Copy of the above forwarded to:-

(R. S. Wangu)

1. P.S. to PVC for kind information of the Pro Vice-Chancellor, NEHU, Mizoram Campus, Aizawl.
2. Dean, Faculty of Education, North Eastern Hill University, Permanent Campus, Shillong - 793 022 for her kind information and necessary action.
3. Head, Deptt., of Education, NEHU, Mizoram Campus, Aizawl, with reference to his letter.

(R. S. Wangu)

ANNEXURE-XI

5:5:1(14)

Dr.K.P.Nath,
Head,Department of Education

NC.MC/Edn/13/94
Dt.11 June 1994.

To,

The Controller of Examinations,
North Eastern Hill University,
Shillong - 793 022.

Sub:- Delayed submission of M.A.(Education)Dissertation
from Mizoram Campus.

Ref:- , Your No.Ex/PG/Repeat/92-93/1431 Dt.April 26,1994.

Sir,

This has reference to the letter No.MC/Edn-13/94
dt.31.5.94 addressed to you by Dr.R.S.Wangu,the Reader and
Supervisor of the M.A.Dissertation of Miss L.V.Zodinpuii.
In the long and incomplete list attached to his letter Dr.
Wangu cited instances of delayed submission of dissertations
of M.Ed students. M.Ed programmes were held in the morning for
2/4 hours from 6.30 to 8.45 a.m. and were of part-time nature
meant for teachers and educational administrators and hence
their time for submission of dissertations was probably relaxed.

But when regular two-year M.A. programme in Education
was started during day time,Dr.Wangu as erstwhile Head of Depart-
ment continued to follow the practice of accepting dissertations
practically any time grossly violating the University regulations.
None of his students submitted dissertations within the stipula-
ted six semesters. He sent dissertations to the Examination
Branch by suppressing the students' academic year and thus got
their results declared.

Now I am frequently facing embarrassing inquiries
from students whose dissertations were not accepted in the
Department or rejected in the Examination Branch as to why
their dissertations should not be accepted when delayed sub-
mission was allowed by Dr.Wangu as earlier Head of Department
A student now has gone to the extent of threatening the Univer-
sity authority with legal action all due to the encouragement
she is receiving from Dr.Wangu, her supervisor.

This is for your kind information and necessary
action.

Yours faithfully,

Sd/-

(K. P. Nath)

Head of the Department.

Copy for information and
necessary action forwarded to:

1. The Dean, School of Education, Department of Education,
North Eastern Hill University, Shillong - 793 022.
2. The Chairman, BPGS, Department of Education, North Eastern Hill
University, Shillong - 793 022.
3. The Pro-Vice Chancellor, NEHU, Mizoram Campus, Aizawl.

(K. Sd/- Nath)
Head Department of Education.

L.V.Zodinpuii
Roll No.A-004
Deptt of Education
Mizoram Campus.

To,
The Vice-Chancellor
North Eastern Hill University,
SHILLONG.
Reminder : Awarding of Degree M.A. (Edn)

Sir,
I have the honour to state that I have submitted several petitions for awarding me of Degree in M.A. (Edn) on medical and humanitarian grounds. (Medical documents and certificates have been enclosed), in the previous petitions.

The last appeal was submitted to you on 32st Marchm'94, a copy was endorsed to all concerned. The two dissertations book are lying unchecked in the Exam Section since October 1993. The reasons of delay in submission of the dissertation had been given clearly, by the Supervisor in his reports who also keeps the record of the past as practised in the Campus.

Sir, I feel that I should personally seek information from you before I take the help of legal expert. May I therefore request you to kindly appraise me on the above subject.

Thanking you,

Yours faithfully,

Sd/-

(L. V. ZODINPUII)

Copy to :-

1. The Controller of Examinations, NEHU, Shillong for similar favourable action please.
2. Chairman, BPGS, Deptt. of Education, NEHU, Shillong.
3. Pro Vice-Chancellor, NEHU, Mizoram Campus, Aizawl.
4. Head of Department, Education, NEHU, Mizoram Campus, Aizawl.
5. Shri Dilip Kumar Das, Advocate, Gauhati High Court, Mizoram Bench - with reference to our discussion and early information please.

Sd/-

(L. V. ZODINPUII)

5:51(16)

NO.EX/PG/Repeat/92-93/674

Dt. 21.7.94.

To,

Miss L.V.Zodinpui
Deptt.of Education, NEHU
Mizoram Campus, Aizawl.

Sub:- Permission for waiving of time limit for late submission of Dissertation.

Your:- Letter dated 31st March, 1994.

The University had placed your case to the School Board. The Board however expressed its inability to accede to your request for extension since your delay was much beyond the stipulated date and you had remained silent for a couple of years instead of moving the University for extension in time.

Yours faithfully,

Sd/-

(Dr. A. Patton)
Controller of Examinations.

To

The Vice-Chancellor
North Eastern Hill University
Shillong.

(Through Pro-Vice-Chancellor, NEHU, Mizoram Campus)

Sub:- Representation.

Ref:- Judgement and Order dt.23.1.96 passed by
Hon'ble Mr. Justice H.K. Sema in Civil
Rule No. 65/94.

Sir,

With reference to the above, I have the honour to submit this Representation in accordance with the direction given by the Hon'ble Gauhati High Court in its Judgement and Order mentioned above, and state the following :

1. That the facts and circumstances leading to late submission of my Dissertation on the Topic of " A Study of the Teenage Mizo Female Dropouts Between 13 to 19 Age Group From High Schools in Aizawl" have been clearly explained in my Writ Petition submitted to the Hon'ble Gauhati High Court which was registered as Civil Rule No.65/94 (B). For the sake of brevity, I am herein enclosing a copy of the said Petition alongwith all the Annexures and also a copy of an affidavit of Reply to the Affidavit-in-Opposition for ready reference.
2. That the reason for not submitting my said Dissertation within the stipulated period has been clearly given at paras 6 and 7 of my said Writ Petition which runs thus :
"6 That while the Petitioner was starting to work on her said Dissertation, she was referred to C.M.C. Hospital, Vellore, Madras in the month of February, 1991. Unfortunately, while coming back from Vellore, she met with a road accident on 5.3.91 near Madras, sustaining serious injury of Pelvic bone fracture and Lumber disc prolapse. And after taking medical treatment in the Sri Balaji Hospital Madras, the Petitioner was discharged on 15.3.91 with

the advice for complete bed rest. A copy of the Discharge Certificate from the 'Sri Balaji Hospital' dated 15.3.91 is annexed hereto and marked as Annexure-IV.

2. That as the Petitioner could not recover from the bodily injury sustained as a result of the said accident even after many months, and as the actual internal ailment could not be detected at Aizawl Civil Hospital, the Petitioner was advised to have necessary medical check up and treatment from the Institute of Neurological Sciences, Dispur, Assam. And after having undergone the said medical check up it was diagnosed that the Petitioner was having Lumber Disc Prolapse and Pelvic bone fracture. Accordingly she was advised "to avoid lifting heavy weights or stooping forwards, bending or stooping, to avoid travel over two wheelers, or on rough roads, to avoid prolonged sitting or standing, to sleep on a firm bed and to wear a lumber belt always except while sleeping or for toilet activities". And during all these period of about 9(nine) months with effect from 5.3.91 till 12.11.91 the Petitioner was debarred, due to her said ailment, from doing daily/routine works. However, inspite of all odds and difficulties against her, the Petitioner was determined to complete her Dissertation work within the stipulated period and did whatever she could. A copy of the finding report and advice of the Institute of Neurological Sciences dated 12.11.91 is annexed hereto and marked as Annexure-V."

3. That though I had done my best to complete my said Dissertation within time, it was humanly impossible and accordingly I applied for extension of time. And after completing my said Dissertation, I submitted the same to the Department on 8.10.92 which was then forwarded to the Examination Section, NEHU for evaluation.

However, as the same remained unattended and unexamined for a long time, I submitted an application dt.19.11.93 to the Controller of Examinations praying for special mercy on medical and humanitarian grounds to examine my said Dissertation and to award me a Master Degree in Education. It may also be mentioned that Dr.R.S.Wangu, Reader and Faculty Supervisor had also recommended my case by writing his letter dt.19.11.93 addressed to the Controller of Examination, NEHU wherein he had stated among other things that "in the past also, for reasons recorded in the files of the Examination Department at Shillong, the late submission of dissertation by students from Mizoram Campus, has been condoned by the University and the result of the students has been declared. The case of Ms.L.V.Zodinpui is more genuine, keeping in view her Medical grounds and therefore I request for a favourable consideration of her case". This fact has been clearly proved by the letter No.A.20011/11/88/MC (DR) dated 17th August'95 alongwith its enclosure issued by the Deputy Registrar,NEHU,Mizoram Campus.

4. That inspite of several reminders and applications, my case was not given a favourable consideration and finally it was rejected by the School Board, NEHU and the same was communicated to me by letter No.EX/PG/Repeat/92-93/674 dt.21.7.94 by the Controller of Examinations.
5. That being highly aggrieved I had approached the Hon'ble Gauhati High Court by filing the aforesaid Writ Petition. And the same being disposed of finally by the said Judgement and Order, dt.23.1.96, quashing the said impugned letter/order dt.21.7.94, the Academic Council has been directed to give a fresh consideration of my case and to make a final decision thereon within a period of one month from receipt of this Representation. A copy of the said Judgement and Order dt. 23.1.96 is enclosed herewith for your kind perusal and necessary compliance.

It is therefore most earnestly prayed that your benign office may graciously be pleased to give a fresh consideration of my case in line with the Judgement and Order dt. 23.1.96 passed by the Hon'ble Gauhati High Court in the said Civil Rule No.65/94(AB) and allow my said Dissertation to be examined and accordingly award me a Degree of Master of Arts in Education as may be warranted by the marks secured by me in all the 4(four) Semesters. And for this act of kindness I shall ever pray.

Dated Aizawl,
the 30-1-96

Yours faithfully,
Sd/-
L. V. ZODINPUII
CHALTLANG, AIZAWL.
MIZORAM.

5:6: Establishment of new depts./centres etc.

5:6:1(i)

(i) Establishment of the deptt of Hindi

The U.G.C. vide his letter No. F.7-3/74(D-5a) dt. 16.5.73 sanctioned on post of Professor, two Posts of Readers and three Posts of Lecturers for the Hindi Department. The Department of Hindi is yet to be established.

It is therefore, considered that the University may start the Hindi Department from next Academic Session.

The matter is submitted for kind consideration and approval of the Council.

5:6:2(1)

(ii) Allocation of the Departments of the erstwhile Nagaland Campus

After the bifurcation of the Nagaland campus of the University, it is now necessary to establish the following departments which were there in the Nagaland campus.

- 1) Commerce - It has already been approved by the Academic Council to establish this department in Shillong campus (AC resolution No.AC:51:95:5:6(i))
- 2) Geology - The Council may consider to open the deptt in Mizoram campus of the university.
- 3) Linguistic - This department may be established in the new campus at Tura(Garo Hills) in addition to the departments of Garo and English which have already been approved by the EC vide its resolution No.EC:86:95:6:5(i) on the basis of the report submitted by the Junjappa Committee constituted by the AC vide resolution No.AC:50:95:5:6(iv).
- 4) Establishment of Hindi deptt was approved during the sixth plan, for which posts were sanctioned and created. This deptt may start functioning from the next academic session.

The Council may consider the above proposals.

5:8: Others:-

5:8:1 (1)

(i) U. Tirot Sing Memorial Prize Fund

The 50th meeting of the Academic Council held on 29th and 30th May, 1995 while framing of a regulation on "U Tirot Sing Memorial Prize fund" has desired that the University, may correspond with the Donor if the prize can be changed to the students securing the highest marks in Political Science in B.A.(General) examination w.e.f. 1996 examination instead of B.A.(Pass) examinations".

Now the Donor Bimal Sen Gupta President, Meghalaya State Freedom Fighter's Association informed that he has approved the change and the award of the Prize be given to the Student's Securing the highest marks in Political Science in B.A.(General) Examination copy of his letter is placed as Annexure for perusal.

the matter is thus placed to the Academic Council for approval.

Binal Sen Gupta, 5:8:1 (2)
Secretary,
Meghalaya Displaced Persons' Association
President,
Meghalaya State Freedom Fighters' Association.

1/76 Naktala
CALCUTTA-700047
Phone:471-2500

Dt.15.11.95

Mrs. S. Rynjah,
Dy. Registrar(Acad).
NEHU, Shillong.

Sub: "U Tirot Sing Memorial Prize".

Ref: Your letter No.G. 45-26/Acad/TBMP/92-7304 dated
26.8.95.

Madam,

With reference to your above letter which was received by me on 14.11.95 due to wrong address, I write to inform you that your letter No...../92-7183 dated 14.7.95 was not received by me, probably due to the same reason. Please note that because of my prolonged illness I am now staying in Calcutta although my permanent address (Home) is 252 Umpling, Shillong-793006.

I approve the change you made. Yes, you can award the prize to the students securing the highest marks in Political Science in B.A.(General) Examination.

In this connection I take the opportunity to inform you that in the last week of October,1995, the Controller of Examinations, NEHU, contacted me over the phone and invited me to the ensuing Convocation. I think some one of our Association will attend it. Will you please let me know the name and address of the student who received the Prize in 1995 Convocation ?

Yours faithfully,
In the Service of Motherland,
Binal Sen Gupta.

6.6. Service condition etc.

6.6:1 (1)

(1) Partial modification on the minimum qualification prescribed for appointment of lecturers.

The University Grants Commission, from time to time, conveyed its decision that all those candidates who have secured at least 55% marks or equivalent grade at Master's degree level in the relevant subject should have cleared the eligibility test for lecturers conducted by UGC/CSIR or similar test accredited by the UGC.

OR

should have submitted their Ph.D thesis, or completed their M.Phil degree by 31st December, 1993.

The UGC, in addition to the above has decided that those lecturer who were appointed through a duly constituted Selection Committee before 19th September, 1991 and is still working he/she may be eligible to apply for the post of lecturer without fulfilling the qualifications prescribed in the Regulation of 1991.

Further to the above, the Commission has also provided relaxation of minimum marks at the PG level from 55% to 50% for appointment as lecturer to the candidates who have cleared the JRF examination conducted by UGC/CSIR only, prior to 1989, when the minimum marks required to appear for JRF exam were 50%. The UGC circular to this effect may kindly be seen at annexure 'A'.

The matter is placed before the Council for consideration and adoption.

Grams Unigrants
University Grants Commission
Bahadurshah Zafar Marg
New Delhi 110 002.

Dr. R.P. Gangurde
Additional Secretary-II

D.O.No.F.1-11/95 (PS)

24 December 1995.

Dear Sir,

As you are aware, the Commission had formulated the regulations for the qualifications required for appointment to the teaching post in the Universities and institutions affiliated or constituent to it, and deemed to be universities.

These regulations have been notified by the UGC on 19.9.1991 and circulated to the Universities vide letter No.F. 1-11/87(CPP) dated 28th October, 1991.

As provided in the regulations :

No person shall be appointed to a teaching post, if he/she does not fulfil the required qualifications for the appropriate subjects as provided in the regulations.

Provided that any relaxation in the prescribed qualification can only be made by a university with the prior approval of the University Grants Commission.

Provided further, that these regulations shall not be applicable to such cases where selection through duly constituted selection committee for making appointment to the teaching posts have been made prior to the enforcement of these regulations.

The qualifications amongst others, included that a candidate is eligible for appointment to the post of lecturer in the universities/colleges only if; he/she possesses a good academic record with at least 55% marks or an equivalent grade at Master's degree level in the relevant subject from an Indian University, or an equivalent degree from a foreign university.

And

He/she should have cleared the eligibility test for lecturership conducted by the UGC/CSIR or a similar test accredited by the UGC.

The Commission has been receiving representation from various teachers associations as well as institutions seeking clarification/relaxations in respect of the minimum qualifications required for the recruitment of teachers.

6:6:1 (3)

-: 2 :-

The Committee has been issuing various circulars, from time to time regarding the minimum qualifications required for the appointment of lecturers in universities/colleges. All those relaxation are reproduced in an integrated manner in the enclosed Annexure to facilitate you to take action in the matter. You are requested to bring them to the notice of all the colleges affiliated to your University.

With regards

Yours sincerely,
Sd/-

(Dr.R.P.Gangurde)

The Registrar,
NEHU, Shillong.

5:6:1 (4)

MINIMUM QUALIFICATIONS REQUIRED FOR APPOINTMENT OF LECTURERS
IN ART, SCIENCES, SOCIAL SCIENCES, COMMERCE, EDUCATION,
PHYSICAL EDUCATION, FOREIGN LANGUAGES AND LAW.

- i) Good academic record with atleast 55% marks or equivalent grade at Master's degree level in the relevant subject from an Indian University or an equivalent degree from a foreign University.
- ii) Candidates, besides fulfilling the above qualifications, should have cleared the eligibility test for lecturers conducted by UGC/CSIR or similar test accredited by the UGC.

OR

should have submitted their Ph.D thesis, or, completed their M.Phil degree by 31st December, 1993.

The regulations of 1991 for the appointment of lecturers are not applicable to the teachers who were appointed through a duly constituted Selection Committee before 19th Sept, 1991.

Also if a candidate was appointed on the recommendations of a duly constituted Selection Committee before 19th September, 1991, and is still working, he/she may be eligible to apply for a post of lecturer without fulfilling the qualifications prescribed in the Regulations of 1991.

The Commission has also provided relaxation of the minimum marks at the PG level from 55% to 50% for appointment as Lecturer to the candidates who have cleared the JRF examination conducted by UGC/CSIR only, prior to 1989, when the minimum marks required to appear for JRF exam were 50%.

If there is any other specific case, which is not covered under the above points, the matter may be referred to the Commission with specific facts supporting the reasons for seeking relaxations, on case to case basis.

सेमेस्टर - प्रथम

Him. 101 : आदिकालीन साहित्य एवं
निर्गुण धारा

(१) चन्दबरदायी - संक्षिप्त पृथ्वी राज रासो
सम्पादक - डा० हजारी प्रसाद द्विवेदी
डा० नामवर सिंह
कालिका समिति, वाराणसी।
केवल 'शशिव्रता विवाह' प्रस्ताव

(२) विद्यापति - कीर्तिलता - सं० - डा० शिवप्रसाद सिंह,
हिन्दी प्रचारक संस्थान, वाराणसी (केवल प्रथम दो फलक)

(३) विद्यापति - डा० शिवप्रसाद सिंह, हिन्दी प्रचारक पुस्तकालय,
वाराणसी (केवल निम्नलिखित संख्यांक पद - ८, १०,
१६, १८, १४, २६, ५१, ५२, ५३, ५४)

(४) कबीर ग्रन्थावली - सं० - डा० श्यामसुन्दरदास, नागरी प्रचारिण
सभा। पाठ्यअंश - सारवी से पाँच पद (१, ३, ११, ४०, ४१)

(५) जायसी - पद्मावत - सं० - पं० रामचन्द्रशुक्ल, नागरी प्रचारिण
सभा, वाराणसी। पाठ्यअंश - सिंहलदीप, नागमती विरह
(केवल दो खण्ड)

सहायक ग्रन्थ :

- (१) डा० शिवप्रसाद सिंह - विद्यापति, लोकभारती, इलाहाबाद।
- (२) डा० विपिन निहारी त्रिवेदी - चन्दबरदायी और उनका काव्य।
- (३) डा० हजारी प्रसाद द्विवेदी - कबीर (हिन्दी ग्रन्थ रत्नाकर) बम्बई।
- (४) डा० हजारी प्रसाद द्विवेदी - हिन्दी साहित्य का आदिकाल, बिहार
राष्ट्रभाषा परिषद्, पटना।
- (५) डा० रामपूजनतिवारी - सूफीमत और साधना साहित्य।
- (६) डा० शम्भूनाथ पाण्डेय - आदिकालीन हिन्दी साहित्य, विश्व -
विद्यालय प्रकाशन, वाराणसी।
- (७) डा० श्यामसुन्दरशुक्ल - हिन्दी काव्य की निर्गुण धारा में
भक्ति, काशी हिन्दू विश्वविद्यालय।

(१) नाटक :

(१) भारतेन्दु हरिश्चन्द्र - अन्धेरनगरी

(२) जयशंकर प्रसाद - स्कन्दगुप्त

(३) मोहन राकेश - आधे अधूरे

(२) उपन्यास :

(१) प्रेमचन्द - गोदान

(२) डा० हजारी प्रसाद द्विवेदी - बाणभट्टकी आत्मकथा

(३) फणीश्वरनाथ रेणु - मैला आंचल

(४) भीष्म साहनी - तमस

सहायक ग्रन्थ -

(१) डा० बच्चनसिंह - हिन्दी नाटक (लोक भारती, इलाहाबाद)

(२) डा० दशरथ ओझा - हिन्दी नाटक का उद्भव और विकास
प्रकाशक - हिन्दी परिषद्, प्रयाग ।

(३) डा० त्रिभुवनसिंह - हिन्दी उपन्यास और यथार्थवाद -
चतुर्थ संस्करण, प्रकाशक - हिन्दी प्रचारक संस्थान,
वाराणसी ।

(४) डा० शिवनारायणसिंह - हिन्दी उपन्यास (नया संस्करण)
प्रकाशक - सरस्वती मंदिर, वाराणसी

(५) देवेश ठाकुर - 'मैला आंचल' की रचना प्रक्रिया ।

(६) स्वातंत्रोत्तर हिन्दी नाटक - मोहन राकेश के विशेष सन्दर्भ में
डा० रीता कुमार ।

(७) स्वामी नाथ पाण्डेय - स्कन्दगुप्त समीक्षा - भारतीय विद्या प्रकाश
वाराणसी ।

(८) डा० राजमणिशर्मा - प्रसाद का गद्य साहित्य, आत्मा
ग्रुप सन्स, दिल्ली ।

Hom. 103 भाषा विज्ञान - प्रथम

- (1) भाषा की परिभाषा, भाषा, बोली, उपभाषा का भेद, भाषा की विशेषताएँ।
- (2) भाषा विज्ञान की अध्ययन पद्धतियाँ।
- (3) ध्वनियंत्र की रचना, ध्वनियों का उच्चारण एवं वर्गीकरण, ध्वनि एवं ध्वनिग्राम, ध्वनिपरिवर्तन, ध्वनिनियमों का सामान्य परिचय।
- (4) रूपविज्ञान एवं वाक्यविज्ञान:
रूप एवं रूपज्ञान शब्द एवं पद, अर्थ तत्त्वसंबन्ध तत्त्व, सम्बन्ध तत्त्व के प्रकार, रूप परिवर्तन, वाक्य का विवेचन एवं वाक्य प्रकार।
- (5) अर्थ विचार:
अर्थ परिवर्तन (कारण, दिशाएँ, परिणाम)
- (6) भाषाओं के वर्गीकरण के सिद्धान्त:
आकृतिमूलक एवं पारिवारिक वर्गीकरण।

सहायक ग्रन्थ -

- (1) डा० भीलानाथ तिवारी - भाषा विज्ञान - किताब महल, इलाहाबाद।
- (2) डा० सुनील कुमार चटर्जी - भारतीय अर्थ भाषा और हिन्दी।
- (3) डा० धीरेन्द्र वर्मा - हिन्दी भाषा का इतिहास।
- (4) डा० हरदेव बाहरी - हिन्दी और उसकी बोलियाँ।
- (5) डा० शुक्देव सिंह - भोजपुरी और हिन्दी का तुलनात्मक अध्ययन, नीलाम प्रकाशन, इलाहाबाद।
- (6) डा० काशीनाथ सिंह - हिन्दी में संयुक्त क्रियाएँ, रचना प्रकाशन इलाहाबाद।
- (7) डा० राजमीनशर्मा - आधुनिक भाषा विज्ञान।
- (8) भाषा विज्ञान एवं भाषा शास्त्र - डा० कपिलदेव द्विवेदी।
- (9) डा० देवेन्द्र कुमार - भाषाशास्त्र तथा हिन्दी भाषा की रूपरेखा।
- (10) डा० मोहनलाल तिवारी - हिन्दी भाषा पर फारसी और अंग्रेजी का प्रभाव।
- (11) देवेन्द्र शर्मा - हिन्दी भाषा।

Prin. 104 भारतीय काव्यशास्त्र एवं समीक्षासिद्धान्त
काव्य की परिभाषा, प्रयोजन, हेतु एवं रसनिवपत्ति की
विविध व्याख्याएं, आचार्य रामचन्द्रशुक्ल के समीक्षा
सिद्धान्त, छायावादी युगीन समीक्षासिद्धान्त, प्रगीतवादी
समीक्षासिद्धान्त, प्रयोगवादी समीक्षासिद्धान्त

सहायक ग्रन्थ -

- 1) डा० राम नरेश वर्मा - वक्रोक्ति और अभिव्यंजना, प्रकाशक
नागरी प्रचारिणी सभा, वाराणसी।
- 2) डा० भोलाराम ठाकुर - ध्वनि सम्प्रदाय और उसके सिद्धान्त
प्रकाशक - चौखम्भा प्रकाशन, वाराणसी।
- 3) डा० विक्रमादित्य राय - काव्यसमीक्षा, भारतीय विद्या प्रकाशन
वाराणसी।
- 4) डा० नगेन्द्र - रस सिद्धान्त, प्रकाशक - नेशनल पब्लिशिंग
हाउस, दिल्ली।
- 5) डा० सूर्य नारायण द्विवेदी - ऐतिहासिक काव्य सिद्धान्त;
प्रकाशक - संजय बुक सेंटर, गौलघर, वाराणसी।
- 6) डा० शिव प्रसाद सिंह - आलोचना के बदलते मापदण्ड और
हिन्दी साहित्य; किताब महल, इलाहाबाद।
- 7) डा० सूर्य नारायण द्विवेदी - भारतीय समीक्षासिद्धान्त -
प्रकाशक - संजय बुक सेंटर, गौलघर, वाराणसी।
- 8) डा० बचन सिंह - आधुनिक हिन्दी आलोचना के बीज शब्द
- 9) डा० शिव प्रसाद सिंह - आधुनिक परिवेश और नवलेखन
- 10) डा० नगेन्द्र - नई समीक्षा, नये सन्दर्भ।
- 11) डा० निर्मला जैन - नई समीक्षा के प्रतिमान।

- (१) - सूरदास - भ्रमरगीत सार (प्रथम ३० पद)
- (२) तुलसीदास - बालकाण्ड (आरम्भ से १५ दोहे)
उत्तर काण्ड (७० दोहे से अंत तक)
- (३) केशवदास - सीसपुत्र रामचन्द्रिका (अरण्य काण्ड)
- (४) बिहारी - डा० विश्वनाथ प्रसाद (आरम्भ से १०० दोहे)

सहायक ग्रन्थ -

- (१) आचार्य राम चन्द्र शुक्ल - सूरदास, प्रकाशक - नागरी प्रचारिणी सभा, वाराणसी।
- (२) डा० विश्वनाथ प्रसाद मिश्र - बिहारी, प्रकाशक - वाणी वितान, वाराणसी।
- (३) आचार्य राम चन्द्र शुक्ल - गोस्वामी तुलसीदास, प्रकाशक - नागरी प्रचारिणी सभा, वाराणसी।
- (४) डा० शिवप्रसाद सिंह - सूर पूर्व ब्रजभाषा और उसका साहित्य प्रकाशक - हिन्दी प्रचारक संस्थान, वाराणसी।
- (५) डा० राजपति दीक्षित - तुलसीदास और उनका युग, प्रकाशक - ज्ञानमंडल प्रेस, वाराणसी।
- (६) डा० विजयपाल सिंह - केशव का ~~साहित्य~~ आचार्यत्व, प्रकाशक - राजपाल एण्ड सन्स, दिल्ली।
- (७) डा० श्री कृष्ण लाल - मानस दर्शन, प्रकाशक - आनन्द पुस्तक भवन, वाराणसी।
- (८) डा० त्रिभुवन सिंह - तुलसी स्मर्त और समीक्षा, तुलसी शोध संस्थान, काशी हिन्दू विश्वविद्यालय, वाराणसी।
- (९) डा० रामनरेश वर्मा - हिन्दी सगुण भक्ति काव्य की सांस्कृतिक भूमिका, प्रकाशक, नागरी प्रचारिणी सभा, वाराणसी।

डा० बच्चनसिंह - रीतिकालीन कवियों की प्रेम व्यंजना,
प्रकाशक - नगरी प्रचारिणी सभा, काशी।

१) प० विश्वनाथ प्रसाद मिश्र - हिन्दी साहित्य का अतीत
(भाग - २)
प्रकाशक - वाणी विमान, वाराणसी।

(क) एक दुनिया समानान्तर - राजेन्द्र यादव -

निम्नलिखित कहानियाँ -

- (१) गुल की लक (२) लकड़ों, (३) जिन्दगी और जीव
(४) ऊबना, (५) यही सच है (६) चीफ की दावत
(७) पहिलियाँ (८) तीसरी कसम

(ख) निबन्ध -

(१) - रामचन्द्रशुक्ल - चिन्तामणि (प्रथम भाग)

केवल अग्रलिखित निबन्ध - मति या मनीविकार, करुणा, रसात्मक शैली के विविध रूप तथा भारतेंदु हरिश्चन्द्र, कविता तथा है ?

(२) विचारप्रवाह - डा० जगदीश प्रसाद द्विवेदी

(३) प्रतिनिधि हिन्दी निबन्ध - डॉ० वागोदारी मेहता और

डा० बच्चन त्रिपाठी, अध्यापक प्रकाशन संस्थान, लखनऊ।

केवल निम्नलिखित निबन्ध - वाद्य कवियों की आर्म तथा विषयक उदासीनता, उत्साह, संपादक की समावेद, मानव सत्य।

सहायक ग्रन्थ -

(१) डा० जगन्नाथ प्रसाद शर्मा - हिन्दी गद्यशैली का विकास, प्रकाशक - नागरी प्रचारिणी सभा, वाराणसी।

(२) डा० जगन्नाथ प्रसाद शर्मा - कहानी का रचनाविधान, प्रकाशक - हिन्दी प्रचारक संस्थान, वाराणसी।

(३) डॉ० रामचन्द्र तिवारी - हिन्दी का गद्य साहित्य, प्रकाशक -
विश्वविद्यालय प्रकाशन, वाराणसी ।

(४) बटसंहो - कहानी - रचना, प्रक्रिया और स्वरूप,
सम्पादक - राधाकृष्ण प्रकाशन, दरियागंज, दिल्ली ।

Him. 203 - भाषा विज्ञान - (द्वितीय)

- (1) भारतीय भाषा परिवार
- भारतीय आर्य भाषाएँ (प्राचीन, मध्यकालीन, आधुनिक)
- (2) हिन्दी व्याकरण का विकास:
हिन्दी ध्वनियाँ, हिन्दी ध्वनियों का विकास, पदगठन प्रकृति प्रत्यय (पूर्व, अन्त एवं पर प्रत्यय) प्रातिपदिक, नाम, लिङ्ग, लचन, कारक, कारकचिह्न, सर्वनाम, विशेष क्रियापद, कालरचना, अव्यय ।
- (3) देवनागरी लिपि - लिपि एवं भाषा का सम्बन्ध, लिपि का विकास, देवनागरी का विकास, देवनागरी का विकास, देवनागरी के गुणदोष ।
- (4) सर्वेक्षण पद्धति, भाषाभूगोल (केवल सैद्धान्तिक पारेष्य)

सहायक ग्रन्थ -

- (1) डा० मौला नाथ तिवारी - भाषा विज्ञान, कितारव महल, इलाहाबाद ।
- (2) हिन्दी का मौलिक व्याकरण - डा० निगमानन्द परमहंस
- (3) डा० विद्यानिवास मिश्र - शक्ति विज्ञान (शैली विज्ञान)
- (4) डा० देवेन्द्र कुमार - भाषा शास्त्र तथा हिन्दी भाषा की रूपरेखा ।
- (5) देवेन्द्र शर्मा - हिन्दी भाषा ।

१. प्राचीन आलोचना - काव्य के स्वरूप तथा प्लेटो, प्लैटो, अरस्तू और लॉजाइनस का काव्य सिद्धान्त ।
- २ - आधुनिक आलोचना -
 - (i) आदिम जात्य एवं स्वच्छन्दतावाद, मनोवैज्ञानिक आलोचना ।
 - (ii) समाजवादी, यथार्थवादी और आस्तित्ववादी आलोचना ।
 - (iii) आई० ए० रिचर्ड्स और टी० एस० इलियट के समीक्षा सिद्धान्त
 - (iv) नई समीक्षा - शिकागो स्कूल को समीक्षा, संरचनात्मक समीक्षा ।

सहायक ग्रन्थ -

- (१) डॉ० नगेन्द्र - पाश्चात्य काव्य शास्त्र
- (२) डॉ० शिवप्रसादसिंह - आधुनिक परिवेश एवं अस्तित्ववाद
- (३) डॉ० शिवकरणासिंह - आलोचना के बदलते मापदण्ड एवं हिन्दी साहित्य, प्रकाशक विताबमहल इलाहाबाद ।
- (४) डॉ० रामपूजनतिवाड़ी - पाश्चात्य काव्य शास्त्र ।
- (५) डॉ० बच्चनसिंह - आलोचक और आलोचता
- (६) डॉ० निर्मला जैन - नई समीक्षा के प्रतिमान ।
- (७) प्लैटो - "रिपब्लिक बुक १०" ।
- (८) लॉजाइनस - "ऑन द सबलाइम" ।
- (९) आई० ए० रिचर्ड्स - "प्रिंसिपल्स आफ लिटरेरी क्रिटिसिज्म" ।
- (१०) टी० एस० इलियट - "ट्रिटिशन एण्ड इन्डिविजुअल टेलेन्ट" ।
- (११) शिकागो स्कूल आफ क्रिटिसिज्म - "क्रिटिक्स एण्ड क्रिटिसिज्म", संपादक - क्रेन ।

CORRIGENDUM TO THE AGENDA PAPERS OF THE 52ND MEETING OF THE ACADEMIC
COUNCIL

In item No.5:6:2(1), the following correction are made:

- (a) Regarding (1) Commerce, the resolution No.AC:51:95:5:6(i) may kindly be read as No.AC:38:90:5:06(i).
- (b) The case of (4) Establishment of Hindi Deptt., may kindly be treated as withdrawn as a separate item on the said subject is included in the agenda under item No.5:6:1(1) for consideration of the Council.

PART II AGENDA PAPERS FOR THE 52ND MEETING OF THE ACADEMIC COUNCIL

Contents

ITEM No.2 - REPORTING ITEM:

- (i) Inauguration of Tura Campus - 2:1(1)

ITEM No.5: ACADEMIC MATTERS:

5:5: EXAMINATION MATTERS:

- (ii) Grace principles for cases of re-evaluation - 5:5:2(1)

5:6: ESTABLISHMENT OF NEW DEPTS./CENTRES ETC:

- (iii) Taking over of a college or opening of a University college in Shillong/Jowai. - 5:6:3(1)

5:7: AFFILIATION ETC:

- (i) Grant of affiliation to St.Mary's college for introduction of Major in Physics. - 5:7:1(1)

5:8: OTHERS:

- (ii) Syllabus for M.A. in Hindi and specialisation for the teaching posts in Hindi - 5:8:2(1)

Examination
(iii) 3 Yr. degree ~~System~~ Course with Annual
System of Examination

2: REPORTING ITEM:

2:1(1)

(i) Inauguration of Tura Campus.

The Chief Minister Meghalaya invited the Vice-Chancellor NEHU on 15.2.96 to discuss about the inauguration of Tura Campus at his office. In view of the sanction from Ministry of Human Resource development and the University Grants Commission; and as approved earlier by the Academic and Executive Councils of the University, the Vice-Chancellor agreed to the proposal. Eventually the Tura Campus was inaugurated by the Prime Minister of India in the presence of the Representatives of M.H.R.D. and the UGC on 23rd February 1996.

The matter is thus reported to the Academic Council for information.

~~CONFIDENTIAL~~
5:5:20

(ii) Grace Principle for cases of re-evaluation.

Before the finalisation of any results in the University there exists a Moderation Board which decides on the grace principle that is to be followed for each examination. The grace principle so decided is however subject to adjustment unless the grace is general in nature. The reason for this is that the ranking order should not be disturbed by those candidates who get through by the application of grace principle.

With regard to the cases for re-evaluation however, there does not exist any ordinance or regulation on Moderation Board. The reason for this is because the results of re-evaluation cases come up in small numbers throughout the year and logistically it is difficult to constitute and convene any such Board for the case of re-evaluation.

Therefore, to help the Examination Department in finalising the cases of re-evaluation through appropriate principle, the Academic Council may like to lay down some such guiding principles.

In considering the case, however, the Academic Council may like to be informed of the following :-

a) Grace principle for re-evaluation, if so decided will have to be straight-forward grace marks and not subject to adjustments, since the marksheets, already being with the candidates, adjustments would not be possible.

b) The candidates failing by a single mark is at present given plus 1 mark by the tabulators for purpose of passing.

c) Candidates who are short of 5 marks for better Class/Division a grace of 5 marks is given for better Division/Class for the Under-Graduate and for the Post-Graduate plus 5 is given for improvement in Division/Class and for 55%, which is the requirement for lectureship or fellowship.

Taking note of the above, the Academic Council may like to determine whether marginal cases of failures by 2/3 or above marks may be considered for the cases of re-evaluation.

5:6:3(1)

(iii) Taking over of a college or opening of a University
College in Shillong/Jowai

A communication has been received from the Ministry of HRD (Annexure A) in regard to the establishment of Mizoram University under state sector. The 1st part of the letter has been placed to C for its consideration. In view of the second part of the letter and also in view of the resolutions adopted in the meeting of the committee for opening a campus at Jaintia Hills or taking a college at Jowai/Shillong (Annexure B) it is necessary to take up a decision either to open a university college or to take over a college in Jowai/Shillong in view of the fact that we do not have any university college after the bifurcation of Mizoram campus.

The above matter is placed to the Council for its decision.

REPORT ON OPENING OF A CAMPUS AT JAINTIA HILLS ON
TAKING A COLLEGE IN JOWAI/SHILLONG.

The Committee met at 2 P.M. on October 10, 1995 in the Office of the Dean, School of Social Sciences to deliberate upon the issue. The following members were present.

Prof.H.Junjappa	-	Department of Chemistry
Prof.M.N. Karna	-	Department of Sociology
Prof.R.S.Tripathi	-	Department of Botany
Prof.N.Malla	-	Department of Philology
Prof.A.C.Sinha	-	Dean, School of Social Sciences in the Chair.

1. It was considered inadvisable to take over an existing college at Jowai or Shillong.
2. The need for opening a NEHU Campus at Jowai was acknowledged with certain vocational orientation in its course structure leading to diploma and degrees. However, it was also felt that certain minimum conventional disciplines should also be started keeping in mind the number of students and available trained man-power.

(a) Masters/Diploma

- (i) An Integrated Five years Course in Social work.
 - (ii) An Integrated Five years Course in Management.
 - (iii) An Integrated Five years Course in Commerce & Accountance.
- These courses should have a common course in computer and software.

(b) Conventional Disciplines

- (i) History - with Ancient History & Culture
- (ii) English - with Linguistics
- (iii) Political Science with public Administrator.

Sd/-

(A.C. Sinha)
Chairman.

5:6:3(3)

ANNEXURE B

D.K. Paliwal
Asstt. Educational Adviser
Tele : 3388030

MINISTRY OF HUMAN RESOURCE DEVELOPMENT
DEPARTMENT OF EDUCATION
GOVERNMENT OF INDIA
NEW DELHI - 110 001.

D.O.No.F.24-1/94-Desk(U)

7th February, 1995.

Dear Sir,

The Chief Secretary, Government of Mizoram has informed this Department that the State Government propose to initiate construction works on the plot of land located at Tanhril which had been transferred by the Mizoram Government to the North-Eastern Hill University. The above construction activities are necessitated following sanction of a fully funded Mizoram University under the State sector by the Planning Commission.

I shall be grateful if you could kindly communicate the reaction of the University to the above stated proposal at a very early date.

Yours sincerely,

Sd/-
(D.K. Paliwal)

Prof.B. Pakem,
Vice-Chancellor
North Eastern Hill University
Shillong.

5:7: Affiliation etc:

5:7:1(1)

(i) Grant of affiliation for introduction of
Physics Major in St. Mary's College:

The Academic Council had granted provisional affiliation to St. Mary's college for two years for introduction of B.Sc Major in Physics with the stipulation that the college be inspected again to assess the facilities made available by the college for implementation of the programme.

The Report of the Inspection Team which visited the college on 4. 12. 95, is placed at Annexure A for consideration of the Council.

5:7:9(2)

RECOMMENDATIONS OF THE INSPECTION TEAM FOR INTRODUCTION
OF B.Sc PHYSICS (MAJOR) IN ST.MARY'S COLLEGE.

The 48th meeting of the Academic Council of NtHU held on 24th May, 1994 had approved provisional affiliation for two years for introduction of Physics(Major) in B.Sc in St.Mary's college subject to fulfilment of the recommendations of the Inspection Team which visited the college on 15-11-93. The council had also decided that the college may be re-inspected sometime in November, 94 to verify and check the facilities to be provided by the college for proper implementation of the programme. Accordingly, the inspection team had visited the college again on 20-2-95 as per the notification No.CDC/A.4/66/797-798 dated 19-12-92. The committee had made certain observations/recommendations for fulfilment by the college before taking any final decision in the matter.

In pursuance of the decision of the Academic Council meeting held on 29th and 30th May, 95, the Committee again visited the College on 4th December, 95 to access the facilities made available by the College for proper implementation of the B.Sc (Physics) Major programme. The Committee makes the following recommendations.

(1) As per earlier suggestions of the Inspection team, the college authorities have procured a reasonable number of books as per list provided in the syllabus.

(2) Regarding laboratory apparatus, the college has either acquired or has placed firm order for most of the equipment needed for B.Sc programme.

(3) The college authorities have now provided two rooms of 624 square feet area each exclusively for B.Sc.(Major) laboratories. They have agreed to make necessary partitions in the dark room for Optics experiments.

(4) The college has only five teachers in Physics and no new posts have yet been approved by the Government. In order to tide over the situation, the committee suggests that the College authorities should engage two part-time and experienced teachers on regular basis till the regular posts are sanctioned and teachers are appointed.

In the light of these observations and compliance of most of the suggestions/recommendations made by the visiting committees, the committee suggests that permanent affiliation for B.Sc.(Major) in Physics can now be granted to the college.

Sd/- Prof.A.L.Verna,
Convener

Sd/- Dr.(Mrs)B.M.Jyawa
Member

(Mr.R.Kharpor)
ADDL.DPI
Member

* Mr.Kharpor could not attend the meeting but requested other members to go ahead with the Inspection of the college.

5:8:2(1)

(ii) Syllabus for M.A. in Hindi and specialisation for the teaching posts in Hindi. Report of the Committee:

An expert committee was constituted by the Vice-Chancellor to frame the syllabus for M.A. in Hindi and to prescribe the requisite specialisation for the teaching posts in Hindi. The Report is placed at Annexure - A for consideration of the Council.

5:8:2(2)

Annexure - A.

Report of the Expert Committee to frame a suitable
Syllabus for M.A. in Hindi :

An expert Committee comprising the following members was constituted by the Vice-Chancellor vide Notification No. BPGS:4-33/Conf./96-3893 dated February 20, 1996 to frame a suitable syllabus for M.A. in Hindi and to prescribe the requisite qualifications for the teaching posts in Hindi :

- | | |
|--|-----------------------|
| 1. Prof. R.S. Tripathi - | Chairman-cum Convener |
| 2. Prof. R.R. Mishra - | Member |
| 3. Prof. M.N. Karna - | " |
| 4. Prof. J.P. Singh - | " |
| 5. Prof. E.N. Lall - | " |
| 6. Deputy Director
Central Institute of -
Hindi, Shillong. | " |
| 7. Head, Department of -
Hindi, Gauhati University
Guwahati or his nominee
not below the rank of
Reader. | " |

As discussed with the Vice-Chancellor and after obtaining his permission, the Chairman coopted Prof. J.C. Binwal also on the Committee.

The Committee met at 2.30 p.m. on 26th February, 1996. The following members were present :

1. Prof. J.P. Singh
2. Prof. E.N. Lall
3. Prof. M.N. Karna
4. Prof. J.C. Binwal (Coopted member)
5. Prof. R.S. Tripathi (Chairman)

Minutes of the meeting :

1. The Chairman gave a brief background information about the establishment of the Department of Hindi at this University and the discussions he had with the Vice-Chancellor regarding the possibility of the commencement of teaching of Hindi at postgraduate level.
2. While framing the syllabus, the Committee consulted and examined the M.A. Hindi Syllabi of a few Indian Universities. After detailed discussion and deliberations, it was resolved that in order to facilitate the teaching of Hindi at M.A. level at NEHU from the next academic session, it was essential to frame syllabus for the I and II Semester courses. However, as far as the courses for the III and IV Semesters are concerned, it was felt that the syllabus for these courses could be framed after the faculty members have joined the Department and BPGS in Hindi has been constituted. Accordingly, the syllabi for

5:8:2(3)

- 2 -

the various courses to be covered during the I & II semesters only were finalised and are appended herewith as Annexure - I.

3. In consonance with the pattern followed in various departments of Languages and Social Sciences at NEHU, the whole syllabus shall be divided into 16 papers(courses) of 100 marks each which shall be covered in four semesters, each having four courses. Out of a total of 100 marks for each paper, 25% weightage shall be given to the internal assessment.

As per the terms of reference, the Committee also deliberated on the requisite specialisations for the teaching posts in Hindi and recommended as follows:

- Professor - 1 (open)
- Reader - 2 (1 open and 1 with specialisation in in Adhunik Hindi Sahitya/Kavya Sastra, Vyakaran and Bhasha Vigyan/Samalochana).
- Lecturer - 3 (Preferably in Adikaleen Hindi Sahitya/Madhyakaleen Sahitya/Adhunik Sahitya).

At the time of the selection of candidates , the care has to be taken that a particular specialization is represented by not more than one faculty member in the Department.

5. The meeting ended with a vote of thanks from the CHAIR.

Sd/-
(R.S. Tripathi)
Chairman