

NORTH-EASTERN HILL UNIVERSITY
MAWKYNROH UMSHING
SHILLONG

NO:AC:63-2/Conf/2000-1657

Dated Shillong, the 30th May'2000

To

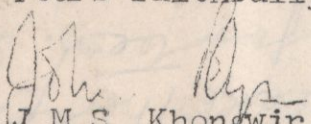
All Members of the Academic Council,
North-Eastern Hill University.

Subject: Agenda for the 63rd meeting of the Academic
Council.

Sir/Madam,

I am to forward herewith a copy of the agenda
for the 63rd meeting of the Academic Council to be held
on 8th and 9th June, 2000 for favour of your perusal.

Yours faithfully,


J M S Khongwir
Deputy Registrar

AGENDA ITEMS FOR THE 63RD MEETING OF THE ACADEMIC
COUNCIL MEETING SCHEDULED ON 8TH AND 9TH JUNE, 2000

1. Item No. I : CONFIRMATION OF THE MINUTES:

- (i) Confirmation of the Minutes of the 62nd meeting of the Academic Council held on 3rd and 4th December, 1999. 1:1(1-4)

2. REPORTING ITEMS :

- (i) Section I of the Report on General Recommendations..... 2:1(1-2)

3. RATIFICATION OF ACTION TAKEN BY THE VICE-CHANCELLOR:

- (i) Nomination of NEHU Representatives and approval of the Governing Body members/ Advisory Committee of different Colleges. 3:1(1)

5. ACADEMIC MATTERS :

5:1 - STATUTES, ORDINANCES, REGULATIONS AND RULES:

- (i) Amendments of Rule RU-2 with reference to extend the age limit of re-employed teachers. 5:1:1(1-5)
- (ii) Drafting of a Regulation for procedure of examinations, fee structure, attendance and equivalent on Certificate & P.G. Diploma Course. 5:1:2(1-2)
- (iii) Amendment to admission criteria for M.Sc Bio-Chemistry. 5:1:3(1-2)

5:2 - SYLLABUS :

- (i) Revised Syllabus for Bio-Technology. 5:2:1(1-17)
- (ii) Syllabi for three Courses for Certificate Courses in Computer Applications proposed by the Computer Centre. 5:2:2(1-18)
- (iii) Proposed Revised BA/B.Sc. General and Honours Syllabus in Geography. 5:2:3(1-14)
- (iv) Proposed Revised B.Sc. General and Honours Syllabus in Geology. 5:2:4(1-15)

Contd.....2/-

C O N T E N T S

P A G E

5:5 - EXAMINATION MATTERS :

- (i) The External Examiners to set practical question papers on the day of the examination. 5:5:1(1-2)
- (ii) On the paper setter-cum-examiners of Post-Graduate Examination - Proposal for modification thereof. 5:5:2(1-5)
- (iii) UGC Expert Committee - Recommendation of.. 5:5:3(1)
- (iv) UGC Expert Committee - Recommendation on Examinations and Assessment. 5:5:4(1)
- (v) Panel of Paper-setters/Moderators for the Under-Graduate Examinations. 5:5:5(1-2)
- (vi) Evaluation/Examination Report. 5:5:6(1-8)

5:7- AFFILIATION ETC..

- (i) Affiliation of T.Romana College. 5:7:1(1-15)

5:8 - OTHERS:

- (i) Undertaking state specific responsibility in the field of Education. 5:8:1(1-7)
- (ii) Charging of fee for imparting practical training in Computer Applications by the Department of Library and Information Scs. 5:8:2(1-2)

6:6 - SERVICE CONDITIONS AND FINANCIAL BENEFITS:

- (i) Addition of clause 3(iii) to Regulation Re-6 on terms and Conditions of service of teachers elected/nominated to Parliament/State Legislature/District Council. 6:6:1(1-4)

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Item No.I-Confirmation of the Minutes.

- i) Confirmation of the Minutes of the 62nd meeting of the Academic Council held on 3rd & 4th December, 1999.

The Minutes of the 62nd meeting of the Academic Council were circulated to all the members for comments if any, In this connection, the comments received from the members with regards to Resolution No.62:99:5:7;(iii) (125), No.AC:99:5:2(vi) and No.62:99:5:7(iii) are placed as Annexure-I, II & III.

The matter is placed before the Council for consideration.

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North-Eastern Hill University
Bijni Complex, Shillong-793 003
(Meghalaya)

No.CDC/AC.56/98-99/2644

January 18, 2000.

To

The Vice-Chancellor,
NEHU, Permanent Campus,
Umshing, Shillong -22.

Sir,

A few records on two colleges are not properly recorded.
The minutes should have been as follows :

1.T.Romana College:

(a) Renewal of Affiliation for B.A. courses with six subjects is recommended for the period December 1999 to December 2002.

(b) Introduction of Public Administration and Sociology for B.A (Hons) is also recommended for one year.

2.Zualnuam College:

Extension of Affiliation for B.A. pass course with six subjects is recommended and Honours in Political Science and Education is recommended for a period of one year subject to the fulfilment of requisite number of teachers as per regulations of the University.

However, opening of Honours in History is not allowed.

Yours faithfully,

Sd/-B.K.Dev Sarma

(B.K.Dev Sarma),
Director,
College Development Council,

.....

North - Eastern Hill University
NEHU Campus, Shillong-793 022
(Meghalaya)

NO.F.70/Edn/98-99/10
Dated 21.2.2000

From:

R. Bhattacharjee,
Head,
Deptt. of Education.

To

The Deputy Registrar,
NEHU, Conference,
Shillong.

Sub: Item No. AC: 62:99:5:2 (vi) on Revised B.Ed Course
of Study as per NCTE Norms.

Sir,

Please refer to the Minutes of the 62nd meeting of
the Academic Council (Dec, 99): Item AC: 62:99:5:2(vi) on
Revised B.Ed Courses of Study as per NCTE Norms. The text
of the Item, as recorded in the minutes, is reproduced
below :

"The Council considered the revised syllabus for the
B.Ed Course as per NCTE norms and while resolving to
approve the same noted that the number of practice
teaching lessons should be 80."

The recording of the text, quoted above, is partly wrong and
needs to be corrected. The text of the item may therefore
be corrected as under;

"The Council considered the revised syllabus for the
B.Ed Course as per NCTE norms and while resolving to
approve the same noted that the maximum marks for
evaluation of practice teaching by the Board of
examiners appointed by the University should be 80".

Yours faithfully,

Sd/-R. Bhattacharjee

(R. Bhattacharjee)

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TRUE COPYST ANTHONY'S COLLEGE
SHILLONG 793001

Phone: 222558 223558

Fax: 229558

E-mail: anthony@cal.vsnl.net.in

Principal

Ref No: SAC/SM/10/00-01 dated 10th May 2000

To

Mr John M S Khongwir
Deputy Registrar
North Eastern Hill University
SHILLONG - 793 022

Dear Sir

I am to bring to your attention the following discrepancies in the minutes of the 62nd meeting of the Academic Council (Vide No.AC: 62-3/Conf/99-1498 dated 15-12-99) relating to item No.5:7:

1. It was decided that the panel of names of Subject Experts for Selection Committees of Colleges would be compiled by the Director, Development Council, and forwarded to the Colleges. It was also decided that the Colleges would select the experts from out of these panels and intimate them directly from the College.
2. It was also decided that for the purpose of selecting Teachers for Affiliated Colleges, NET/Ph.D candidates only should be considered.

In view of this the minutes need to be amended suitably.

Further, the decision that the dates of meetings of Governing Bodies and Selection Committees shall be fixed in consultation with the University may have to be reviewed since these meetings are fixed by the Secretaries of the Colleges in consultation with their respective chairmen. The Colleges have only to ensure that the University representatives/experts are intimated sufficiently in advance about the dates of meeting of these bodies.

With kind regards,

Yours sincerely

Sd/Fr Stephen Mavely SDB
Principal
(Fr Stephen Mavely SDB)

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Item No.2-Reporting Item.

i) Section I of the Report on General Recommendations.

On the above subject, it may be apprised that the Council in its 62nd meeting, vide resolution No: AC: 62: 99: 5: 1: (vii) .3. (Annexure-I) Resolved that the initial pay of Professors and other equivalent academic staff in the revised pay must be fixed at the minimum of the initial pay fixed for the College Principals (in the Professor's grade). Similarly the initial pay of Reader and equivalent other academic staff in the University must be fixed at the minimum of the initial pay of the College Principal (in Reader's grade).

The above decision of the Council was placed before the Executive Council wherein the Council Resolved that the initial pay of Professors and other equivalent academic staff in the revised pay may be fixed at the minimum of the initial pay fixed for the College Principals (in the Professor's grade), similarly, the initial pay of Readers and equivalent other equivalent staff in the University may be fixed at the minimum of the initial pay of the College Principals (in Reader's grade), subject to the approval by the University Grants Commission."

The matter is placed before the Council for information.

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vii) Section 1 of the Report on General Recommendations.

AC:62:99:5:1(vii): The Council considered the "General Recommendations" made by the High Power Committee Vis-a-Vis and the views of the Office and RESOLVED as follows :

1. The effective date of the implementation of the Career Advancement Scheme should be 1.1.96.
2. The process of calling of applications under the Career Advancement Scheme in the case of teachers who have completed 8 years should be started immediately.
3. The initial pay of Professors and other equivalent academic staff in the revised pay must be fixed at the minimum of the initial pay fixed for the College Principals (in the Professor's grade). Similarly the initial pay of Reader and equivalent ~~other~~ academic staff in the University must be fixed at the minimum of the initial pay of the College Principal (in Reader's grade).
4. Anomalies in the fixation of revised scales of pay should be referred to the UGC/Cell set-up for the purpose.
5. A mechanism should be devised for ensuring that the teachers and other academic staff are not denied opportunities to complete the required orientation and refresher courses.
6. The existing system of providing teachers with hard furnished quarters on the Campus must continue.
7. The Project Officers in Adult and Continuing Education in the Centre for Supportive and Learning Systems should be re-designated as Lecturers if they have the requisite qualifications. The Chairman was authorised to take action in this regard after examining their qualifications in the light of UGC guidelines.
8. The Benefit of re-employment should be extended till the age of 65 years to all teachers and Rule RU-2 : to be suitably amended.
9. The pay of Visiting Professors/Professors on contract should be suitably revised in the light of New Pay Scales and the arrears due to Visiting Professors who have since left the University are to be paid.

A note of 'Dissent' was given by Prof.K.Ismail and Prof.A L Verma as regards to decision at Sl.1 above

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3:1(1)

Item No:3 - Ratification of action taken by
the Vice-Chancellor.

- i) Nomination of NEHU Representatives and approval of the
Governin g body members/Advisory Committee of different
colleges.

NAME OF THE COLLEGES

NAMES OF THE NEHU REPRESENTATIVES

- | | |
|---------------------------------|--|
| 1) St Dominic College | 1) Prof.J.B.Bhattacharjee, History Deptt.,
NEHU., Shillong. |
| | 2) Dr. S. Singh, Geography Deptt.,NEHU.,
Shillong. |
| 2) J. Thankima College | 1) Dr. R.P. Vadhera, Education Deptt.,
NEHU., Mizoram . |
| | 2) Dr. L.K. Jha, Forestry Deptt.,NEHU.,
Mizoram. |
| 3) T. Romana College | 1) Dr. R.S. Wangu, Education Deptt.,
NEHU., Mizoram. |
| | 2) Mr.Lalrintluanga, Public Administra-
tion, NEHU., Mizoram. |
| 4) North East Adventist College | 1) Prof K.S. Lyngdoh, Education Deptt.,
NEHU., Shillong. |
| | 2) Prof. E.N. Lall, English Deptt.,
NEHU., Shillong. |

C.D.C.

NEHU NOTES

5:1:1(1)

Item No.5.

5:1-Statutes, Ordinances, Regulations & Rules.

(i) Amendments of Rule RU-2 with reference to extend the age limit of re-employed teachers.

In pursuance of Executive Council's Resolution No:EC:105:99:5:1(vii), a Committee was constituted to examine the amendment of Rule RU-2 extending the age of re-employed teachers from the existing 62 years to 65 years taking into cognisance of the Revised Pay Recommendation on re-employment.

The Committee which met on 1st April'2006 after deliberations finalised the report and amendments to Rule RU-2 which is placed as Annexure 'A'

The matter is placed before the Council for consideration.

PV's office.

MINUTES OF THE THIRD MEETING OF THE COMMITTEE TO
EXAMINE

THE AMENDMENTS TO RULE RU-2

Third Meeting of the Committee was held on 1st April, 2000 at 11:00 a.m. in the Chamber of the Pro-Vice-Chancellor. The meeting was attended by the following members:-

- | | |
|---------------------------|----------------|
| 1. Prof (Mrs) K S Lyngdoh | (In the Chair) |
| 2. Prof J B Bhattacharjee | Member |
| 3. Prof A L Verma | Member |
| 4. Prof S S Khare | Member |
| 5. Prof A C Sinha | Member |
| 6. Prof J C Binwal | Convener |
| 7. Dr(Mrs)T Ao | Invitee |

The Committee after deliberations finalised the report and amendments to Rule RU-2(Enclosed herewith).

The Committee ended with a vote of thanks to the Chair.

J C Binwal
Convener

KS Lyngdoh
Chairman.

Copy to :-

1. Vice-Chancellor, NEHU, Shillong.
2. D R (Conf), NEHU, Shillong - with a request to include enclosed resolutions of the Committee in the agenda of the forth coming Executive Council meeting. Scheduled on 13th April, 2000.
3. D R (Estt.II), NEHU, Shillong for information.

SG/6/5/00)

Report of the Committee constituted by the University vide Notification No:F.12-15/Estt.II/90-1855 dated 18th February 2000 for the revision of RU-2.

1. The Committee had three meetings on 2nd March, 23rd March and 1st April, 2000. During these meetings the Committee thoroughly examined the documents relating to the re-employment of teachers issued by the UGC from time to time and decided to recommend a revised RU-2 in the light of resolutions of the Academic Council and Executive Council of NEHU. The draft RU-2(revised) is enclosed herewith. The Committee wanted to consult the existing guidelines of the UGC, as mentioned in UGC's Revised Pay Order of 1998. However, this guideline was not available despite the efforts of the Committee.

2. The Committee also discussed the related aspects of retirement benefits of reemployed teachers and decided to make the following recommendations for consideration of the University.

a) NEHU is now in existence for about 27 years, but till today no decision has been taken about the creation of Emeritus Professorship which is available in many Universities, including Central Universities, in the Country. The University may Consider this.

b) The revised UGC Pay Order of 1998 provided for a super time scale for the Professors, subject to the issue of a guideline by the UGC and the Govt of India. This has not yet been introduced. Therefore the Committee felt that the University may take up this matter with the UGC and the Government.

c) The Executive Council of the University has decided from time to time to give the benefit of additional weightage of maximum 5 years to the teachers in calculating the pensionable service. The new guidelines of the UGC also provides for a benefit of maximum 3 years to the teachers who entered service with Ph D . The Committee felt that the retiring teachers have not been given this benefit so far. Therefore the Committee decided to recommend that this matter should be urgently looked into by the University and implemented without further delay.

SG/6/5/00)

Rules for Re-Employment of Teachers

1. The teachers on retirement may be reemployed for a period of 3 years i.e. upto the age of 65 years from the date of retirement against the post vacated by him/her subject to the condition that such teachers shall not hold any administrative post.

Eligibility

1. A superannuated teacher will be eligible for reemployment provided he has served NEHU, its constituent Colleges and Institutions for a minimum period of 10 years.
2. He/She should be academically active with a good record of service.
3. He/She should be physically fit and certified as such by NEHU C M O.
4. Teachers of all categories of the University as well as constituent Colleges fulfilling the above conditions will be eligible for consideration.

Procedure

1. Application for reemployment should be made by the teacher concerned to the Vice-Chancellor through the Department approximately one year prior to the date of retirement. The Head of the Department shall forward the application to the Vice-Chancellor within a period of one month of the receipt of the application along with the comments and resolution of the Department.
2. The Vice-Chancellor will place the application for the consideration and approval of the Executive Council and its decision shall be final.
3. The University shall intimate its decision to the concerned teacher and the Department within atleast two months before the date of retirement of the teacher.

Remuneration and other facilities

1. A re-employed teacher will be entitled to pay as per rules governing fixation of pay of reemployed persons.
2. Physical facilities and other departmental/University's amenities enjoyed by the teacher prior to his/her retirement will continue to be available to him/her.

Contd....P...2/-

- 3 The payment of retirement T A and moving expenses shall be deferred till he/she finally relinquishes his/her position as a teacher in the University after the period of reemployment.
4. The reemployed teacher shall be entitled to the benefit of CPF, annual increments, LTC, etc during the period of reemployment as per Government of India rules.

Notwithstanding anything contained in the rules, any difficulty in operating any of its clauses, or interpretation thereof, the matter shall be referred to the Executive Council, whose interpretation/decision shall be treated as final.

SG/8/00)

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- iii) Drafting of a Regulation for procedure of Examinations, fee structure, attendance and equivalent on certificate ~~Post-Graduate Diploma Course.~~

The Academic Council Committee which met on 3rd May'2000 discussed at length into the examination procedures, fee structure, attendance and re-evaluation with regard to the Certificate Course and Post-Graduate Diploma Course and the recommendations of the Committee placed as Annexure-'A'

The matter is placed before the Council for consideration.

MINUTES OF THE COMMITTEE APPOINTED BY THE ACADEMIC COUNCIL
VIDE RESOLUTION NO: 62:99:51:(1) FOR DRAFTING OF A REGULATION
FOR PROCEDURE OF EXAMINATIONS, FEE STRUCTURE, ATTENDANCE AND
EQUIVALENT HELD ON 3rd MAY'2000

Members Present:

- | | |
|------------------------|----------|
| 1. Prof MC Pandey | Chairman |
| 2. Prof HN Pandey | Member |
| 3. Prof BK Tiwari | Member |
| 4. Mr John MS Khongwir | Convener |

The Committee looked into the examination procedures, fee structure, attendance, and re-evaluation with regard to the **Certificate** course and P G Diploma course in the University. The members of the Committee met on the 3rd of May'2000 and recommended the following.

1. The examination procedures, fee structure, attendance and re-evaluation, will same as for other P G Courses.

2. For being eligible for repeating a paper(s), a candidate should have passed in atleast 50 percent of the paper (s) of the semester and have secured 20 percent marks in the paper(s) to be repeated. The candidate shall be permitted to repeat the paper in the next semester when the course(s) is/are offered.

Sd/-

Prof MC Pandey
Chairman.

iii) Amendment to Admission criteria for M.Sc Bio-Chemistry.

On the above subject, the Head, Department of Bio-Chemistry, North-Eastern Hill University, Shillong vide his letter No.9-12/Bio-Chem/2000-79 of 26th May, 2000 as at Annexure 'A' has intimated that the First Batch of B.Sc Bio-Chemistry(Honours) is going to come out this year from NEHU, and therefore, he has proposed that the admission criteria for M.Sc in Bio-Chemistry be amended as follows :-

"For M.Sc in Bio-Chemistry, a student in addition to Honours in Bio-Chemistry, with Honours in Bio-Technology can also apply."

It may be noted that as per the present criteria the students from five subjects viz Bio-Chemistry, Botany, Zoology, Micro-Biology and Bio-Technology are eligible to apply for admission to M.Sc Bio-Chemistry. But from the afore said suggestions, it appears that the Department of Bio-Chemistry desire to restrict itself to two subjects only i.e Bio-Chemistry and Bio-Technology.

The matter is placed before the Council for consideration.

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Department of Biochemistry
North-Eastern Hill University
Umshing, Shillong 793 022, India
Tel: (0364) 250 10 7: FAX (0364) 2500 76, 250 10 8

Dr. R. Sharma
Head

No. 9-2/Biochem/2000-79

May 26, 2000.

To

The Deputy Registrar (Conference),
North-Eastern Hill University,
Shillong -22.

Sub: Agenda item for M.Sc. Biochemistry Admission Criteria.

Sir,

This is to bring to your notice that the first batch of B.Sc. Biochemistry (Honours) is going to come out this year from NEHU. Hence, the department feels that the admission criteria for M.A/M.Sc. Admission be amended to the following :

"For M.Sc. in Biochemistry a student, in addition to honours in Biochemistry, with honours in Biotechnology can also apply."

I, therefore, request you to please get the same considered and approved by the Academic Council and notified for this year's admission in M.Sc. Biochemistry.

Thanking you,

Yours faithfully,

Sd/-R. Sharma

(R. Sharma)

5:2:1(1)

5:2: - SYLLABUS

i) Revised Syllabus for Bio-Technology.

The Board of Under Graduate Studies in Bio-Technology in its meeting held on 6th April'2000, has framed a revised syllabus for Bio-Technology which is placed at Annexure--'A'

The matter is placed before the Council for consideration.

SG/19/5/00)

5:2:1(2)

SUMMARY OF THE SYLLABUS IN BIOTECHNOLOGY

PART I

			Marks
Paper I	Cell Biology & Biochemistry		70
II	Maths & Computers	35	
	Biophysics	35	70
III (Practical)	Biochemical Techniques (spread over 12 hours)		50
	Internal Assessment (Computer applications)		10
Job Training in Clinical Pathology Laboratory/Instrumentation			20
Paper IV	Microbiology		70
V	Genetics & Molecular Biology		70
VI	(Practical) Microbiological Techniques		45
VII	(Practical) Methods in Cellular and Molecular Biology		45
Job Training in Laboratories/ Clinics/ Institutions			20

PART II

Paper VIII	Immunology	28	
	Recombinant DNA Technology	42	70
IX	Plant Biotechnology	42	
	Environmental Biotechnology	28	70
X	(Practical) Immunological Methods		30
XI	(Practical) Culture Methods		60
XII	Project Work under chosen faculty		50
	Entrepreneurship (Theory, Practice & Draft Project)		50

REVISED SYLLABUS FOR BIOTECHNOLOGY

PART - I

PAPER I: CELL BIOLOGY & BIOCHEMISTRY (FULL MARKS : 70)

Unit 1. Cell, prokaryote, eukaryote, cell-organelles-structure and function of plasma-membrane; endoplasmic reticulum; golgi apparatus, lysosome, nuclear envelope; ribosomes, mitochondria, chloroplast, chromosome - ultrastructure, Cell cycle.

Unit 2. Nature of Biological materials (Polymeric reactions, Carbohydrates, lipids, proteins, nucleotide, nucleic acids) Oxidation-reduction properties, pH, pk and buffering, isomerism, types of chemical bonds and, hydrophilic and hydrophobic groups in Bio-molecules, Neurotransmitters, Hormones and growth factors, high energy biomolecules (ATP, GTP & Creatine phosphate).

Unit 3. Perspectives of biological macromolecules :

The repeating units in nucleic acids and proteins, Helicity, bending, looping, pleats; salt bridges etc. and their determinants, Basis for intermolecular interactions with example, enzyme - substrate and antigen - antibody reactions, salient features of biochemical reactions involved in the bio-synthesis of amino acids, fatty acids and nucleotides.

Unit 4. Enzymes, protein and non-protein enzymes -classification and nomenclature of enzymes, regulation of enzyme activity coenzymes - structure and function of Coenzyme I and Coenzyme A. Kinetics of enzyme Catalysed reactions, isolation and purification of enzymes, enzymes in food processing, medicines, and production of chemical compounds.

Unit 5. Biochemical techniques : Chromatography - paper, TLC, Gel filtration and ion exchange, general principles of electrophoresis, chromatofocussing, electrofocussing, centrifugation.

Recommended Books :

1. Lehinger, A.L.; Nelson, D.L.; Cox, M.M. (1993) - Principles of Biochemistry. CBS Publishers & Distributors.
2. Stryer, L (1995) - Biochemistry. W.H. Freeman & Company.
3. Zubay, G. (1993) - Biochemistry. Wm.C. Brown Publishers.
4. Conn, E.E; Stumpf, P.K. ; Bruenig, G.; & Doi, R.H. (1987) Outlines of Biochemistry. John Wiley & Sons.
5. De Robertis, E.D.P; De Robertis, E.M.F.Jr. (1988) . Cell and Molecular Biology Info-Med Limited.

PAPER II : MATHS, COMPUTERS & BIO-PHYSICS (FULL MARKS : 70)

SECTION - A : MATHS AND COMPUTERS (MARKS : 35)

Unit 1. The set theory properties of sub sets, linear and geometric functions, the binomial theorem of integer, limits of functions, (basic idea of limits of functions without analytic definition) derivatives of functions, Logarithm (definition & Laws of Logarithm, use of Logarithm table) Differentiation, Integration (general introduction, significance and application for simple algebraic and trigonometric functions), Probability calculation (classical & Axiomatic definition of probability, theorem on total & compound probability) . Standard distribution, with important properties. Simple problems involving Binomial, Poisson and Normal variables. Methods of sampling, Collection of data, Primary & Secondary data, classification & tabulation, confidence level, Statistics, idea of sampling, distribution and standard error, Large sample, Normal tests. Measurement of dispersion (Measures of location & dispersion).

Unit 2. Computers : General introduction (Characteristics, capabilities, Generations). Software, Hardware : organization of Hardware (input devices, memory, control unit, arithmetic logic unit, output devices). Software : System software, application software, languages (low level, high level), interpreter, compiler, Data processing : Batch, on-line, real-time (take examples from bio-industries : eg. application of computers in coordination of solute concentration, pH, temperature, etc. of a fermenter in operation); Internet applications.

SECTION - B : BIO-PHYSICS (MARKS : 35)

Unit 1. Bio-energetics; laws of thermodynamics (1st & 2nd laws), Electrical properties of biological compartments, electrochemical gradients, membrane potential, Chemiosmotic hypothesis; Photosynthesis – CO₂ fixation, C-reduction cycle (C₃, C₄, CAM), Photorespiration, Photophosphorylation, mechanism of ATP synthesis.

Unit 2. Principles and biological applications of physical techniques : Colorimetry, Spectrophotometry, Fluorimetry, Atomic absorption, IR, Raman Spectra, Ultra sound, Optical filters, X-Ray, CAT Scan, ECG, EEG, NMR, X-ray crystallography.

Recommended Books :

1. Campbell, R.C. (1974) Statistics for Biologists, Cambr. Univ. Press.
2. Gupta, S.C. and Kapoor, V.K. (1989) Vital Statistics, Chand & Co.
3. Snedecor, G.W. & Cochran, W.G. (1967) Statistical methods, IBH.
4. Wilson, K & Goulding, K.H. (1992) A Biologist Guide to Principles and Techniques of Practical Biochemistry, Foundation Books.
5. Harris, D.A., (1995) Bioenergetics. At a glance. Blackwell Scientific Publication.

PAPER III : BIO-CHEMICAL PRACTICALS (MARKS : 60)

A. PRACTICAL EXAMINATION (MARKS : 50)

1. Preparation of buffer.
2. Colour reactions of Carbohydrates
3. Colour reactions of amino acids
4. Extraction of lipids
5. Estimation of protein by Bradford method
6. Estimation of DNA
7. Estimation of RNA
8. Estimation of sugar in given solution
9. Assay of enzyme activity - amylase
10. Paper chromatography of sugars, Amino acids, Plant pigments

B. INTERNAL ASSESSMENT (MARKS : 10)

Handling of computers and Data analysis using Foxpro (Create, Append, Delete, pack, Display, List, Count, Set, Order, Index, Sort).

Recommended Books:

1. Plummer, D.T. (1978). An Introduction to Practical Biochemistry. Tata McGraw Hill Publishing Co.
2. Jayaraman, J. (1981). Practicals in Biochemistry. Wiley Eastern Publishing Co. Ltd.
3. Sadasivam, S.K., Manikam, A. (1992). Biochemical Methods. Wiley Eastern Publishing Co. Ltd.

PAPER IV : MICROBIOLOGY (FULL MARKS : 70)

Unit 1. History and development of microbiology, Pasteur's experiments. The concept of sterilization, Methods of sterilization, (Dry heat, wet heat, radiation, chemical and filtration etc), Microscopy (Optical, TEM and SEM), Concept of microbial species and strains, growth curve, various form of microorganisms- (Bacteria, fungi, viruses, Protozoa, PPLOs). Nature of the microbial cell surface, Gram positive and Gram negative bacteria, kinds of flagella, Sero types, Nutritional classification of microorganisms.

Unit 2. Genetic homogeneity in clonal populations, Spontaneous and induced variation arising in microbial populations, Genetic recombination in microbes (conjugation, transduction, transformation), Isolation of auxotrophs (replica plating technique and analysis of mutations in biochemical pathways), Microbial assays for vitamins and antibiotics, Strain improvement by selection.

Unit 3. Microbes in extreme environments - the thermophiles and alkalophiles, pathogenic microorganisms, Defence mechanisms against microorganisms, Symbiosis and antibiosis among microbial population, N_2 -fixing microbes in agriculture and forestry.

Unit 4. Industrial microbes and their uses in production of food (Dairy & SCP) and drugs (Antibiotics - with special reference to Penicillin & Streptomycin). Fermentation products, A survey of products from microorganisms.

Recommended Books :

1. Stanier, R.Y. (1990) The Microbial World, Prentice Hall
2. Wilkinson, J.F. (1887) Introductory Microbiology, Blackwell Scientific Publications.
3. Friefelder, D. (1987) Microbial Genetics, Jones & Bartlett.
4. Prescott, L.M., Harley, J.P., Klein, D.A. (1996) Microbiology. Wm. C. Brown Publishers.
5. Dubey, R.C., Maheshwari, D.K. (1999) A Text Book of Microbiology. S. Chand & Co. Ltd.

PAPER V : GENETICS AND MOLECULAR BIOLOGY (FULL MARKS : 70)

Unit 1. Gene concept - cistron, recon, muton, one gene - one enzyme hypothesis and its newer concepts, overlapping and split genes chromosomal aberration - structural and numerical changes, Mutations - spontaneous and induced, chemical and physical mutagens (UV, X-rays, 5 - Bromouracil, ethyl methane sulphonate, acridine. Induced mutation for improvement of crops, molecular mechanisms for DNA damage and repair, genomes of organelles (mitochondria and chloroplast) and their role in inheritance.

Unit 2. Replication of DNA in prokaryotes and eukaryotes, transcription in prokaryotes and eukaryotes, processing of eukaryotic mRNA. Translation in prokaryotes and eukaryotes.

Unit 3. Deciphering the genetic code, Regulation of prokaryotic gene expression (lac, his, trp, and catabolite repression). Molecular mechanism of DNA recombination, insertion elements and Transposons.

Unit 4. Regulation of eukaryotic gene expression : transcription factors, translational regulation of gene expression, Developmental and environmental regulation of gene expression.

Recommended Books

1. Benjamin, L. (1996) Genes VI. Oxford University Press.
2. Freifelder, D. (1999) Molecular Biology. Narosa Publishing House.
3. Freifelder, D. & Malacinski, G.M. (1993) Essentials of Molecular Biology. Narosa Publishing House
4. Gardener, E.J.; Simmons, M.J. & Snustad, D.P. (1991) Principles of Genetics. John Wiley & Sons.
5. Gupta, P. K.. (1999) Genetics. Rastogi Publications.

PAPER VI : MICROBIAL TECHNIQUES (FULL MARKS : 45)

1. Aseptic techniques :

- Cleaning of glassware
- Preparation of media, cotton plugging and sterilization

2. Isolation of microorganisms from air, water and soil samples : dilution, pour plating and colony purification

3. Enumeration of microorganisms : total vs viable counts

4. Identification of isolated bacteria : Gram staining methods, metabolic characterization (IMVIC test)

5. Growth curve of microorganisms

6. Antibiotic sensitivity of microbes, use of antibiotic discs -

7. Testing water quality (BOD, COD & *E. coli* count)

8. Alcoholic fermentation.

Recommended Books :

1. Aneja, K.R. (1996). Experiments in Microbiology, Plant Pathology, Tissue Culture & Mushroom Cultivation. Wishwa Prakashan.
2. Cappuccinno, J.G., & Sherman, N. (1999) Microbiology- A Laboratory Manual. Addison Wesley.

PAPER VII : CELL AND MOLECULAR BIOLOGY PRACTICALS (FULL MARKS : 45)

1. Cytological preparations :
 - Fixation, dehydration and staining
 - Squash preparation of meiotic and mitotic cells
 - Embedding and sectioning
2. Cell counting methods : The haemo-cytometer.
3. Measurement with the help of light microscope calibration of ocular micrometer - Average cell size - Chromosome lengths
4. Osmotic rupture of RBC and estimation of Hb spectrophotometrically
5. Extraction and estimations of plant pigment in solvents
6. Extraction of mitochondria from liver
7. Precipitation from extracts
 - starch from potatoes
 - glycogen from liver
 - casein from milk
8. Thin layer chromatography of extracted materials
9. Isolation of nuclear DNA
10. Gel filtration

Recommended Books:

1. Plummer, D.T. (1978). An Introduction to Practical Biochemistry. Tata McGraw Hill Publishing Co.
2. Jayaraman, J. (1981). Practicals in Biochemistry. Wiley Eastern Publishing Co. Ltd.
3. Sadasivam, S.K., Manikam, A. (1992). Biochemical Methods. Wiley Eastern Publishing Co. Ltd.
4. Karp, G. (1996). Cell & Molecular Biology. Concepts & Experiments. John Wiley & Sons.

JOB TRAINING FOR BIOTECHNOLOGY : (INTERNAL ASSESSMENT - FULL MARKS : 40)
(To be completed before the Part-I Examination)

A. PRACTICAL WORK IN CLINICAL PATHOLOGY (Marks :20)

Hematological Tests
Genetic Tests
Biochemical Estimation

B. INTRODUCTION TO AND PRACTICALS ON (Marks :20)

Culture Methods
X-ray
ECG
Sonography

PART - II

PAPER VIII : IMMUNOLOGY AND RECOMBINANT DNA TECHNOLOGY (FULL MARKS : 70)

SECTION - A : IMMUNOLOGY (MARKS : 28)

Unit 1. Historical perspective of immune system and immunity ; Innate and specific immunity; The organs and cells of the immune system Antibody structure in relation to function and antigen-binding ; Types of antibodies and their structures : isotypes, allotypes, idiotypes ; Measurement of antigen -antibody interaction :- agglutination, immunodiffusion, immuno-electrophoresis, ELISA, RIE, production of monoclonal antibodies; Histocompatibility :- structure of MHC class I, II & III antigens & their mode of antigen presentation, MHC restriction; Antigens & antigenicity; Humoral immunity & clonal selection theory; cell-mediated immunity.

Unit 2. Immunoglobulin gene : genetic basis of antibody diversity; Effect of T cell functions; Immunity to infections of diseases ; vaccines (attenuated and recombinant) and vaccination; Antibodies in targeting therapeutic agents. Autoimmunity and autoimmune - Autoimmune thyroiditis; Multiple sclerosis; Myasthenia gravis; systemic lupus Erythematosus; Rheumatoid Arthritis.

SECTION B - RECOMBINANT DNA TECHNOLOGY (MARKS : 42)

Unit 1. Introduction to gene cloning and its uses, tools and techniques : plasmids and other vehicles, DNA, RNA, cDNA, Restriction enzymes and other reagents, techniques, laboratory requirement, safety measures, purification of DNA from bacterial, plant and animal cells, Manipulation of purified DNA, introduction of DNA into living cells and their screening.

Unit 2. Application of cloning in gene analysis (obtaining clone of a specific gene, studying gene location, structure, expression) Expression of foreign genes in prokaryotes and eukaryotes, production proteins from cloned genes, gene cloning in medicine(pharmaceutical agents such as insulin, growth hormones, Plasminogen activator, clotting factors, interferon, recombinant vaccines), gene therapy for genetic diseases.

Recommended Books :

1. Roitt, Ivan (1998). Essentials Immunology. Blackwell Scientific Publications.
2. Kimbell, J. W. (1986) Introduction to Immunology. McMillan Publishing Co.
3. Brwon, T.A. (1996) Gene Cloning. Chapman & Hall Publishing Co.
4. Glick, B.R. & Pasternick, J.J. (1994) Molecular Biotechnology. ASM Press. USA
5. Old, R.W. & Primrose, S.B. (1994) Principles of Gene Manipulation. Blackwell Scientific Publications.
6. Gupta, P.K. (1999) Elements of Biotechnology. Rastogi Publications.

PAPER IX : PLANT AND ENVIRONMENTAL BIOTECHNOLOGY (FULL MARKS : 70)

SECTION - A : PLANT BIOTECHNOLOGY (MARKS : 42)

Unit 1. Introduction to in vitro culture methods, ovary and ovule culture, in vitro pollination and fertilization, embryo culture, embryo rescue, introduction to the processes of embryogenesis and organogenesis and their practical applications, Micropropagation of elite species (axillary bud, shoot tip and meristem culture), Haploid production and its use, Somaclonal variations and applications, Endosperm culture and production of triploids.

Unit 2. Single cell suspension cultures, in selection of variants/mutants with or without mutagen treatment, Protoplast isolation and regeneration, Fusing protoplasts, Use of markers for selection of hybrid cells, Concept and applications of somatic hybridization (hybrids vs cybrids), Uses of plant cell, protoplast and tissue culture for genetic manipulation of plants, production of transgenic plants using Ti plasmids and other vectors, practical application of genetic transformation.

SECTION - B : ENVIRONMENTAL BIOTECHNOLOGY (MARKS : 28)

Unit 1. Renewable and non-renewable resources, Conventional fuel and their environmental impacts (fire wood, and animal wastes, coal, petroleum and gas and animal oils), Modern fuels and their environmental impacts (methanogenic bacteria & biogas, microbial hydrogen production, conversion of sugars to ethanol, the gasohol experiment, solar energy converter - hopes from the photosynthetic pigments, possibility of plant based petroleum industry and cellulose degradation for combustible fuel.

Unit 2. Treatment of municipal wastes and industrial effluents, Degradation of pesticides and other toxic chemicals by microorganisms, Thuriangiensis and Biopesticides, Enrichment of ores by microorganisms (Bioaccumulation and Biomineralization), Biofertilizers (nitrogen fixing microorganisms, mycorrhiza), Environmental impact assessment of transgenic organisms, Bio-assessment of environmental quality.

Books Recommended

1. Gupta, P.K. (1999) Elements of Biotechnology. Rastogi Publications.
2. Reinert, J; and Y.P.S Bajaj (1987). Applied and Fundamental Aspects of Plant Cell, Tissue and Organ Culture - Narosa Publishing House.
3. Razdan, M.K. (1993). An Introduction to Plant Tissue Culture. Oxford & IBH Publishing Co.
4. Narayanswamy, S. (1994) Plant Cell & Tissue Culture. Tata McGraw Hill Publishing Co. Ltd.
5. John. E. Smith (1996) Biotechnology. Cambridge University Press.

PAPER X : PRACTICALS IN IMMUNOLOGICAL METHODS (FULL MARKS : 30)

1. Raising of antisera
2. Ouchterlony double diffusion
3. Immunoelectrophoresis (IE) for identification of antigens in a mixture.
4. ELISA
5. Purification of Abs

Recommended Books :

1. Talwar, G.P. & Gupta, S.K. (1992) Handbook of Practical & Clinical Immunology. Vols I & II. CBS Publishers & Distributors.

1. Fixing of tissues
2. Ouchterlony double diffusion
3. Immunoelectrophoresis (IE) for identification of antigens in a mixture
4. ELISA
5. Purification of antibodies

Recommended Books:
1. Taylor, G. R. & Gurr, A. R. (1997) Handbook of Practical & Clinical Immunology. Vols I & II. CBS Publishers & Distributors.

PAPER XI : PRACTICALS IN CULTURE METHODS (FULL MARKS : 60)

1. Sterilization techniques for plant tissues
2. Techniques for excision of plant parts for aseptic culture
3. Techniques for inoculation under aseptic condition
4. Methods to establish tissues in cultures
5. Growing plant tissues into undifferentiated mass
6. Testing of seed viability
7. Culture of plant embryos/seeds
8. Clonal propagation of plants and production of virus free-plants

Recommended Books:

1. Narayanswamy, S. (1994) Plant Cell & Tissue Culture. Tata McGraw Hill Publishing Co. Ltd.
2. Reinert, J, and Y.P.S Bajaj (1987). Applied and Fundamental Aspects of Plant Cell, Tissue and Organ Culture. Narosa Publishing House.

PAPER XII : (Project Work & Entrepreneurship ::::: FULL MARKS : 100)

SECTION – A: PROJECT WORK (MARKS : 50)

The students will be assigned to generate data on certain research projects and /or compile available information from literature on a given topic of biotechnological relevant. The project will be under the supervision of chosen faculty member and span over a period of one semester.

SECTION – B : ENTREPRENEURSHIP (MARKS : 50)

Part : A

1. Introduction

- (a) Meaning of Entrepreneurship
- (b) Entrepreneurship and Management
- (c) The Role of the entrepreneur in society
- (d) The North-Eastern Entrepreneurship Scenario
- (e) Professional Courses and Entrepreneurship

2. The Entrepreneurial Decisions

- (a) Socio-Economic Decisions : various social, economic, environmental and cultural factors affecting decisions in the area- decision on the business organisational form
- (b) Selection of a Product Line : criteria - constraints – demand for a product - market research, survey and analysis
- (c) The Product Design and Development Process : factors relating to design - choice of techniques - location - production process - value engineering
- (d) Project Evaluation - Cost/Benefit analysis
- (e) The Economic Criteria for Decisions : materials and energy inputs and constraints - stocking the product and basic inventory management

- (f) Entrepreneurial functioning under various constraints : materials - power - finance - export/import - return on investments - local demand
- (g) Fundamentals of Human Resources Management
- (h) Introduction to elementary Entrepreneurial Projects

3. Marketing the Products

- (a) The Marketing Concept and Philosophy
- (b) Marketing and Selling
- (c) The Product Outlets
- (d) Advertising and Sales Promotion
- (e) Role of Public Relations
- (f) Development of a Marketing Strategy
- (g) Clients Servicing - After Sales marketing

4. Finance and the Entrepreneur

- (a) Decisions on the requirements of finance : capital and long term requirements short term and working capital needs - decisions on capital mix - equity - loans
- (b) Sources of Finance : Government - Banks - Financial Institutions - the Private Unorganised Sector - grants and subsidies
- (c) Types of Finance Available from Various Sources : Grants and Subsidies - Bridge Finance - Loans : Short and Long term
- (d) Loan Finance Economics : short and long term loans - Sources - Procedures - Operation - Repayments - bridge finance

5. Laws relating to Intellectual Property Rights (IPR) and Patents.

Part- B : TERM PAPER CUM PROJECT WORK (MARKS : 50)

The students should submit a draft entrepreneurial project which they propose to start. The project should utilise the expertise and skills they have acquired in bio-technology and incorporate the theoretical knowledge they have acquired in the area of entrepreneurship into a well integrated and unified term paper. The term Paper will be evaluated internally by the College on Presentation, Contents, Overall Presentation, Viva etc.

Books Recommended :

- (1) Business : An Introduction by Benjamin M Compaine & Robert F. Litro - The Dryden Press - Chicago
- (2) Principles of Marketing Management by Richard P Bagozzi. Science Research Associates - Chicago
- (3) Management By James A F Stoner, R Edward Freeman, Daniel R Gilbert - Prentice Hall of India Pvt Ltd - New Delhi
- (4) Marketing Management : Analysis, Planning, Implementation and Control by Philip Kotler Prentice-Hall of India Pvt Ltd - New Delhi
- (5) How to become an expert in : Marketing Communication - A skills & Activity based Approach by Patrick Quinn - P.A.D.U Publications - Delhi
- (6) Management - Tasks, Responsibilities, Practices by Peter F Drucker - Allied Publishers Pvt Ltd - New Delhi
- (7) Managerial Economics by Joel Dean - Prentice-Hall of India Pvt Ltd - New Delhi
- (8) The Economics of Development and Planning by M.L. Jhingan - Vikas Publishing House Pvt Ltd - New Delhi
- (9) Marketing Management - Planning, Implementation and Control by V.S Ramaswamy & S Namakumari MacMillan India Ltd - New Delhi

REVISED SYLLABUS FOR BIOTECHNOLOGY

LECTURE DISTRIBUTION

PAPER	HOURS PER WEEK	TOTAL CONTACT HOURS
PART - I		
I	5 (Theory)	100 hours
II	5 (Theory)	100 hours
III	5 (Practical)	100 hours
IV	4 (Theory)	96 hours
V	5 (Theory)	120 hours
VI	4 (Practical)	96 hours
VII	4 (Practical)	96 hours
PART - II		
VIII	5 (Theory)	120 hours
IX	4 (Theory)	96 hours
X	2 (Practical)	48 hours
XI	2 (Practical)	48 hours
XII	4 (Theory)	35 hours
Term Paper		60 hours

5:2:2(1)

- ii) Syllabi for three courses for Certificate Courses in Computer Applications proposed by the Computer Centre

As per University Grants Commission, New Delhi directives and also to be self financing with the provision to contribute towards the core fund of the University, the Management Committee of the Computer Centre had decided that the Centre should start giving some certificate courses in Computer Applications. Accordingly, the Centre prepared three-one semester certificate courses - together with financial package for running these courses. The matter was placed before the Academic Council in its 61st meeting held on 15th and 16th June, 1999. The Council resolved to constitute a Committee to examine the question of starting academic programmes in the service centres and to suggest measures as to how the courses are to be implemented. The Committee was chaired by Professor A L Verma and its recommendations were placed before the Academic Council in its 62nd meeting held on 3rd and 5th December, 1999. The recommendations are appended as Annexure I. In the 105th meeting of the Executive Council held on 9th December, 1999, the Council approved an Ordinance OA-Or Certificate and P G Diploma Courses. The copy of the said Ordinance is appended as Annexure II.

As requested by the Director, Computer Centre vide his letter dated 23rd May 2000 (Annexure-III) to place before the Council once again the syllabi for three one-semester Certificate Courses - together with the Financial package as placed at Annexures IV & V, the matter is placed before the Council for consideration.

MINUTES OF THE AC COMMITTEE ON STARTING ACADEMIC
PROGRAMMES IN THE SERVICE CENTRES

As per notification No: AC:61-4/Conf/99-1316 dated 23rd July, 1999, a committee was constituted to examine the question of starting academic programmes in the service centres and to suggest measures as to how the courses are to be implemented. The Committee met on 23rd August '99 to discuss the matter.

The members went through the appropriate guidelines, functions and responsibilities of the so called service centres like Computer Centre, University Science and Instrumentation Centre (USIC), and Regional Sophisticated Instrumentation Centre (RSIC) etc. And deliberated upon the matter. After detailed discussion on various aspects, the members recommend the following points for consideration and appropriate decision by the Academic Council.

1. The USIC and Computer Centres are considered as non-vocational Academic Centres by UGC.
2. All the so-called service centres like USIC and Computer Centre etc may conduct teaching and training programmes at the Certificate and Diploma levels (Not exceeding one year duration) while Centres like RSIC may conduct long duration Workshops etc. In the relevant areas subject to fulfilling the following conditions.
 - i) A provision for conducting such programmes exist in the functions and guidelines of the concerned centre issued by UGC/DST etc. From time to time.
 - ii) The concerned centre has adequate infrastructure, qualified staff and other facilities to teach and service the course.
 - iii) The procedure for admission, duration of the particular programme etc. Shall be governed by the relevant provisions of the NEHU act, statutes, ordinances, regulations etc.
 - iv) The fee structure, duration of a programme and other related matters shall be devised and evaluated by the Advisory Committee/Management Committee of the respective Centres for approval by the appropriate NEHU authorities like Academic Council and Executive Council.

The meeting ended with a vote of thank from the Chairman.

Yours sincerely,

Sd/-

(Prof A.I. Verma)
Chairman of the Committee

ANNEXURE II

**ORDINANCE 0A-
ON CERTIFICATE AND PG DIPLOMA COURSES**

1. The University shall conduct Certificate Courses of one semester duration (six months) and PG Diploma Courses of two semester duration (one year)
2. The syllabus for the Courses shall be as prescribed by the Board of Post Graduate Studies / or Steering Committee and approved by the School Board and academic Council.
3. The eligibility for admission to the Certificate and PG Diploma Courses shall be Bachelor Degree or equivalent.
4. There shall be an examination conducted by the University at the end of the Semester.
5. The Course structure and the distribution of marks shall be as under :

A. CERTIFICATE COURSES

There shall be 4 Papers of 100 Marks each inclusive of Practicals. Practicals / Internal assessment should not exceed 25% of the total marks.

B. PG DIPLOMA COURSES

There shall be eight Papers of 100 Marks each inclusive of Practicals. Practicals should not exceed 25% of the total marks.

6. The minimum pass marks in each of the Paper shall be 35%. The successful candidates shall be classified as under :-
 - (i) Second Division - those who obtain 45% or more, but less than 60% of the aggregate marks.
 - (ii) First Division - those who obtain 60% or more, but less than 75% of the aggregate.
 - (iii) A candidate who obtains 75% or more in the aggregate shall be declared to have passed the Course with "Distinction"

7. Any difficulty arising in the giving effect to or interpreting any of the provisions of this Ordinance shall be referred to the Vice-Chancellor whose decision thereon shall be final.

To, 5:2:2(4)

21st May' 2000

The Chairman,
Academic Council,
NEHU, Shillong: -793022

Sir,

As per University Grants Commission, New Delhi directives and also to be self-financing with the provision to contribute towards the core fund of the University, the Management Committee of the Computer Centre had decided that the Centre should start giving some certificate courses in Computer Applications. Accordingly, the Centre prepared three-one semester certificate courses-together with financial package for running these courses. The matter was placed before the Academic Council in its 61st meeting held on 15th and 16th June, 1999. The Council resolved to constitute a Committee to examine the question of starting academic programmes in the service centres and to suggest measures as to how the courses are to be implemented. The Committee was chaired by Professor AL Verma and its recommendations were placed before the Academic Council in its 62nd meeting held on 3rd and 4th December, 1999. The recommendations are appended as Annexure I, In the 105th meeting of the Executive Council held on 9th December, 1999, the Council approved an Ordinance OA- On Certificate and P G Diploma Courses. The Copy of the said Ordinance is appended as Annexure II.

It is requested that syllabi of the three courses proposed by the Computer Centre (enclosed herewith together with financial package) may once again be placed before the Academic Council for necessary consideration and approval.

Thanking you,

Yours faithfully,

Sd/-

(SN Rai)
Director,
Computer Centre,
NEHU, Shillong: -793003

Course in MS-OFFICE

Duration 6 (six) months

UNIT I - MS-WORDTheory : 15 Hours
Practical : 30 Hours

- 1.1. Starting Word, ~~What's on the~~ Word Screen (Toolbars, Rulers, ~~Status~~ Bar), Choosing Commands from Menus, Using Dialog Boxes, Displaying a document in different Ways (Normal, Outline and Page Layout View, Full Screen, Print Preview, Zooming), Creating a Document, Typing and Editing a Document, Opening a document, Saving a Document, Printing a Document, Closing a Document and Quitting Word.
- 1.2. Typing Text, Moving the Insertion Point, Selecting Text, Deleting Text, Moving Text, Scrolling through a document, Moving and copying Text and Graphics, Inserting a symbol by using the symbol Command, Finding and Replacing Text and Formatting, Going to a specific place in a document, AutoCorrect and AutoText, Inserting Text and Graphics by using AutoCorrect, Printing AutoText entries-Collecting Text and Graphics from various locations.
- 1.3. Editing and Proofing Tools, Checking Spelling, Grammar, Looking up Words in the Thesaurus, Hyphenating Text automatically, Word Count and other Statistics, Formatting Text, Copying Formatting, Changing the Font, Font Size and other formats, True type fonts, Points Vs Pitch, Paragraph Formatting, Centering and Aligning Text, Indenting Text, Adding Border and Shading, Creating a dropped Capital letter.
- 1.4. Creating a Bulleted and Numbered list, Creating a Multilevel list, Numbering Headings, Sorting a list, Formatting Text automatically, To Review and Revise Automatic Formatting, Document Templates, Using a Wizard to create documents, Modifying and Creating templates.
- 1.5. Page Setup: Margins, Page Numbers and other Items, Adjusting Margins, To adjust Margins with the Ruler, Margins Vs Indents, Creating Headers and Footers, Formatting Page Numbers, Numbering Lines, Dividing a document into Sections, Newspaper Style Formatting, Creating Multiple Columns, Creating Columns of Unequal Width, Adding Vertical lines between columns.
- 1.6. Working with Tables, Creating a table, Adding Text and Graphics to a Table, Adding Rows and Columns, Modifying a Table, Column Width, Spacing and Row Height of Tables, Splitting a Table, Special Tasks with Tables - Performing Calculations in a Table, Exchanging data with MS EXCEL, Using a Table to create a graph, Using a Table as a Database, Frame Basics, Inserting a Frame, Selecting a Frame, Resizing a Frame, Positioning a Frame, Removing a Frame, Wrapping Text around a Framed Item.
- 1.7. Importing and Creating Graphics, Drawing in Word, Creating and Deleting Drawing Objects, Creating a TextBox, Creating a Callout, Rotating Drawing Objects, Moving and Positioning Drawing Objects, Outlining and Organising a document, Promoting and Demoting Paragraphs, Expanding and Collapsing Headings and Body Text, Moving Headings and Body Text, Formatting an Outline.
- 1.8. Inserting Footnotes and Endnotes, Controlling how Word saves documents, setting Password and selecting save Option, Converting File Formats, Opening a Document created in another application, WordArt, Graph, Object Linking and Embedding, Customizing the Word Screen, Optimizing Word, To Increase the performance of Word, Merging of Files, Recording and Running Macros.

Course in MS-OFFICE

5:2:2(6)

UNIT 2 MS - EXCEL

- 2.1. **Getting Started with Excel** : Spreadsheets, Spreadsheet Programs and Their applications; Workbooks and Worksheets; Commands, Ranges, Cells; Inserting, Deleting Cells Rows, Columns; Saving, Opening, Protecting a Workbook.
- 2.2. **Formula and Functions** : Formula in Excel - Operator Types, Order of Evaluation; Addressing Methods - Relative, Mixed and Absolute; Using Autosum; References - Reference Operators, Names in References, 3D references; Functions - Function Categories, The Function Wizard; Analysis Tools - Goal Seek commands.
- 2.3. **Formatting and Printing a Workbook** : Formatting a Worksheet - The Format Menu, Format Tool Bar, AutoFormat; Changing Column Widths and Row Heights; Copying Formats; Printing a Workbook - Setting the Print Range, Margins, Headers and Footers.
- 2.4. **Sharing and Managing Data** : Linking Data - Creating, Updating and Removing Links; Documenting Workbooks - Adding Cell Notes; Managing workbooks - Inserting, Copying, Moving, Renaming sheet tabs, Deleting Sheets; Using a List to organise data.

UNIT 3 MS - POWERPOINT

- 3.1. **An Introduction to PowerPoint** :What You Can Do With PowerPoint, Understanding The PowerPoint Windows, Understanding PowerPoint Views, Working With PowerPoint Commands, PowerPoint Wizards.
- 3.2. **Creating Presentations & Slides** : Introduction, Opening & Saving Presentations, Working With Slides & Layouts, How To Work With Templates, Working With Slides Master, Creating & Changing Color Schemes.
- 3.3. **PowerPoint Objects** : Definition Of Terms That Apply To Objects, Selecting & Grouping Objects, Moving & Aligning Objects, Cutting, Copying, Pasting & Duplicating Objects, Resizing Objects, Enhancing objects.
- 3.4. **Putting Text on Slides** : Typing Text, Typing Text In Shapes, Using The Text Tool, Selecting & Editing Text, Formatting Text, Formatting Paragraphs, Working With Text In Outline View, Using Text From Other Applications.
- 3.5. **Adding Visuals to Slides** : Drawing Objects In PowerPoint, Drawing Rectangles, Ellipses, & Other AutoShapes, Drawing Lines, Arcs, and Freeforms, Working With Imported Visuals, Adding Clip Art To Your Slides, Inserting Pictures On Your Slides, Working With Embedded Visuals, Creating Graphs, Creating Organizational Charts, Creating Special Text Effects Using Word Art, Inserting Equations.
- 3.6. **Notes, Handout Slide Shows & Printing** :Creating & Using Notes & Handouts, Creating & Running Slide Shows, Printing Presentations.

Course in MS-OFFICE

5:2:2(7)

UNIT 4 MS - ACCESS

4.1 Connecting the Dots

4.1a **Application Basics** : What is a Microsoft Access Application? Laying the Ground Work, Creating Objects, Connecting the Dots, Separating your Application's Tables from its other Objects.

4.1b **Structuring a User Interface** : Providing Navigation to Task and Objects, Designing a Main Form, Starting your Application using The Autoexec Macro, Creating a Menu Bar, Using Custom Toolbars in your Application, Making key Assignments.

4.1c **Introducing Access Basic** : What is Access Basic? Creating Simple Event procedure, Creating a Function, Editing a Module.

4.1d **Using Forms to collect, display & Filter Information** : Customizing a Command Button created with a Control Wizard, Assigning Values to Controls and Properties at Run Time, Using Pop-Up Forms and Dialog Boxes, Populating Controls on a Form, Adding a Row to a Combo Box List.

4.2 The ABCs of Access Basic

4.2a **Access Basic Fundamentals** : The Access Basic Programming Model, Sub and Function Procedures, Cod in Procedure, Controlling Execution.

4.2b **Variables, Constants and Data Types** : Declaring Variables, Scope and Lifetime of Variables, Fundamental Variable Data Types, Arrays, Symbolic Constants.

4.2c **Objects and Collections** : Working with Objects, Working with Properties and Methods, Working with Collections.

4.2d **Events** : Working with Events, Managing Events in your Application, Cancelling an Event, Default Events, Categories of Events.

4.2e **Debugging** : Avoiding Bugs, Using Debugging Tools and Suspending Execution, Suspending Execution at a Problem Statement, Resetting Code, Running Selected Portions of a Code, Using the Calls Dialog Box to Trace Nested Procedures, Inspecting Code and Data in the Immediate Window, Debugging Event Procedures.

4.2f **Handling Run Time Errors** : Error and Error Handling, Using Error Event, Using On Error Statements, Unanticipated Errors, Generating Errors with Error Statement.

Course in MS-OFFICE

5:2:2(8)

4.3 Rounding Out Your Application

4.3a **Working with Sets of Records**: Programming with Data Access Objects, Creating Recordset Objects, Looping through a Recordset, Finding a Specific record, Changing Records, Using Transactions to Control Changes.

4.3b **Developing Multiuser Application**: Shared Databases and Locking, Managing Shared data with Bound Forms, Locking Data in Recordsers, Handling Locking Conflicts.

4.3c **Communicating with other Applications**: Using OLE Automation, Using Dynamic Data Exchange, Comparing OLE and DDE.

4.3d **Securing your Application**: What is Security? Securing an Application, Using Access Basic to Secure your Application.

4.3e **Using Library Databases & Dynamic-Link Libraries**: Creating a Library Database, Creating an Add-in, Using Dynamic-Link Libraries.

Books for MS-OFFICE

Text Books

1. Beginners Guide Microsoft Office 97, Paperback / Published 1997
2. The Complete Idiot's Guide to Microsoft Office, Sherry Kinkoph/ Paperback/Published 1995

Reference Books

1. The Complete Idiot's uide to Running Your Small Office With
2. Mircosoft Office (Complete Idiot's Guide)- Laurie Ann Ulrich, John San Filippo (Contributor); Paperback
3. Microsoft Office 97 for Windows for Teachers (--For Dummies)- Neil J. Salkind; Paperback
4. The ABCs of Microsoft Office 97 - Guy Hart-Davis, Davis Guy Hart; Paperback
5. The ABCs of Microsoft Office 97 Guy Hart-Davis, Davis Guy Hart / Paperback / Published 1997
6. ABCs of Office 97 : Small Business Edition Guy Hart-Davis / Paperback / Published 1997
7. The Big Basics Book of Microsoft Office 97, Jennifer Fulton, et al / Paperback / Published 1997
8. Brief Microsoft Office 97 Professional (Exploring Windows Series) Robert T. Grauer, Maryann M. Barber / Paperback / Published 1998
9. Bundle at a Glance Microsoft Office 97 Professional Paperback / Published 1998
10. Bundle Quick Course Office 97 Paperback / Published 1997

SYLLABUS FOR UNIX & HTML

Duration : 6(six) months

Unit 1 : UNIX

Theory : 15 Hours

Practical : 30 Hours

1.1. Theoretical concept of operating system

Introduction, Basic Features of UNIX Operating System, UNIX File Structure, CPU Scheduling in UNIX System, Memory Management, Swapping, Demand Paging, File Systems Blocks and Fragments, Inodes, Directory Structures.

1.2. UNIX getting started I

Introduction, Getting Started, User Names and Groups, Logging in, Correcting Typing Mistakes,

Format of UNIX commands, Changing your password, Characters with special meaning, UNIX Documentation, Files and Directories, Current Directory, Looking at the directory contents, Absolute and Relative Pathnames, Some UNIX directories and files.

1.3. UNIX - getting started II

Introduction, Looking at File Contents, Your own Directories, File Permissions, Basic operations on Files, Changing Permission Modes, Standard Files, Standard Output, Standard Input, Standard Error, Filters and Pipes, Processes, Finding Out About Processes, Stopping Background Processes.

1.4. Text Manipulation

Introduction, Inspecting Files, Files Statistics, Searching for Patterns, Comparing Files, Operating on Files, Printing Files, Rearranging Files, Sorting Files, Splitting Files, Translating Characters.

Unit 2 : UNIX

Theory : 15 Hours

Practical : 30 Hours

2.1 Editors

Introduction, General Characteristics of vi, Starting up and quitting from vi, Adding Text and Navigation, Changing Text, Searching for text, Copying and Moving text, The Stream Editor SED, Changing several editor files in SED, AWK.

2.2 User to User Communication

Introduction, On-line communication, Off-line communication.

2.3 Shell Programming

Introduction, Programming in Bourne Shell and the C-shell, Wild characters, Simple shell programs, Variables, Programming constructs, Interactive shell scripts, Advanced features.

2.4 System Administration

Introduction, A definition of system adm., Booting the system, Maintaining user accounts, File Systems and Special Files.

SYLLABUS FOR UNIX & HTML**Unit 3: HTML**

Theory : 15 Hours
Practical : 30 Hours

3.1 The Internet & WWW, Web Browsers, Web Page

URLs, rules, Different Protocol in URLs
 What is HTML, why learn HTML, Versions of HTML,
 Creating Code, Viewing HTML page, Introducing HTML elements,
 Creating your first Real HTML page, HTML's Rule of Nesting
 Creating a more Advanced HTML Page
 Choosing the Right HTML Tool for you
 Using a Text editor to create HTML files
 Editing HTML Files with a word Processor
Linking Your way around the Web
 Creating an External Link
 Creating an Internal Link
 Linking to different parts of the same document

3.2 Beyond the Basics

Understanding the Use of Tables
 Creating an Example Table
 Advantages of Tables
 Limitations of Tables
 Using HTML 4.0 Table elements and Attributes
 Uses of Frames, Advantages and Limitations of Frames,
 Understanding Forms
 Using the Form Elements and Its Attributes
 Uses of Frames, Advantages and Limitations of Frames,
 Understanding Forms
 Using the Form Elements and Its Attributes
 Uses of Frames, Advantages and Limitations of Frames,
 Understanding Forms
 Using the Form Elements and Its Attributes
 Using Form Control Elements – Creating Text Boxes,
 Buttons and other Form Controls
 Using Tips and Tricks with Forms
 Why should you not Use Extensions to HTML ?
 Why should you Use extensions to HTML ?
 Programming with Applets, Active scripts, and CGI
 Understanding Active Scripts and Applets
 Understanding the difference between Java and JavaScript
 Understanding and Using JavaScript
 Seeing JavaScript in Action
 Understanding and Using Java
 Understanding what Applets can do
 Creating an applet
 Understanding ActiveX Controls
 Using CGI Programs and Scripts
 Using Perl to Create CGI Scripts
 What is Dynamic HTML ?
 Understanding Microsoft Dynamic HTML

SYLLABUS FOR UNIX & HTML

4.1 Wowing them with Design

- Planning your Web Site
- Creating Attractive Pages
- Considering Browser differences

4.2 Getting Connected and Publishing your Web Site

- Choosing an ISP
- Publishing to the Web – learning where your files go
- Using FTP to publish your files
- Publishing on an Intranet
- Password Protecting your Pages
- Making Your Web Site Secure
- Publicizing Your Business
- Adding your site to a Search Engine
- Predicting the Future of the Web
- Considering Emerging Technologies
- Deciding When and How to Update your Site's HTML
- Predicting the future of HTML

Books for UNIX

1. Maurice J. Bach, *The Design of the UNIX operating system*, PHI, 1989.
2. B.W. Kernighan & R. Pike, *The UNIX Programming Environment*, PHI, 1987.

Books for references:

1. Andrew S. Tanenbaum, *Operating System Design and Implementation*, PHI, 1990.
2. Rachel Morgan & Henry McGilton, *Introducing UNIX System V*, McGraw-Hill International Editions, 1987.
3. Alan Deikman, *UNIX Programming on the 80286/80386*, BPB Publications.
4. Stephen G. Kochan and Patrick H. Wood, *Exploring the UNIX System*, CBS Publishers & Distributors.
5. Advanced Unix Programming, Marc J. Richkind.
6. Applied Unix Programming, Bharat Kurani
7. Unix for Dummies – John R. Levine, Margaret Levine Young
8. Unix Power Tools – Jerry D. Peck, et. al.

HTML Books List

1. The Complete Idiots Guide to Creating HTML 4 Web Page – Paul McFedries
2. Creating Web Pages for Dummies – Bud E. Smith, Arthur Bebak

Reference Books:

1. HTML 4 for World Wide Web Quick Start Guide – Elizabeth Castro
2. HTML : The Definitive Guide – Chuck Musciano
3. HTML 4 for Dummies – Ed Tittel
4. 10 Minutes Guide to HTML 3.2, Tim Evans
5. The Advanced HTML Companion
6. Building Better Web Pages – Rebecca Rohan
7. Building Dynamic HTML, GUIs, Champeon, et al.

Course in MS-Visual C++, Visual Basic & Java*Duration : 6 (six) Months***UNIT 1 MS - VISUAL C++**Theory : 15 Hours
Practicals : 30 Hours

1.1 Introducing the Visual C++ Development System : What is Visual C++ 4.0, The Visual C++ Environment, MFC Libraries, The Standard Template Library, The Visual C++ package, Building Applications with Visual C++.

1.2 Writing simple C++ programs : Components of a C++ program, Components of a Visual C++ project, Creating your first C++ Source File, Running your first C++ Program, MFC programs, Simple Windows programs.

1.3 The C++ Language : Basics - Variables, Type Safety, Variable Types, Variable Naming, Functions, Defining Functions, Calling Functions; Control Structures and Classes - Execution Flow, Controlling Execution Flow, Data Structures, Classes, Member Functions, Constructors, Destructors; Arrays, Strings and PolyMorphism - Arrays, Character Strings, MFC CString Class, PolyMorphism; Scope, Pointers and Lifetimes in C++ - Scope, Function Scope, Class Scope; Pointers, Indirection and Address Operators .

1.4 MFC Library : MFC Base Classes, C Object Base Class, C Wnd Base Class, Collection Classes, Clist, C Array, C Map Collection Classes; Windows Environment - Windows Programming Using Visual C++, AppWizards , Messages and Event Driven Programming, ClassWizard, Menus, Dialog Boxes; Control Classes - Button Controls, Edit Controls, ListBox and ComboBox Controls; ListBox and Combo Box Controls; Using Image Lists and Bit maps.

1.5 View Classes : Tree Views, List Views, Document Views, Form Views, Multiple Views, Split Views.

1.6 Graphics Interface : Device Contexts, Brushes, Fonts, Icons, Cursors; Printing; Rich Edit Controls; Subclassing and Superclassing Controls; Using OLE controls.

UNIT 2 VISUAL BASIC

2.1 Introduction : Starting Visual Basic, Steps to creating a Visual Basic Application, Using OnLine Documentation, Working with Sample Applications.

2.2 Creating and Using Controls : Visual Basic Controls, Clicking Buttons to perform Actions, Displaying and entering Text, Controls that present choices to the user, Getting and Setting Focus of an Object, Setting the Tab Order, Enabling, Disabling and Controlling Visibility at Run Time, Working with Control Arrays.

2.3 Managing Projects : Understanding Projects, Creating, Opening, and Saving

Course in MS-Visual C++, Visual Basic & Java

Projects, Adding, Removing and Saving Files, Creating New Forms and Modules, Adding and Removing and Saving Files, Using a Resource File, Using Conditional Compilation, Installing Add-Ins, Editing the AutoLoad File.

2.4 Programming Fundamentals : Structure of a Visual Basic Application, Variables, Modules, Procedures, Control Structures, Data Types Arrays, Creating your own Data Types.

2.5 Introduction To Objects : What is an Object, Communicating between Objects, Working with Objects, Using the Object Browser, How are Objects related to each other? Creating Objects.

2.6 Using the OLE Container Control : Creating Front-End Applications, Using the OLE Container Controls, Saving and Retrieving Data.

2.7 Programming Other Applications Objects : Using OLE Automation Objects, Using an Object's Methods and Properties, The Object Hierarchy, Releasing an Object, Objects without Visual Interfaces, Handling Run-Time Errors, The Server Busy Dialog Box.

2.8 Menus and Dialog Boxes : Creating Menus at Design Time, Controlling Menus at Run Time, ToolBars, Menu and ToolBar Negotiation, Using Dialog Boxes, Using predefined Dialog Boxes, Using Forms as Custom Dialog Boxes, Using the Common Dialog Control.

2.9 Responding to Mouse Events : Mouse Events, Positioning a Control with the Mouse, Graphical Mouse Applications, The Button and Shift Arguments, Dragging and Dropping, Changing the Shape of the Mouse Pointer.

2.10 Using The Grid Control : The Grid Control, Creating and Sizing Rows And Columns, Using Text in the Grid Control, Using Graphics in the Grid Control, Selecting and Highlighting Cells, Adding and Removing Rows.

3.1 Multiple Document Interface (MDI) Applications : Using MDI in Visual Basic, Creating an MDI Application, MDI Text Writer - A Document Centered Application, Working with MDI Forms and Child Forms, Menus in MDI Applications.

3.2 Creating Graphics For Applications : The Fundamentals of Graphics, Using Graphical Controls, Using Graphics Methods, Using Graphics Properties.

3.3 Displaying and Printing Information : Fonts, Setting Font Characteristics, Displaying Text on Forms and Picture Boxes, Formatting Numbers Dates and Times, Printing, Trapping Printer Errors.

3.4 Interacting with the Environment : Working with Selected Text, Using The Clipboard Object, Using Timer Controls, Working With Application Strings,

Course in MS-Visual C++, Visual Basic & Java

Background Processing, Writing low level keyboard handlers.

3.5 Processing Files : Overview of File Access Types, Sequential Access, Random Access, Binary Access.

3.6 Debugging : Approaches to Debugging, Design Time, Run Time, Break Mode, Using the Debug Window, Using the Break Mode, Running Selected portions of your applications, Using the Calls Dialog Box, Testing Data and Procedures with the immediate pane, Special Considerations in Debugging Events, Testing and Using Command line arguments, Using Conditional Compilation, Using Compile on Demand, Avoiding Bugs.

3.7 Accessing Databases with Data Control : Using the Data Control, Using Bound Data Controls, Manipulating Records with Code, Controlling Transactions, Validation, and Updates; Understanding Database Design and Structure, Using the bound Data Controls, Incorporating Bound Controls in your Application.

3.8 Using the Data Bound Grid : A Quick Start, Design Time Operations, Run - Time Operations, Working with Ranges, Displaying calculated fields.

3.9 Dynamic Data Exchange (DDE) : What is Dynamic Data Exchange ? Creating DDE Links at Design Time, Link Properties, Link Events, Allowing Users to Create their own automatic links, Using Methods to perform DDE operations, Handling Errors, Sending Keystrokes to other applications.

3.10 Calling Procedures in DLL's : Overview, Declaring a DLL Procedure, Passing Specific Data Types, Converting C Declarations to Visual Basic.

UNIT 3 JAVA

4.1. Introduction to Java

4.2 Applets, Applications, and the Java Developers kit (JDK)

4.3 Working with Java Objects

4.4 Datatypes, Modifiers and Expressions

4.5 More on classes interfaces and packages

4.6 Arrays and Flow-Control Statements

4.7 Exception Handling

Course in MS-Visual C++, Visual Basic & Java

- 4.8 Threads
- 4.9 Abstract Windowing Toolkit (AWT)
- 4.10 Event Handling
- 4.11 Animation and images
- 4.12 Advanced Applet Programming
- 4.13 Streams and input/output programming.
- 4.14 Network Programming
- 4.15 Native Methods
- 4.16 Java Virtual Machine
- 4.17 Third-Party Tools for Java
- 4.18 Java and Databases
- 4.19 Java-Enabled Web Browsers
- 4.20 Conclusion

Books for Visual C++

Text Books

1. Beginning Visual C++5, Ivor Horton/Paperback/Published 1997
2. Beginning Visual C++ Components, Matt Telles/Paperback/Published 1996

Reference Books

1. Microsoft Visual Basic 6.0 Professional (Step by Step) – Micheal Halvorson; Paperback
2. Beginning Visual Basics 6 Database Programming – John Cornell; Paperback
3. Beginning Visual Basics 6 – Peter Wright; Paperback
4. 1001 Visual Basic Programmer's Tips, Kris A. Jamsa, Lars Klander/Paperback/ Published 1997
5. Access 97 Macro & VBA Handbok, Susann Novalis /Paperback/ Published 1997
6. Activex : Visual Basics 5 Control Creation Edition (Prentice Hall Ptr Activex Series) Gary Cornell, et al /Paperback/ Published 1997
7. Advanced Microsoft Visual Basic 6.0 (Mps), Ltd. The Mandelbrot Set International (Editor)/ Paperback/ Published 1998
8. Advanced Visual Basic Techniques, Rod Stephens /Paperback/ Published 1997
9. Animation Magic with Visual Basic 5 :, The Fun Way to Learn Structured Programming Using Visual Basic, Nik Lever/ Paperback/ Published 1998
10. The Beginner's Guide to Visual Basic 4.0, Peter Wright/ Paperback/ Published 1995

Course in MS-Visual C++, Visual Basic & Java

Java Book List

Text Books

1. Advanced Java Development For Enterprise Applications, Cliff Berg
2. The Awesome Power of Java Beans – Lawrence H. Rodrigues, Lawrence Rodrigues.

Reference Books :

1. Core Java 2, Volume 1: Fundamentals, 4/e – Cay S. Horstmann, Gary Cornell
2. Java in a Nutshell : A Desktop Quick Reference (The Java Series) - David Flanagan
3. Graphics Java 2, Mastering the JFC : Swing (Sun Microsystems Press Java Series)
4. Abstract Data Types in Java, Michael S. Jenkins
5. Active J++ (Microsoft Programming Series) – Scott Robert Ladd
6. Advanced Java 1.1 Programming (McGraw-Hill Java Masters) – Jeffrey C. Rice, Irving

5:2:2.(17)

Financial Package for the scheme

Motto : To be self-financing with the provision to contribute towards the core fund of the University.

RESOURCES

Fees to be collected at the time of admission @ Rs.4000/- per student (Rs.2000/- per NEHU employee subject to a maximum of 5 sets in group of 30)

Fees for one batch :	Rs. 4000 x 25	=	1,00,000.00
	Rs.2000 x 5	=	10,000.00
	Total Rs.	=	1,10,000.00

Total fees for 6 groups of students in a year : Rs. 1,10,000 x 6 = 6,60,000.00

EXPENDITURE

(A) Capital :	(I)	Cost of one Projector	Rs. 10,000.00
	(ii)	Library Books	Rs. 25,000.00
	(iii)	Library Furnitures	Rs. 25,000.00
		Total A Capital	Rs. 60,000.00

(B) Revenue Expenditure

(i)	Contribution towards NEHU core fund (25% of total receipts)	Rs.1,65,000.00
(ii)	Honm. to the resources personal from outside @Rs. 100.00 per hours, for approx. 25% of the total class hours.	Rs.27,000.00
(iii)	Honm. To internal staff of Computer Centre for Teaching purpose outside official working hours to the extent of 7.5% of the total fees collected.	Rs.49,500.00
(iv)	Honm. To non teaching staff for accounting purpose etc. to the extent of 5% of the 75% of the total fees collected.	Rs.24,750.00
(v)	Cost of computer stationaries	Rs.30,000.00
(vi)	Other office contingencies	Rs.15,000.00

5:2:2,(18)

(vii) Depreciation fund (7.5% of the total fees collected.)

Rs.49,500.00

Total Revenue

Rs.3,60,750.00

Total (A) plus (B)

Rs.4,20,750.00

Net Expected Profit

Rs.2,39,250.00

- (C) A separate Bank A/C will be operated for the scheme. The A/C will be operated by the Director, Computer Centre and the fees will be directly credited by the students to the Bank.
- (D) The Director will be entitled to withdraw upto Rs.5000/- only at a time to meet the running expenses. In exceptional situation, the Chairman of the Management Committee may grant permission to withdraw an amount of Rs. Not more than 10,000/- for specific reasons to be recorded in the file.

NB : Since there will be no capital expenditure in latter years , profit is likely to go up.

5:2:3(1)

- iii) Proposed Revised BA/BSc general and Honours syllabus in Geography.

The Board of Under-Graduate Studies in Geography in its meeting held on 2.5.2000 recommended and approved the revised BA/BSc General and Honours syllabus in Geography. The Minutes of the meeting and the Syllabus are placed as Annexure-A and 'B'.

The matter is placed before the Council for consideration.

SG/26/5/00)

Minutes of the Meeting of Board of Under Graduate Studies
in Geography held on May 2, 2000

The Board met on 2.5.2000 at 11.00 am in the Department of Geography, NEHU, Shillong. The following members attended:

1. Prof. R.K. Rai, Dept. of Geography, NEHU, Shillong.
2. Prof. R. Gopalakrishnan, Dept. of Geography, NEHU, Shillong.
3. Dr. H.J. Syiemlieh, Dept. of Geography, NEHU, Shillong.
4. Prof. Majid Husain, Dept. of Geog., JMIU, New Delhi.
5. Dr. G. Kumar, PUC, Aizawl.
6. Prof. M. Taher, (Rtd), Dept. of Geography, GU, Guwahati
7. Mrs. Sutapa Dutta, St. Mary's College, Shillong
8. Mr. P.R. Dutta, St. Edmund's College, Shillong
9. Prof. A.C. Mohapatra, Dept. of Geography, NEHU, Shillong-Chair

The following decisions were made.

1. Minutes of the last meeting held on 21.5.99 were confirmed.
 2. The draft, BA/BSc General and Honours syllabus was recommended.
 3. The drafting Committee was entrusted to update the reading list before final transmission to the Academic Council for its consideration.
 4. The Chairman was authorised to send a revised list of Paper Setters and Examiners for BA/BSc General and Honours examinations.
 5. It was pointed out by the Chair that after the merger of the 1st and IIInd year examinations (Part-I) it appears that there has been no teaching of practicals in the First Year, in Geography as well as in other Science subjects. This is undesirable. The Board recommends that the AC is apprised of the situation and a full discussion on the matter and its directions on the matter.
 6. It was pointed out by one of the members that for the past two years the PG department is not involved in the Honours Practical Examination as was the practice earlier. The Board considered the matter and recommends that such involvement is in the academic interest and the matter may be taken up with the COE for the discontinuance of the earlier practice.
- The meeting ended with a vote of thanks from the chair at 3.30 p.m.

Sd/-A.C. Mohapatra

(A.C. Mohapatra)

Chairman, BUGS in Geography

May 3, 2000, Shillong.

Copy to 1. DR (Conference) NEHU for the needful.

2. COE, NEHU, Shillong, for the needful.

3. All the members of the Board.

4. File

A.C. Mohapatra

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(Proposed) Revised BA/BSc General and Honours Syllabus in Geography

Structure

1. Theory Papers of 70 marks and Practicals 60 marks each.
2. Paper I to VI, common to both general and honours candidates; Papers VII to XII only for Honours candidates.
3. For general courses (theory) 60 percent (42 marks) essay type questions, normally 3 to answer out of 6 questions covering the entire course and 40 percent (28 marks) objective type questions.

Yearwise Course distribution

	General	Honours
Ist Year	Paper I & Paper III (a)	Paper VII, Paper IX(a)
IInd Year	Paper II, IV & Paper III(b)	Paper VIII & Paper IX(b)
III nd Year	Paper V, VI	Paper X, XI & XII

Paper I: Physical Geography

Marks 70

Time: 3 hrs

(Candidates are required to answer 3 (descriptive) questions, one from each Part and all the objective type questions or as may be instructed)

Contents:

Part-A: Geomorphology

1. Modern theories regarding the origin of the earth: Nebular origin, Schmidt, Weizascker, and the Big-Bang theory
2. Internal structure of the earth with special reference to seismological evidences
3. Earth Movements: Mountain building forces, orogenesis and epeirogenesis, Continental drift theory, sea-floor spreading and Plate tectonics
4. Geomorphic processes: weathering and denudation (works of water and wind)
5. Normal cycle of erosion, cycle of erosion in humid and arid regions
6. Evolution of drainage and drainage systems
7. Configuration of the ocean floor

Part-B: Climatology

8. Structure of the atmosphere and heat budget of the earth
9. Insolation, Horizontal and vertical distribution of temperature, temperature inversion.
10. Circulations of the atmosphere
11. Origin, classification and characteristics of air masses, fronts and frontogenesis.
12. Atmospheric disturbances: Tropical and temperate cyclones, anti-cyclones.
13. Classification of World Climates: Koppen and Thornwaite

Part-C: Bio-geography

14. Meaning scope and significance of bio-geography
15. Ecological conditions of plant and animal life

16. Global distribution of major plants and animals
17. Evolution and extinction of plants and animals
18. Concepts of ecology, ecosystem (concept of biomes) and food-chain (grazing and detritus)

Reading List:

1. Strahler: Physical Geography
2. Strahler: Modern Physical Geography
3. Strahler: Elements of Physical Geography
4. Holmes: Principles of Physical Geology
5. Thornbury: Principles of Geomorphology
6. Woolridge & Morgan: Principles of Geomorphology
7. Dayal: Geomorphology
8. Ahmed, E: Physical Geography
9. Trewartha : An Introduction to Climate
10. Critchfield: General Climatology
11. Lal, D.S: Climatology
12. Robinson: Bio-geography

Paper II: Human Geography

Marks 70

Time: 3 hrs

(Candidates are required to answer 3 (descriptive) questions and all the objective type questions or as may be instructed)

Contents:

1. Meaning, Scope and Branches
2. Approaches and Concepts in Human Geography
3. Human races: Classification, characteristics and distribution
4. Cultural evolution: Paleolithic and Neolithic cultures, Early agriculture and domestication and diffusion of plants and animals
5. Man and environment relationships: Contemporary modes of life in selected natural regions: (a) Equatorial: Africa and South-East Asia, (b) Herding in tropical semi-arid regions (Sahel and Wn. India) and (c) Temperate: Industrial-urban communities (Wn. Europe and Japan)
6. Growth, distribution and migration of (world) population
7. Population composition in Asia: Male-female, age and rural-urban
8. Settlements: Types, pattern and functions
9. Urbanisation: Pattern and processes
10. Cultural patterning of the globe: Evolution and Distribution (language and religion).

Reading List:

1. Hammond: Human Geography
2. Robinson, H: Human Geography
3. Husain Majid: Human Geography
4. Garnier, B: Human Geography
5. Haggett, P: Geography a Modern Synthesis

6. Jordan, TG & Rowntree, L: The Human Mosaic: A Thematic Introduction to Cultural Geography
7. Clarke, C: Population Geography
8. Chandna: Population Geography
9. Ahmad, A: Social Geography

Paper III: Practicals (60 marks) (5 hours)

Group-A (30 marks)

1. Enlargement and reduction of maps, Combination of maps in two different scales (8)
2. Representation of relief and elevations: (8)
 - (a) Methods of representation:
 - (i) Pictorial methods: Hatchures and Hill shading
 - (ii) Combination of several methods: hatchures, contours and layer tints.
 - (b) Representation by contours and profiles
 - (i) Cliff, (ii) volcanic crater, (iii) Water-divide, (iv) Meander, (v) River terraces, (vi) Ox-bow lakes, (vii) Fjord coast and (viii) Ria coast
3. Plane table surveying (8)
4. Practical notebooks and viva-voce (3+3)

Group-B (30 marks)

1. Interpretation of topographic maps: topographic map is to be selected with respect to
 - (i) part of a plain area, (ii) part of a plateau, and (iii) part of a mountainous region (8)
2. Map projections with properties and uses: (8)
 - (a) Zenithal Stereographic, orthographic (polar central)
 - (b) Simple cylindrical and cylindrical equal area
 - (c) Bonne's and Conical projection with two standard parallels
3. Cartograms: Age and sex pyramids, Composite graphs (composite bars, Band diagram and Histograms) (8)
4. Practical notebook and viva-voce (3+3)

Reading List:

1. Monkhouse & Wilkinson: Maps and Diagrams
2. Singh, RL: Elements of Practical Geography
3. Kanitkar, TP: Surveying and Levelling

Paper IV: Regional Geography of India and the Northeast Region

Marks 70

Time: 3 hrs

(Candidates are required to answer 3 (descriptive) questions, two from part-A and one from part-B and all the objective type questions or as may be instructed)

Contents:

Part-A: Geography of India

1. Regional study of India based on physiography, climate, vegetation and soils

2. Agriculture: (a) Types of agriculture and agro-climatic regions and (b) problems and prospects of Indian agriculture in respect to irrigation, landlessness and tenancy.
3. Mineral resources: Metals (a) ferrous (iron ore) and (b) non-ferrous (bauxite)
4. Power resources: Coal, petroleum and hydropower
5. Manufacturing industries: (a) ferrous metallurgy, (b) textiles (cotton and synthetic) and (c) Petrochemical industries
6. Population: density, distribution and growth of India's population (1901-2001): problems and prospects
7. Distribution of scheduled castes and scheduled tribes in India and its significance
8. Trends of urbanisation in recent decades (1951 onwards), problems of metropolitan cities
9. Regional division of India based on Spate
10. Study of four contrasting meso regions: (a) The Great Indian desert, (b) Kashmir Himalayas, (c) Chotanagpur plateau and (d) Malabar coast.

Part-B: Regional Geography of Northeast Region

1. Regionalisation based on physiography, climate, soils and natural vegetation
2. Agriculture (including shifting cultivation)
3. Natural resources: Forests, land, minerals and power resources
4. Population: Density, distribution, growth; rural and urban distribution of population, distribution of scheduled tribes in the region and its significance
5. Means of transport and communication
6. Manufacturing industries: oil, tea and forest based industries
7. Detailed regional study of the following regions:
(a) Meghalaya plateau, (b) Brahmaputra valley and (c) Imphal Valley

Reading list:

1. Spate & Learmonth: India and Pakistan
2. Singh, R.L. et al: India: A Regional Geography
3. Das, HP: Geography of Assam
4. Taher, M: A Social Geography of the North-East
5. Gopalakrishnan, R: North-East India: Land, People, Economy
6. Vergese, B.G.: India's North-East Resurgent
7. Singh, R.P.: Geography of Manipur
8. Gopalakrishnan, R: Meghalaya, Land and People

Paper V: Economic Geography

Marks: 70

Time: 3 hours

(Candidates are required to answer 3 questions (descriptive) and all the objective type questions or as may be instructed)

Contents:

1. Meaning, scope and importance of economic geography
2. Principles and theories in economic geography: Location theory (von Thunen and Weber), Organisation theory (Christaller and Losch) and regional development theory (Cumulative causation and Export-base theory)

3. Economic regions and regionalisation (with special reference to India)
4. Agriculture: Factors affecting agriculture, agricultural systems of the world (Intensive subsistence farming, plantation agriculture, Mixed farming and Mediterranean agriculture)
5. World distribution of food grains (wheat & rice), jute, sugar and rubber
6. Mineral and power resources: Coal, petroleum and water power, Occurrences and trade in iron ore, manganese, mica, bauxite and atomic minerals
7. Manufacturing industries: distribution of industries with special reference to iron and steel, petroleum and cotton textiles of the world
8. Transport and communication: Air, waterways (oceanic) and railways
9. International Trade: Basis of International Trade, GATT and WTO, India's foreign trade.

Reading List

1. Alexander, J: Economic Geography
2. Guha & Chatteraj: A New Approach to Economic Geography
3. Sengupta, P & Sdasyuk, G: Economic Regionalisation of India
4. Munsil, SK: India Resource Regions and Regional Disparity
5. Smith, D: A Geography of Welfare
6. Choudhury, MR: Economic Geography of India

Paper VI: Practicals (60 marks) (5 hrs.)

Part-A (30 marks)

- 1 Representation of statistical data: (8)
 - (a) Preparation of thematic map using shades and colours
 - (b) Map showing density and distribution of population
 - (c) Proportionate circles, squares and composite diagrams
2. Statistical methods: (8)
 - (a) Measures of central tendency (mean, median and mode)
 - (b) Measures of dispersion: mean deviation, standard deviation and coefficient of variation
 - (c) Simple rank correlation
3. Prismatic compass survey (open and close traverse survey) (8)
4. Practical notebooks and viva voce (3+3)

Part-B (30 marks)

1. Methods of representation and analysis of relief and drainage (8)
 - (a) Relief profiles: simple, projected, composite and superimposed
 - (b) Cross and longitudinal profiles of streams
2. Drawing of maps using spheres and multiple dots
- 3.(a) Block pile diagrams (8)
- (b) Traffic flow diagrams
4. Practical notebook and viva-voce (3+3)

Reading list:

1. Monkhouse & Wilkinson: Maps and Diagrams
2. Singh, RL: Elements of Practical Geography
3. Mehmood, Aslam: Statistical Methods in Geography
4. Pal, S: Quantitative Methods in Geography

Paper VII: History and Nature of Geography

Marks: 70

Time: 3 hours

(Candidates are required to answer 5 questions)

Contents:

1. Geography during the classical period
 - (a) geography in ancient India
 - (b) geography in Greek and Roman times
2. Geography during the medieval times with special reference to Arab geographers
3. Renaissance geography: Varenus and Kant
4. Founders of modern geography: Humboldt and Ritter
5. First generation geographers: Ratzel, Hettner and Davis
6. Early twentieth century: Huntington, Mackinder, la Blache, Sauer, Stamp and Hartshorne
7. Concepts of:
 - (a) point, line, area
 - (b) region
8. Definitions:
 - (a) geography as the study of man-environment relationship
 - (b) geography as the study of spatial distribution
 - (c) geography as the study of areal differentiation
9. Dichotomies in geography: (a) Physical and Human and (b) Regional and Systematic
10. Recent trends in geography: An overview

Reading List:

1. Husain Majid: Evolution of Geographical Thought
2. Hartshorne, R: Perspectives on the Nature of Geography
3. Minshull, R: The Changing Nature of Geography
4. Dickinson: The Makers of Modern Geography
5. Taylor, G: Geography in the Twentieth Century
6. James, PE: All Possible Worlds

Paper VIII: REGIONAL GEOGRAPHY

Max. Marks : 70

Time : 3 hours

(Students will be asked to answer 5 questions selecting at least two from each part)

PART-A : Regional Geography of South East Asia:

1. Physiography, climate, soil and natural vegetation.
2. Population

3 Detailed study of the following countries:-

(a)Thailand, (b)Malaysia and (c)Indonesia (The countries will be studied under the following heads: physiography, climate, natural vegetation, agriculture, mineral resources, industries and population distribution).

PART-B : Regional Geography of USA or Wn. Europe (France, U.K., Belgium, Netherlands and Germany as a contiguous region)

4. Physiography, climate, soil and natural vegetation

5. Physical units or regions

6. Population composition and distribution

7. Natural resources

8. Industries

9. Transport and communication

Reading List:

1. Fisher,CA: SouthEast Asia, Methuen

2. Rawson,RR: Monsoon Lands of Asia

3. Ward: Europe

4. DeBlij,H: Geography of the USA

5. East,WG: Europe

PAPER - IX: PRACTICAL

(60 marks)

(5 hrs)

Part-A

1.Study and Interpretation of Topo-sheet; mountain, plateau, plain & coastal region with reference to landforms, drainage, land use, settlements & mode of transport. 10

2.Representation of temperature, pressure and Rainfall data: 10

a) Use of Isotherms, Isobars & Isohytes

b) Construction and Significance of Climograph & Hythergraph

3.Dumpy Level Survey to draw longitudinal profiles 10

Part-B

4. Graphical construction of Projections with drawing of suitable maps on the 10

a) Zenithal Equidistant and Equal Area projections (polar cases)

b) Polyconic and Sinusoidal projections

c) Gall's Stereographic and Marcator's projections.

5.Statistical Analysis 10

a) Time Series Analysis

b) Index Number.

6.Viva and Practical Note book 5+5=10

Reading List:

1. Monkhouse & Wilkinson: Maps and Diagrams

2. Singh,RL: Elements of Practical Geography

3. Mehmood,Aslam: Statistical Methods in Geography

4. Pal,S: Quantitative Methods in Geography

Paper X: Geography of Resources

Note: Candidates have to attempt Five questions in all, selecting at least one from each unit.

Marks : 70

Time : 3 hours

1. Introduction to Resources: Nature and social relevance of Geography of Resources, Resources as a concept, classification of resources - biotic, abiotic, exhaustible and inexhaustible, renewable and non-renewable, technological developments and resources.

2. Natural Resources: World perspective of soil, mineral, forest and water resources; types of soils and their characteristics; mineral resources: Coal, petroleum, natural gas, nuclear energy resources, iron-ore, copper, manganese, mica; agricultural products: rice, wheat, rubber, sugarcane, and tea; forest and marine resources.

3. Utilisation of Resources: Locational factors of iron and steel, cotton textile, sugarcane, automobile and petro-chemical industries in the world.
Prospects and problems of major industries.
Industrial complexes of the world.

4. Conservation and Management of Resources: Problems of soil erosion and land degradation; desertification, salinization and acidification.
Conservation of forest, mineral and water resources.
Population and resource relationship; Concept of sustainable development.
Resource regions of the world and their main problems.

Reading List:

1. Alexander, J.W. et.al. 1988, 'Economic Geography' Prentice Hall of India, New Delhi.
2. Chowdhury, M.R. 1975, 'Economic Geography' Delhi, Oxford University Press.
3. Dubey, R.N. 1993, Economic and Commercial Geography, Allahabad, Kitab Mahal.
4. Guha, J.L. et.al. 1992, 'A New Approach to Economic Geography' Calcutta, World Press.
5. McCarthy, H.H. and James B. Lindberg, 'A Preface to Economic Geography' Englewood Cliff N.J. Prentice Hall, 1966.
6. Morgan and Leong, 1990, Human and Economic Geography, London.
7. Wagstaff, H.R., 'A Geography of Energy' Iowa, Wm.C.Brown 1984.
8. Wheeler, J.O. and Peter O. Miller 'Economic Geography' New York, Wiley, 1986.

PAPER – XI (Optionals)**(Any one from the following four optionals)**

Max. Marks : 70

Time: 3 hours

Candidates have to attempt Five questions in all covering the entire course.**(A) Geomorphology**

1. Definition and scope of Geomorphology; history of development of Geomorphic ideas.
2. Weathering and mass-wasting
3. Agents of denudation, flowing water, wind, glacier and sea waves.
4. Processes of erosion, transportation and deposition and the resultant land forms in respect of river, wind, glaciers and karst.
5. Evolution of landform and drainage in domal, faulted and folded areas.
6. Drainage development: patterns, drainage texture, ordering of streams and river capture.
7. The erosion surfaces - peneplain panplains, pediplains, effects of marine denudation.
8. Detail geomorphological study of the following regions:
 - (a) Meghalaya Plateau
 - (b) Chotanagpur Plateau

Reading List:

1. Strahler: Physical Geography
2. Strahler: Modern Physical Geography
3. Strahler: Elements of Physical Geography
4. Holmes: Principles of Physical Geology
5. Thornbury: Principles of Geomorphology
6. Woolridge & Morgan: Principles of Geomorphology
7. Dayal: Geomorphology
8. Ahmed, E: Physical Geography
9. Sparks: Geomorphology
10. Wadia: The Geology of India
11. Spate, OHK & Learmonth: India and Pakistan

(B) : Population Geography

Max. Marks : 70

Time : 3 hours

(Candidates have to attempt five questions, at least one from each unit)

1. Definition and scope of population geography; historical development of population geography, significance of the study, the aggregative and distributive approaches.
2. Distribution of Population: Factors affecting distribution and density of population. Distribution of rural and urban population in the world.
3. Growth of population : pre-historic, historic and recent trends in world population growth, regional pattern of recent growth of population in the world.

4. Population composition: in terms of age and sex, educational status and occupational structure; Significance of these elements in population analysis.
Broad world patterns and pattern of population distribution in India.
5. Movements of population: causes and characteristics of migration. Pre-historic migrations;
6. International and internal migration in India, Seasonal migration. Population regions of the world. Social and economic consequences of migration;
7. Population regions of India.

Reading List:

1. Chandna, RC: Introduction to Population Geography
2. Raj Bala: Urbanisation in India, 1901-1991
3. Clarke, J: Population Geography
4. Bhende: Population Studies
5. Clarke, C: Population Geography in Developing Countries
6. Mitra, A: India's Population, Vol. I & II
7. Dubey, RM: Population Dynamics in India
8. Bhattacharya: Population Geography of India

(C): Urban Geography

Marks : 70

(Candidates are to answer 5 questions, at least 2 from each part)

A: World urbanisation

1. Nature, Scope and significance of Urban Geography, recent trends in urban geography.
2. Origin and growth of urban centres
3. Definition of Urban places and Urban agglomerations (city, metropolis, conurbation, megalopolis).
4. Functional classification of Urban centres; rank size relationship of Zipf.
5. City morphology models: Concentric circle model, sector model and multiple-nuclei model.

B: Urbanisation in India

6. History of urbanisation in India: Origin, location (site and situation) of urban centres in ancient (Harappan) and medieval India.
7. Location and distribution of urban centres in India in recent times
8. Urbanisation and growth of Indian cities since 1901.
9. Metropolitan growth and associated problems, study of one metropolis in detail (Delhi, Bombay and Calcutta).
10. Consequences and perspectives on urbanisation in India

Reading List:

1. Ramachandran, R: Urbanisation and Urban Systems of India
2. Raj Bala: Urbanisation in India, 1901-1991

3. Mandal, R.B.: Urban Geography
4. Mumford, L.: City in History
5. Jones, E.: Towns and Cities
6. Johnson, J.H.: Urban Geography: An Introductory Analysis
7. Carter, H.: The Study of Urban Geography
8. Smailes, A.E.: Geography of Towns
9. Mayer, J.M. & Kohn, C.F.: Readings in Urban Geography

(D): Agricultural Geography

Note: Attempt Five questions selecting One from each unit.

M. Marks : 70

Time: 3 hours

1. Definition, nature and scope of Agricultural Geography; relationship of Agricultural Geography with economics, sociology and statistics; Approaches to Agricultural Geography: commodity, economic, regional, systematic, and ecological.
2. Origin of agriculture and diffusion of crops during the pre-historic, medieval and modern times, physical and socio-economic determinants of agriculture.
3. Agricultural Systems of the world: Nomadic-herding, livestock-ranching, commercial-grazing, shifting cultivation (Jhuming), intensive and extensive agriculture, plantation agriculture, dairy farming, mixed farming, and truck-farming (horticulture).
4. Agricultural Regionalisation: Crop concentration and crop combination regions, crop diversification, agricultural productivity and agricultural efficiency regions with special reference to India; Agro-climatic regions of India.
5. Indian Agriculture: Attributes of Indian agriculture, agricultural development in India during the different Five Year Plans, Green Revolution in India and Socio-ecological implications of Green Revolution. Agricultural development in North East India - prospects and problems.

Reading List:

1. Anderson, E. 1970, A Geography of Agriculture, Iowa, W.M.C. Brown Co.
2. Gregor, H.F. 1970, Geography of Agriculture, New Jersey, Prentice Hall.
3. Grigg, D.B., 1973, 'The Agricultural Systems of the World' Cambridge University Press.
4. Husain, M. 1996, 'Systematic Agricultural Geography' Jaipur, Rawat Publications.
5. Morgan, W.B. and R.J. Munton, 1972, Agricultural Geography Methuen & Co. London.
6. Singh, J. et.al. 1984, 'Agricultural Geography' Tata McGraw Hill, New Delhi.
7. Symon, L. 1968, 'Agricultural Geography' London.
8. Whittlesey, D. 'Major Agricultural Regions of the Earth', Annals of Association of American Geographers, Vol. 26 (1936), pp. 199-240.

PAPER – XII: Practicals (60 marks) (5 hours)

- | | | |
|----|--|-------|
| 1. | Statistical Methods | 8 |
| | a) Bivariate Correlations and Regressions, Student's "t" test | |
| | b) Sampling Methods - Random and Stratified sampling | |
| 2. | Survey with Theodolite | 8 |
| | a) Horizontal and vertical measurements of angles and plotting | |
| | b) Contouring | |
| 3. | a) Preparation of Average Slope map | 8 |
| | b) Drainage Frequency and density maps | |
| | c) Hypsometric curve | |
| 4. | Practical Record and Viva Voce | 3+3=6 |

Group – B: Project**20+10=30**

Project Report (based on field study) and viva-voce on the project (To be related to the optional paper being offered in respective colleges).

Instructions: The candidates are expected to study a village, a field (an geomorphic unit), an urban ward or a small town for a period not exceeding one week and prepare an approximately 20 (typed) page report on a theme assigned to them connected with their special paper. The report is expected to reflect some original interpretation of the theme based on field observations. The concerned department (college) must assign a supervisor and the topics decided in the beginning of the part-II (third year) to enable the student to put in the required time on the project.

Reading list:

1. Monkhouse & Wilkinson: Maps and Diagrams
2. Singh, RL: Elements of Practical Geography
3. Kanitkar, TP: Surveying and Levelling

5:2:4(1)

- iv) Proposed Revised BSc General and Honours syllabus in Geology.

The Board of Under-Graduate Studies in Geology in its meeting held on 17th and 18th, April, 2000 recommended and approved the revised syllabus for BSc General and Honours in Geology. The minutes and syllabus are placed as Annexure- 'A' and 'B'.

The matter is placed before the Council for consideration.

SG/5/000

5:2:4(2)

Minutes of the Board of Undergraduate Studies in Geology, held on April 17-18, 2000 in the Department of Geography, NEHU, Shillong.

The following members attended the meeting.

1. Prof Sanjay Chandra, JNU, New-Delhi
2. Prof R K Rai, Department of Geography, NEHU
3. Dr R P Tiwari, PUC, Aizawl
4. Dr A Ahmad, St Anthony's College, Shillong.
5. Mr John Dicky, St Anthony's College, Shillong.
6. Dr Ruma Deka, St Anthony's College, Shillong.
7. Prof M K Mahanti had conveyed his regrets.

1. Minutes of the last meeting of BUGS in Geology held on 17.11.1997 was confirmed.
2. A fresh panel of paper setters and examiners was prepared and approved.
3. The UG syllabus was discussed threadbare and was approved.
4. Among other things, it was discussed that during the first year, the students carry out no practicals. This is a concern, since it is not clear how undergraduates in sciences can learn without doing any practical. It was recommended to write to the Chairman, AC to have a full discussion on the matter.

The meeting ended with a vote of thanks to the chair.

Sd/

AC Mohapatra

19.4.2000
Shillong.

Copy to :-

All the members of the Board
COE-NEHU for information DR(Acad) for
information.

File.

SG/26/5/00)

5:2:4(3)

(Proposed) Revised BSc General and Honours Syllabus in GEOLOGY

COURSES TO BE TAUGHT AND EXAMINED

<u>YEAR</u>	<u>GENERAL & MAJOR</u>	<u>MAJOR ONLY</u>
1st Year	Paper I	Paper VII
2nd Year	Paper II Paper III Paper IV (Practical)	Paper VIII Paper IX (Practical)
3rd Year	Paper V Paper VI (Practical)	Paper X Paper XI Paper XII (Practical)

SYLLABUS OF THREE YEARS DEGREE COURSEGEOLOGY
I st YEAR (THEORY)**PAPER - I : GENERAL GEOLOGY AND STRUCTURAL GEOLOGY**

Max. Marks : 70

Time : 3 hours

(There will be six questions, three from each group, out of which three questions are to be answered selecting atleast one from each group).

GROUP - A(GENERAL GEOLOGY)

Origin and age of the earth. Origin of oceans and continents. Types and origin of mountains. Earthquake waves and their utility in interpreting the earth's interior. Earthquake zones of India. Continental drift and plate tectonics. Rock Weathering and erosion. Geological action of wind, running water and glaciers. Classification and common types of landforms. Geological hazards (landslides, rock falls, reservoir induced seismicity), Pollution (open-cast mining & Groundwater).

GROUP - B(Structural Geology)

Attitude of planes and lines - Dip and Strike. Clinometer compass and its use. Outcrop. Effects of topography on outcrops. Definition of folds, faults, joints, and unconformities - their types and recognition in the field. Determination of top and bottom of layered rocks. Structural features of India with special reference to North-East region.

Reading List

Paper -I and VII

1. Geomorphology - W.D. Thornburg - Wiley Eastern Ltd.,
2. Text Book of Physical Geology - G.B. Mahapatra - CBS Publ and Districts.
3. Introduction to Physical Geology - A.K. Dutta Kalyani Publishers.
4. Physical Geology - Flint and Skinnners - John Wiley and Sons.
5. Geomorphology - Sparks.
6. Geomorphology - King.
7. A Text book of Geomorphology - P. Dayal - Shukla Book Depot, Patna-4.

8. Principles of Physical Geology - Authur Holmes-
9. Geomorphology - Savinder Singh - Prayag Pustak Bhawan, 20-A, University Road, Allahabad-2.
10. Structural Geology-M.P. Billings-Prentice Hall of India Pvt. Ltd.,
11. An out line of Structural Geology-E.Hobbs, Means and Williams -John Willey and Sons.
12. Structural Geology of Rocks and Regions-G.H.Davis-John Wiley and Sons. N.Y.
13. A Text Book of Geomorphology-P.G. Worcester - Affiliated East West Press. Pvt.,
14. Physical Geology of India-S.M. Mathur-National Book Trust. N.Delhi.
15. Structural Geology - Hills.

Paper II (Theory): Crystallography, Mineralogy and Igneous & Metamorphic Petrology

Max.Marks:70

Time: 3 Hours

(There will be six questions, three from each group, put of which three questions are to be answered selecting atleast one from each group. Equal weightage will be given to all the branches.)

Group - A(Crystallography & Mineralogy)

Crystal - its definition, Characteristics of crystals - faces, forms, interfacial and solid angles, zone and zone axis, symmetry, prameters and indices. Study of normal classes of Isometric, Tetragonal, Hexagonal, Orthorhombic, Monoclinic and Triclinic systems. Twinning - laws and types.

Polarisation of light, pleochroism, extinction, double refraction, refractive index, interference colour, nicol prism, distinguishing characters of isotropic, anisotropics - uniaxial and biaxial minierals. Petrological microscope - its uses and different parts.

Physical and optical properties of minerals - form, colour, streak, lustre, cleavages, fracture, hardness and specific gravity. Elementary idea of silicate structures. Physical properties, chemical composition, classification, occurrence and commercial uses of rock forming minerals of granite, olivine, pyroxene, amphibole, feldspar feldspathoid, mica and silica groups and minerals like kyanite, sillimanite, andalusite staurolite, chlorite, tourmaline, beryl, Zircon, sepentine, talc, gypsm, calcite, flourite, apatite, topaz and corundum.

(Igneous and Metamorphic petrology)

Subdivisions of petrology, igneous, sedimentary and metamorphic rocks and their distinguishing features.

Magma - its composition, crystallization of uni - and bi - component magma and Bowen's reaction series. Magmatic differentiation and assimilation. Mode of occurrence of igneous rocks. Study of textures and structures of igneous rocks. Classification of igneous rocks. Petrogenesis of granite, pegmatite, rhyolite, syenite, trachyte, dolerite, gabbro, diorite, basalt and pegmatite.

Factors and types of metamorphism. Textures and structures of metamorphic rocks. Concept of depth zone. Petrological descriptions and genesis of phyllite, slate, schist, gneiss, quartzite, amphibolite and marble.

Reading List (Paper II and X)

1. Rutleys Elements of Mineralogy - H.H. Read-CBS Publs and Distributors.
2. Danas Manual of Mineralogy-C.S. Hurlbut. John Wiley and Sons.
3. A Text Book of Mineralogy-Dana and Ford-Wiley Eastern.
4. Optical Mineralogy-E.G. Ehlers-Blackwell Sc. Publications.
5. Manual of Mineralogy-Klein and Hurlbut John Wiley and Sons.
6. Danas Text Book of Mineralogy-W.E. Ford-Wiley Eastern Ltd.,
7. Mineralogy-Berry and Mason-CBS publs and Distributors.
8. Optical Mineralogy-Phillips CBS Publ and Distributors.
9. Optical Mineralogy-Rogers and Kerr-McGraw Hill Book Co.,
10. Petrography of Igneous and Metamorphic Rocks A. R. Philpotts.
11. An Introduction to Metamorphic Petrology B., W., D., Yardly - ELBS.
12. Petrology of the Igneous Rocks-Match, Wells and Wells CBSA kPubl and Distributors, N.D. 32.
13. Igneous and Metamorphic Petrology-F.J. Turner and J. Verhoogen-CBS Publs and Distributors.
14. Petrogenesis of Metamorphic Rocks- H.G.F. Winkler-Narosa Publishers House.
15. Igneous Petrology-Me Briney-Freeman, Cooper and Company.
16. Igneous and Metamorphic Petrology-M.G. Best- C.B.S. Publishers and Distributor.
17. Petrology of Metamorphic Rocks-Roger Mason-CBS Publishers and Distributors.
18. Principles of Petrology-Tyrell-CBS Publishers and Distributors.

19. Igneous and Metamorphic Petrology-Turnner-CBS Publishers Distributors.
20. Petrography - Turnner and Ejilbert-CBS Publishers and Distributors.

Paper III(theory): Palaeontology and Stratigraphy

Max. Marks: 70

Time: 3 hours

(There will be six questions, three from each group, out of which three questions are to be answered, selecting at least one from each group).

Group A: Palaeontology

Palaeontology - its definition and broad survey of its different branches. Fossils - definition, mode of preservation, conditions of preservation and uses. A general study of the morphological characters and geological distribution of the following - Brachiopods, molluscs (bivalves, gastropods and cephalopods), anthozoans, trilobites and echinoids. Gondwana Floras.

Group - B: Stratigraphy

Principles of stratigraphic correlation, geological divisions of India. Geological Time Scale.

Geology of India - Orissa, Rajasthan, Madhya Pradesh and North-east India, Guddapah Supergroup, Vindhyan Supergrou. Gondwana Supergroup of Peninsular India. Palaeozoic and Triassic of Spiti Valley. Cretaceous of Trichinopoly Tertiary of North -East India.

Reading List (Paper III and VIII)

1. A Text Book of Pateontology-A.K.Sen-Modern Book Agency Ltd.,
2. An Introduction to Invertebrate Paleontology-N.K.N. Aiyenger and K.N.Prasad-Vikash Publishers House, New Delhi-1.
3. Principles of Invertebrate Paleontology-Shrock and Twenhofel-C.B.S. Publishers and Distributors.
4. Principles of Palaeontology-Rang and Stanley-C.B.S. Publishers and Distributors.
5. Paleontology-Invertebrate-Wood Henry-CBS Publishers and Distributors.
6. Invertebrate Palaeontology-Shrock-C.B.S. Publishers and Distributors.
7. Principles of Stratigraphy-Dunbar and Rodgers-John Wiley and Sons.

8. Geology of India and Burma-M.S. Krishnan-C.B.S. Publishers and Distributors.
9. Fundamentals of Historical Geology and Stratigraphy of India-Ravindar Kumar-Wiley Eastern Ltd.,
10. Stratigraphic Principles and Practice-J.M. Weller-Universal Book Stall-Delhi.
11. Stratigraphy-(India)-V.J. Gupta.
12. Stratigraphy (India) Wadia.

Paper IV: Practical

Max. Marks: 60

Time: 4 hours

Group - A : General Geology & Structural Geology

Marks: 20

Study of geomorphological and structural models. Reading of topographical maps. Geometrical solution of problems of dip, strike and outcrops. Study and interpretation of geological maps and their sections containing folds, faults, unconformities, dyks and sills. Use of clinometer compass. Determination of dip and strike on inclined surface.

Group - B: Crystallography and Mineralogy

Marks: 15

Study of symmetry elements and forms of the crystals belonging to the normal is all crystal systems. Clinographic projection of crystals of normal classes of isometric tetragonal, hexagonal and orthorhombic systems.

Recognition of the following minerals in hand specimens based on their physical characters - quartz, chalcedony, opal, orthoclase, microcline, plagioclase, augite, hornblende, tremolite, actinolite, olivine, muscovite, biotite, chlorite, staurolite, garnet, apatite, tourmaline, calcite, talc, gypsum, fluorite, topaz & corundum.

Identification of following minerals under microscope-quartz, orthoclase, microcline, plagioclase, muscovite, biotite, augite, hornblende, olivine, garnet, tourmaline and calcite..

Group - C: Igneous and Metamorphic Petrology

Mark: 15

Recognition of the following rocks in hand specimens- Granite, pegmatite, rhyolite, trachyte, diorite, gabbro, basalt, dunite, phyllite, slate, schist, gneiss, quartzite, marble, charnockite and gneiss.

In thin section—study of mineral constituents, texture and structure of the following rocks and their identification - granite, syenite, diorite, gabbro, dolomite, mica-schist and gneiss.

Group D (Field work)

Marks:10

General introduction to minerals, rocks and structure in the field. A report to be prepared and presented for evaluation.

Reading List (Practical) Papers IV, VI, IX, XII

1. Practical Manual of Crystal Optics-Babu and Sinha-CBS Publishers and Distributors.
2. Optical Mineralogy - Kerr.
3. Study of rocks in thin section-Moorhouse - CBS Publishers and Distributors.
4. Petrography-Williams, Turner and Gilbert. C.B.S. Publishers and Distributors.
5. Surveying and Levelling-T.P.Kanetkar and S.V.Kulkarni-Puni Vidyarthi Griha Prakashan,Pune-30.
6. Plane surveying -D.Clark-CBS publishers and Distributors.
7. Field Geology-Robert Compton-John Wiley and Sons.
8. Field Geology-Lahee-CBS kPublishers ;and Distributors.
9. Elements of Geological Maps-S.K.Chadha-CBS jpublishers and Ddistributors.
10. A Book of Geological Maps-S.K.Chadha-CBS publishers and Distributors.
11. Manual of Geological Maps Gokhale-CBS Publishers and Distributors.

PAPER- V : (THOERY): Economic Geology and Sedimnentary Petrology

Max.Marks:70

Time : 3 hrs

(There will be six questions - four from group A and two from group B)

Group - A (Economic Geology)

Definition of the ore, gangue and tenor. Processes of formation of economic mineral deposits. Classification of mineral deposits. Metallogenic provinces and epochs.

Occurrence, origin, uses and distribution in India of the following - gold, copper, lead, zinc, aluminium, iron, manganese, chromium, diamond and gypsu, and radioactive minerals. Origin, types, uses and distribution of coal in India with jspecial reference to North-East region. Origin, migration, and accumulation of petroleum. Distribution of petroleum in India with special reference to North East region.

Group – B (Sedimentary Petrology)

Sedimentary processes, simple genetic classification of sedimentary rocks.
Textures and structures of sedimentary rocks.

Petrographical description of the following rock types- sandstones, shale, limestone, chert and conglomerate.

Reading List: Paper V and X (Group B)

1. An Introduction to Ore Geology-A.M. Evans - ELBS.
2. Ore Deposits of India-Their distribution and processing-Gokhale and Roa-
3. Economic Mineral Deposits- Jebseb abd Bateman-John Wiley and Sons.
4. India's Mineral Resources-Kriskhnaswamy and Sinha-Oxford and IBH Publishing co. Pvt. Ltd.,
5. Mineral kdepositis of India-D.K.Banerjee-
6. Geology of Ore deposits - Smirnov.
7. Indian Mineral Depoosits - K.K. Chatterjee.
8. Sedimentary Rocks- F.J. Pettijohn- CBS Publishers and Distributors.
9. Petrology jof the Sedimentary Rocks- J.T. Greensmith C.B.S jPublishers and Distributors.
10. Sedimentary Pwetrolology An Introduction-M.E.Tucker-ELbs.
11. Petrology-Ingeous, Sedimentary and Metamorphic Ehlers-CBS Publishers and Distributors.

PAPER - VI (PRACTICAL)

Max.Marks : 60

Time : 4 hours

Group – A (Palaeontology)

Marks : 15

Identification and study of the following fossil general - Micraster, Clypeaster, Hemiaster, Terebratul, Rynchonella, Productus, Spirifer, Nucula, Lima, Pecten, Spondylus, Ostrea, Trigonina, Cardita, Conus, Cypraea, Natica, Cerithium, Murex, Physa, Turritella, Nautilus, Perisphinctes, Acanthoceras, Paculites, Belemnites, Calceola, Zephrentis, Calymene, Phacops, Glossopteris, Gangmopteris, Vertebraria & Ptillophyllu.

Group – B (Stratigraphy)

Marks : 5

Study of the rocks from important stratigraphic horizons of the North East India.

Group – C (Economic Geology)

Marks : 15

Recognition of the following minerals in hand specimens by their physical properties - Graphite, malachite, chalcopryrite, pyrite, haematite, kmagnetite, ilmenite, chromite, pyrolusite, Psilomelane, Bauxite, asbestos, corundum, coal gypsum, barite, fluorite, galena, sphalerite, kaoline, sillimanite, kyanite, calcite, azurite, siderite, magnesite, rhoducrosite, realgar, orpiment, stibnite, molybdenite, apatite, pyrrhotite, bornite, arsenopyrite, crysolite, cuprite, limonite and monazite.

Group – C (Sedimentary Petrology)

Marks : 10

Recognition of the following rocks in hand specimens - conglomerate, limestone, shale, sandstone, and chert. Study of the mineral constituents, texture and structures of limestone, sandstones and conglomerate in this section.

Group - E (Field Work)

Marks:15

Reconnaissance of a field area keeping in view of the above four graphs. Report to the prepared and presented for evaluation.

PAPER - VII (THEORY): Geomorphology and Tectonics

Marks 70

Time : 3 hours

(There will be ten questions, five from each group, out of which five questions are to be attempted selecting at least two each group)

Group – A: (Geomorphology)

Nature and scope of geomorphology. Weathering and Cycle of erosion. Slope elements and evolution. Soils and soil formation, soil types of India. Classification of landforms with special reference to Indian forms. Processes of mass wasting - Domal and faulted topography.

Group – B (Tectonics)

Permanence of continents and ocean basins. Concept of sea-floor spreading, plate tectonics and island archs. Concept of cratons, and mobile belts. Definition and types of lineation, foliation and cleavages. Elements of stress and strain. Rock deformation. Machanism of folding and faulting. Analysis of the elements in folds and faults. Behaviour of igneous and sedimentary rocks understress and strain. Major tectonic regions of India with special reference to North East India.

PAPER - VIII (THEORY): Palaeontology and Stratigraphy

Max. Marks : 70

Time : 3 hours

(There will be ten questions, five from each group, out of which five are to be attempted selecting at least two from each group).

Group - A: (Palaeontology)

Techniques of collection and preparation of fossils. A brief idea about organic evolution and palaeontological evidences in support of it. Imperfection of geological records. Rules of nomenclature of fossils.

A study of the morphological features and geological distributions of the following - class Sarcodina (Foraminifera only), class Graptoloidea, crinoids and ostracodes. Elementary idea about palyno-fossils. Micro-palaeontology and its utility.

A general idea of evolution of vertebrates. A study of evolutionary trends in Trilobites, Equidae, homonids, Siwalik mammals of India.

Group - B: (Stratigraphy)

Definition and scope of different units, namely, Time-units, rock-units, Time - rock units and Biostratigraphic units. Absolute geological time. Indian stratigraphy and geochronological ages. Principles and methods of dating the rocks - rate of sedimentation, salinity, Varved sediments and radioactivity.

Indian Stratigraphic column. The pre cambrian stratigraphy of the Himalayas and its correlation with the Peninsular region.

Stratigraphy of the following areas - Palaeozoic of Kashmir; Gondwana of Extra-Peninsular India, Marine intercalations during Gondwana; Jurassic of Kutch, Rajasthan and spiti; Cretaceous of North East India; Lameta and Bagh beds; Deccan Traps and Inter- Trappeans, Siwaliks.

PAPER - IX (PRACTICAL)

Max. Marks: 60

Time: 4 hours

Group - A : Geomorphology and Structural Geology

Marks : 25

Drawing of profiles and study of geomorphological features from contour maps.

Working out of problems related to true dip, apparent dip and thickness of beds of inclined strata. Determination of dip and strike from bore hole data. Interpretation of rather moderately complex structures from geological maps of more than one series of strata. Solution of problems related to dip and strike using stereonet.

Group -B : Palaeontology and Stratigraphy

Marks : 20

Drawing and labelling of certain specimens of brachiopods and molluscs.

Identification of the following fossils by their external morphology and geological ranges:

Nummulites, Alveolina, Discocyclina, Cidaris, Orthis, Refinisquina, Athyris, Arca, Corbula, Exogyra, Glycymeris, Inoceramus, Mytilus, Trigonina, Bellerophon, Fusus, Voluta, Ceratites, Hamites, Goniatites, Perisphinctes, Scaphites.

Study of rocks from important stratigraphic horizons other than North East India. Preparation of maps showing distribution of stratigraphic formations of India during different periods.

Group - C Field work

Marks: 15

Study of a field section with diverse biota and structure. Field report to be prepared and presented for evaluation.

PAPER - X (THEORY): Petrology

Max. Marks : 70

Time : 3 hours

(There will be ten questions, five from each group. In all five questions are to be answered selecting at least two from each group).

GROUP - A : Igneous petrology

Magma and magma tectonics. Mixed crystals and their petrological significance. Phase rule and Systems.

Phase relationships of the following Binary and Ternary Systems and their petrogenesis:

- (i) Albite - Anorthite
- (ii) Nepheline - Silica
- (iii) Foresterite - Silica
- (iv) Diopside - Anorthite - Albite.

Descriptive petrography and genesis of the following:

- (a) Granite - Rhyolite Family
- (b) Syenite - Trachyte Family
- (c) Gabbro - Basalt Family
- (d) Ultrabasic rocks and anorthosite, alkaline rocks, carbonatite, Pyroxenite, dunite, lamprophyre and ophiolites.

GROUP - B : SEDIMENTARY & METAMORPHIC PETROLOGY

Sedimentation and diagenesis. Depositional environments. Facies concept, transport and provenance. Geochemical cycle. Statistical techniques in sediment analysis.

Grain size parameters and palaeo-environments. Classification of sandstones and limestones.

Petrographic description and genesis of following rocks: limestone, dolomite, phosphorite, evaporites, and salt.

Concept of metamorphism, phase rule and equilibrium. Barrovian zone, Retrogressive metamorphism. Elementary idea of ACF, AKF and AFM diagram, concept of metamorphic facies with special reference to mineral assemblages and P - T conditions. Metamorphic differentiation, anatexis, metasomatism and pneumatolysis. Regional metamorphism of calcogenesis, plutonic and basic igneous rocks. Descriptive petrology and genesis of the following - eclogites, granulites, charnockites, khondalites, gneisses and migmatites.

Paper - XI (theory): Applied geology

Max. Marks :70

Time : 3 hours

(There will be three groups, namely, A, B and C containing ten questions out of which five are to be answered selecting atleast one from each group).

GROUP - A

Elements of remote sensing. Types of aerial photographs. Aerial photographs and maps features and advantages of aerial photographs. Stereoscopic vision, pocket and mirror Stereoscopes. Elements of photo-interpretation for geologists. Geological interpretation of aerial photographs for recognition of lithology. Mosaics - uncontrolled, semicontrolled and controlled. Annotation.

GROUP - B

Principles of geological geochemical and geophysical prospectings. Mining terminology and elementary idea about open cast and underground minings.

Engineering geological properties of rocks. Geological considerations for the construction of dams, highways, tunnels and bridges.

GROUP - C

Sources of ground water, its occurrence and origin. General considerations affecting ground water inventories. Water tables definitions and locations. Porosity and permeability. Aquifers; confined and unconfined aquifers. Selection of sites for sinking wells. Resistivity as tool to locate water table. Ground Water provinces of India.

Reading List

1. Groundwater Hydrology-D.K. Todd- John Wiley and Sons.

2. Engineering Geology-F.C. Beavis-Blackwell Publications.
3. Text Book of Engineering Geology-N.C Kesavulu-Momilam India Ltd.,
4. An Introduction to Geophysical Exploration-P.Keare and M. Brooks _ ELBS
5. Photogeology-Van Bandt.
6. Photogeology - Miller.
7. Principles and Application of Photogeology-S.N. Pandey-Wiley Eastern Ltd. N.Delhi.
8. Mining Geology-Arogyaswamy.
9. Geophysical Prospecting - Dobrin.
10. Geophysical prospecting-Rama Rao.
11. Engineering Geology- Legget.
12. Groundwater - Davis.

PAPER - XII : (PRACTICAL)

Max. Marks: 60

Times : 4 hours

GROUP - PETROLOGY

Marks : ;30

Identification of following rocks in hand specimens - Nepheline, syenite, norite, granodiorite, andesite, peridotite, pyroxenite, dunite, anorthosite, aplite, breccia, dolomite, granulite, amphibolite, khongalite, conglomerate, shale, sandstone, and limestone.

Petrograph and petrogenesis of following rocks in thin sections- Nepheline - Syenite, Norite, Granodiorite, Tachyte, rhyolite, peridotite, pyroxenite, dunite, anorthosite, graywacke, arenite, arkose, limestone, shales, chlorite-schist, granulite, amphibolite, charnockite, eclogite, mylnite, augen-gneiss.

Identification of important heavy minerals and sedimentary structures.

GROUP - B : APPLIED GEOLOGY

Marks : 15

Aerial photograph: ground truth checks.

Topographic survey with the help of chain, and plane table. Drawing of ground water contours and determination of flow direction.

GROUP - C: FIELD WORK

Marks : 15

Geological mapping of a small area and Report to be prepared and presented for evaluation.

5:5: - Examination matters

- i) THE EXTERNAL EXAMINERS TO SET PRACTICAL QUESTION PAPERS ON THE DAY OF THE EXAMINATION.
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The Academic Council in its 62nd Meeting held on 3rd and 4th Dec., 1999 vide resolution No. AC:62:99:5:2(iii), among others, had resolved that the Practical Examination for each subject are to be held on the same day and the Question Paper will be set by the External Examiners themselves to whom clear guidelines shall be issued by the Examination Deptt., on the procedure of the same.

It may be noted that at present the Questions for Practical Papers, at the Under-Graduate level, are set by the Paper-Setter from the Panel provided by the respective BUGS.

Now, if the Practical Question Papers are set by the External Examiners and departing from the present system, the following difficulties may arise.

1. If the Question Papers are set by the External Examiner, the standard of Questions invariably will differ from one college to another and thereby no uniformity can be maintained.
2. There are Practicals which are carried out for two to three weeks and this is with reference to subjects like Physics, Chemistry and Botany etc. In such cases, the External Examiners have to set Question Papers on each day vis-a-vis for different batches of students, which is perhaps not feasible.

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3. It may be noted that the pattern of Questions for each subject differ from one to another. In other words, there are Practicals which are indicative in nature and there are some not. The questions which are indicative in nature, the examination for such practicals are held in one day. But, for such practicals there are a number of concerned colleges represented to the University to see that the period of Examination for such Practical which are indicative in nature are extended in view of increasing number of students.

In consideration of such practical/inevitable difficulties we may consider the possibility of involving the External Examiners(if need be) to set the Question Papers, for the following day(s) in the line of the Question Papers, originally set, for the subject that are indicative, while the rest may continue to be set by the Paper Setters as the practice is being followed now.

The matter is placed before the Council for re-consideration.

- ii) On the paper setters cum-examiners of post-Graduate Examination - Proposal for modification thereof.

As informed by the Examination Department that under the existing provision of the Ordinance related to Post - Graduate examinations it provides that the Paper Setter should ordinarily act as Examiner, as a result of this provision, the Department concerned has been facing lot of problems in getting the papers evaluated in time.

In order to tide over this problem, the Controller of Examinations has recommended that effective changes may be made by bringing necessary amendment to the relevant Clause.

The proposal for amendment is placed as Annexure-1.

The matter is placed before the Council for consideration.

Exam/Conf/

On the paper setters cum examiners of post-Graduate Examination - Proposal for modification thereof.

The Regulation-RC-5 under Ordinance OC-7 provides the criterial of paper setters cum examiners of post Graduate examinations.

The said regulation, vide clause-I, deals with the following :-

1. The Board of post Graduate Studies in each subject shall draw a panel of paper setters/examiners ordinarily in the month of August every alternate year and forward the same to the Vice-Chancellor who shall appoint the paper setter/examiner for a period of two years from this panel while drawing the panel, the Chairman of the Board of Post Graduate Studies shall take into consideration the confidential aspect of the assignment so as to make it fool proof. Criteria for recommending the names shall be as under.

(i) Paper setters:

Only external teachers shall be appointed.

(ii) A person to be appointed as a Paper setter must be a teacher not below the rank of a Reader in a University with atleast 10 years' experience in teaching the subject/course at the post graduate level.

(iii) Ordinarily the paper setter shall act as examiner. In case an examiner has to be appointed other than the paper setter, the criteria shall be the same as for paper setter.

In exceptional circumstances, however, the Vice-Chancellor may relax the condition of experience.

In view of the provision laid down under sub-clause of clause-I, the answerscripts are sent to the Paper setters for evaluation. Recommended panel of paper setters generally consists of persons belonging to Northern, Southern and Western regions of India and accordingly the answerscripts are sent to these regions. As a fall out of this, it has been observed that in many occasions, the papers sent to far off places remain unattended for couple of months for various reasons. There are also instances, where the external paper setters have declined to evaluate answerscripts and as a result considerable time is taken in transit itself. Eventually, the publication of post graduate results get inordinarily delayed. To overcome such handicaps, it is felt that the examinership may be delinked from paper setter and separate panel of examiners may be provided by the Board of Post Graduate Studies.

Since in this region, there are considerable number of Universities including Central Universities, for academic reasons while the panel of paper setters may continue to be drawn from any part of the country, but, for administrative reasons the panel of examiners may be drawn from the neighbouring Universities to the extent possible. This would facilitate results and retrievals, in the event of unwarranted delays by any examiner.

The matter is, therefore, placed before the council for consideration of the proposed amendment, placed below at Annexure-I.

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Existing ProvisionAmendment Proposed

1. The Board of Post-Graduate Studies in each subject shall draw a Panel of Paper-Setters/Examiners ordinarily in the month of August every alternate year and forward the same to the Vice-Chancellor who shall appoint the Paper-Setter/Examiner for a period of two years from this panel. While drawing the panel, the Chairman of the Board of Post-Graduate Studies shall into consideration the confidential aspect of the assignment so as to make it fool-proof. Criteria for a recommending the names shall be as under:
 - i) Paper-Setter:
Only external teachers shall be
 - ii) A person to be appointed as a Paper-setter must be a teacher not below the rank of a Reader in a University with atleast 10 years' experience in teaching the subject/course at the post Graduate level.

1. The Board of Post-Graduate Studies in each subject shall draw a separate panel of Paper-Setters and Examiners ordinarily in the month of March and August every year and forward the same to the Vice-Chancellor who shall appoint the Paper-Setters and Examiners for a period of one year from the panels. While drawing the panel the Chairman of the Board of Post-Graduate Studies shall take into consideration the confidential aspect of the assignment so as to make it fool-proof. Criteria for recommending the names shall be as under:-
 - i) Paper-Setter
No Change.
 - ii) No change.

A separate list of Paper-Setters and Examiners is proposed in view of the fact that there are considerable number of external Paper-setters who do not like to serve as Examiners.

The Post-Graduate examinations are held twice in a year and accordingly panels are required to be submitted for semester-wise examination.

iii) Examiner:

Ordinarily the Paper-Setter shall act as examiner. In case an examiner has to be appointed other than the Paper-Setter, the criteria shall be the same as for Paper-Setter.

In exceptional circumstances, however, the Vice-Chancellor may relax the condition of experience.

(iii) Examiner:

(a) The Paper-Setter shall ordinarily not act as paper-setter. A separate list of examiners shall therefore be provided by the Chairman Board of Post-Graduate Studies for the purpose.

(b) The examiners ordinarily should be drawn from the neighbouring Universities/Institutions.

(c) The examiner shall ordinarily have at least 5 years of teaching experience in the subject concerned at the post-graduate level.

In exceptional circumstances, however, the Vice-Chancellor may relax any of the conditions set above.

On completion of examination, priority is laid down for early publication of results so as to enable the students concerned to prepare themselves for next semester examination.

Early publication of results is possible provided the evaluated scripts are received in time. Under the existing provision, the answerscripts are sent to the Paper-Setter, who normally hails from Northern, Southern and Western part of India. As a result, in transit itself considerable time is taken and sometimes the scripts are returned unevaluated for some reasons or other.

In order to avert such a situation ordinarily the examiners may therefore be drawn from neighboring Universities.

It is felt that the relaxation to the proposed years of experience will not jeopardise the academic standard, while it will draw more teachers into the net of examiner-ship.

iii) UGC Expert Committee - Recommendations of ;

The UGC expert Committee that was appointed towards the settlement of CR(PIL)No:1(SH)/97 - Shri B J Bhattacharjee vrs NEHU & ors, among others, recommended as follows :-

" As per the guidelines and the Statute, 180 number of days are available, whether this is actually adhered to is uncertain and University should not issue circulars which may reduce this number. The system can be put on a better footing by providing a cushion against the unforeseen disruptions of the academic Calendar. The Academic year could begin in February instead of April-May and the examination could be conducted and completed in November-December. If adopted, it could also reduce the long period of gap of waiting for the teaching for certain classes to begin.

The above is submitted to the Academic Council for directions with the comment that majority of teachers are not available during the Winter Vacation and to presume that the period would be utilised for evaluation works would be unrealistic.

No:DR/EX/Court case/2000

iv) UGC Expert Committee - Recommendations on Examinations & Assessment.

The UGC Expert Committee that was appointed towards the settlement of C R (PIL) No:1(SH)/97 - Shri B J Bhattacharjee Vrs. NEHU & Ors. as follows :-

" The Committee is of the view that at this point in time when a large number of experts and Committees all over the world including India are of the opinion that examination and assessment is the part and parcel of the profession of teaching, it is hardly necessary for it to emphasize that NEHU should take urgent steps towards making it mandatory for all teachers to perform the examination duties whether as paper setters, evaluators or invigilators as part of ~~their~~ duty. The plea very often put forth by the teachers that since the Examination work is a "paid work", therefore, they have the option to not to undertake it "has no meaning". If the logic is taken to its conclusion then the teaching itself is a paid job as undoubtedly the teachers get their salaries. Therefore, if the extra remuneration is a problem, it may be done away with NEHU may consider amending its relevant Ordinances to provide for mandatory examination work to be performed by the teachers as necessary part of their duty".

The above are submitted to the Academic Council for directions.

No:DR/EX/Court Case/2000.

v) Panel of Paper setters/Moderators for the Under-Graduate Examinations.

The Examination Department vide U/O No.F.No:Conf/BUGS/Panel/2000-284 dated 26.5.2000, (Annexure-'A') has intimated that the respective Board of Under-Graduate Studies have recommended the panels of Paper-setters/Moderators in the following subjects :-

- | | |
|-----------------------|--|
| 1. English | 15. Anthropology |
| 2. Khasi | 16. Statistics |
| 3. Mizo | 17. Mathematics |
| 5. Garo | 18. Sociology |
| 6. Assamese | 19. Psychology |
| 6. Hindi | 20. Botany |
| 7. Nepali | 21. Zoology |
| 8. Education | 22. Biochemistry |
| 9. Economics | 23. Business Administration |
| 10. Political Science | 24. Computer Science |
| 11. Geography | 25. Public Administration. |
| 12. Chemistry | 26. Home Science. |
| 13. Philosophy | 27. Commerce. |
| 14. Geology | 28. Bio-Technology. |
| | 29. Mass Communication & Video Production. |
| | 30. Man & Environment. |

The matter is placed before the Council for consideration.

F.No.Conf/BUGS/PANEL/2000-284

Dated 26-5-2000.

Panel of Paper Setter/Moderator for the Under-Graduate Examinations.

The Panel of paper-Setter/Moderator received from the Chairman,BUGS in the following Subjects required to be approved by the next Academic Council.

1. English
2. Khasi
3. Mizo
4. Garo
5. Assamese
6. Hindi
7. Nepali
8. Education
9. Economics
10. Political Science
11. Philosophy
12. Geography
13. Chemistry
14. Geology
15. Anthropology
16. Statistics
17. Mathematics
18. Sociology
19. Psychology
20. Botany
21. Zoology
22. Bio-Chemistry
23. Business Administration
24. Computer Science
25. Public Administration
26. Home Science
27. Commerce
28. Bio-Technology
29. Mass Communication & Video Production
30. Man & Environment

Submitted for doing the needful please.

D.R.(Conference)Section^{Sd/} Officer(Conf) Exams.

.....

vi) Evaluation/Exam Report . ~~on the above Subject.~~

The Academic Council in its 62nd meeting vide its Resolution No.AC:62:99:5;5(iii) had resolved that a Committee be appointed to look into the system of evaluation & other matters relating to examinations. The said Committee was constituted vide Notification No.AC:62-4/Conf/99-1530 dt.27-1.2000 and its report is placed as Annexure-'I'.

The matter is placed before the Council for consideration.

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REPORT OF THE COMMITTEE CONSTITUTED IN ACCORDANCE
WITH ACADEMIC COUNCIL RESOLUTION NO:AC:62:99:5:5: (iii):
TO LOOK INTO THE SYSTEM OF EVALUATION AND
EXAMINATION REFORMS.

The Committee met on two occasions, that is, on 28th February, 2000 and 17th April, 2000 to look into the problems faced in the system of evaluation and examinations and also into the recommendations of the UGC's Expert Committee on examination matters. The Committee also decided to involve some of the College principals in its deliberations before finalising the recommendations. And accordingly two Principals from Mizoram, one from Jowai, one from Tura and five from Shillong were invited to a meeting of the Committee held on 19th May, 2000.

The final recommendation of the Committee with due consultation of the Principals is placed as ANNEXURE 'A'.

Sd/
AN Rai
Chairman

Sd/-
John MS Khongwir
Convener

OBSERVATIONS / DIFFICULTIES

COMMITTEE'S RECOMMENDATIONS

The UGC Expert Committee that was appointed towards the settlement of CR (PIL) No.1 (SH) / 97 - Shri BJ Bhattacharjee Vrs. NEHU & Ors, among others, recommend as follows:-

"As per the guidelines and the Statute, 180 number of days are available, whether this is actually adhered to is uncertain and University should not issue circulars which may reduce this number. The System can be put on a better footing by providing a cushion against the unforeseen disruptions of the academic calendar. The Academic year could begin in February instead of April - May and the examination could be conducted and completed in November - December. If adopted, it could also reduce the long period of gap of waiting for the teaching for certain classes to begin".

The UGC Expert Committee that was appointed towards the settlement of CR (PIL) No.1 (SH) 97 Shri BJ Bhattacharjee Vrs. NEHU & Ors. As follows:-

"The Committee is of the view that at this point in time when a large number of experts and committees all over the world including India are of the opinion that examination and assessment is the part and parcel of the profession of teaching, it is hardly necessary for it to emphasise that NEHU should take urgent steps towards making it mandatory for all teachers to perform the examination duties whether as paper setters, evaluators or invigilators as part of their duty. The plea very often put forth by the teachers that since the examination work is a "paid work", therefore, they have the option to not to undertake it "has no meaning". If the logic is taken to its conclusion then the teaching itself is a paid job as undoubtedly the teachers get their salaries. Therefore, if the extra remuneration is a problem, it may be done away with. NEHU may consider amending its relevant Ordinances to provide for mandatory examination work to be performed by the teachers as necessary part of their duty".

To enable 180 days for teaching the Committee recommended that examinations should start on 1st Monday of February, schedule to include Saturdays and gaps shall be reduced in order to complete the examinations process at the earliest but not later than mid April.

The majority of the Colleges under NEHU are not constituent but affiliating. In other words the teachers of these Colleges are not the employees of the University and therefore, administrative control over them would not be possible. Same problem applies to external examiners. Therefore, this in itself will not solve the problem.

NEHU cannot take a decision in isolation, therefore, other Universities are also to be consulted.

A. SETTING / MODERATION ETC:

1. Senior-most teachers are not always appointed for such works.

Appointment of examiners is done on the basis of eligibility as per RC-10 on recommendation of the BUGS Chairpersons. Appointment based solely on seniority will affect confidentiality of examination.

2. Complaints on Questions Papers are not attended to.

For dealing with this problem a mechanism exists and is functioning well.

Controller of Examinations has informed that complaints on the Question Papers are invariably brought to the notice of the concerned Chairman for comments and on his / her instructions, necessary remedial measures are taken. The Committee emphasizes that this practice be strictly adhered to and that all complaints relating to Question Papers must be routed through Centre In-Charge to the Controller of Examinations, NEHU. The latter will acknowledge all such complaints.

3. Some question papers contain a number of typographical errors.

Instructions are given to the paper setters, particularly for the language papers, to submit type-written papers. But on many occasions the paper setters do not adhere to such instructions. The Committee recommends that at the time of moderation, the Chairpersons should ensure that the Question Papers are written legibly and clearly.

4. Setting up of Question Papers for Practicals.

All Question Papers for Practicals should be set in such a manner that the confidentiality is not lost even if examinations are being held on different dates at different Centres. The external and internal examiners shall jointly decide the exact material to be given for Practicals at the time of examination. The College shall stock reasonable amount of experimental materials. The practice of setting instructions may be discontinued.

5. Panel of Practical Examiners.

Panel of Examiners for Practicals shall be submitted by the BUGS Chairperson to the Controller of Examinations. The Panel should be exhaustive in nature and shall include all those who are eligible for it.

B. EVALUATION

1. Some of the examiners are given too many answer scripts for evaluation.

Sometimes due to shortage of examiners, arising mainly from non availability of teachers having required years of experience, the examination branch gives more scripts to some examiners. However, every examiner is given sufficient time to complete the process of evaluation. Efforts are being made to distribute the papers to more examiners.

However, if there is shortage of time, this should be brought to the notice of the Controller of Examinations.

2. A considerable number of candidates obtain just pass marks - making some doubt that the Examination Department has been awarding marginal marks without evaluation.

The University has not been reflecting the marks awarded through the grace principle separately. The Committee recommends that in future grace marks should be reflected in the mark sheet.

3. Complaints are sometimes received that NEHU is quite stingy in its marking.

The Question Papers consist of 40% objective type and 60% essay type questions. Therefore, the scope for subjectiveness is limited and evaluation is realistic. The Moderation Board for results is consulted by the Controller of Examinations if there is a general case of under - marking or other extraordinarily circumstances. The Moderation Board will be reminded to take care of such problems.

4. Complaints are sometimes received that answers to all the questions have not been examined.

The University has the provision for Chief Examiner to check such possibilities at the level of scrutiny who goes through all the scripts of the first examiner, to see such possibilities at the level of scrutiny..

5. Sometimes complaints are received from candidates that some questions are ambiguous, outside the syllabus or set beyond their levels. Such complaints should be dealt with by referring them to the Moderation Board and BUGS Chairpersons.

C. TABULATION / RESULTS

1. Complaints are sometimes received that the NEHU Results are published late. Controller of Examinations has assured that this problem does not exist now.
2. Complaints are sometimes received that the names of many candidates are miss-spelt in their documents. Very often the candidates, while filling up their examination forms, provide incomplete information about their names and other details leading to such complaints. Examination Department is taking care to minimise this. Examination forms should be filled in Block Letters and efforts should be made to computerise the printing and issue of marksheets.
- 3.. Grace principle is not applicable to the practical papers. We are of the opinion that the grace principle should equally be applicable to the practical papers as well.
4. It has been observed by some that there should be paper-wise moderation of results. Complaints are sometimes received from some candidates that some examiners award marks ranging from 30 to 50 only. We are of the view that this is not feasible. However, in cases of mass failures or large variations, paper-wise moderation of results is resorted to.

D. RE-EVALUATION

1. A misconception prevails that a candidate applying for re-evaluation does has a better chance of passing. Re-evaluation is another process of evaluation and the large variations in marking, if any, are taken care of during moderation.

2. There should not be any limitation on the number of papers or marks for re-evaluation.

It would be opening up a Pandora's Box if such privileges are not restricted.

E. PROBLEMS ASSOCIATED WITH:

1. Panel of examiners / paper setters submitted by the department.

Sometimes such panels contain the names of persons who have expired, out of the country or have changed the Institutions, or do not possess required specialization in such papers. Such unfortunate circumstances curb the efficiency of the examination department. The BUGS Chairperson should be asked to update the panel and that the Principals of Colleges are requested to send annually a list of all teachers in their Colleges (subject and seniority-wise) to the Controller of Examinations who shall forward a copy of the list to all concerned.

2. The schedule of fees payable by students and remuneration payable to teachers needs revision. For example, the fees collected from a Ph.D. candidate is about a thousand, while the expenditure incurred for holding a Viva often costs the University about rupees twenty thousand.

The fees should be periodically revised preferably every two years.

3. Provisions for dissertation for Master Degree Course often delay the results.

Dissertation work if necessary, should not stretch beyond the concerned semester.

4. Some examiners complain that they have not agreed to set / evaluate papers.

Where-ever possible, consent will be taken. As a principle, paper setting & evaluation be de-linked.

5. We have been receiving comments that teachers of the University should be entrusted with the conduct of Major Practicals.

In principle this is agreed to. Controller of Examinations has informed that the University teachers, more often than not, refuse to go to the Colleges of Outlying Campuses. In order that the outlying Colleges are not discriminated, the University has been entrusting such works to the senior College teachers where available.

- | | |
|---|--|
| <p>6. Examination Department is unable to make some urgent spot payments (such as TA / DA to examiners and contingent transport arrangements) on non - formal working days.</p> | <p>The Controller of Examinations may be allowed to hold certain amount of contingency for meeting such urgent expenditures.</p> |
| <p>7. Sometimes candidates get inflated or deflated marks for their internal assessment.</p> | <p>It is felt that there is a need for removal of such anomalies, which occur not so infrequently. Marks of Internal assessment be moderated as being done for the PG Departments(RC-5).</p> |
| <p>8. Problems are faced in granting of Examination Centre to a College that has been given conditional affiliation.</p> | <p>No Examination Centre should be granted to a College having conditional affiliation.</p> |
| <p>9. Problems are also faced in granting Examination Centres in a rush manner when a College is granted affiliation at the fag-end of the year.</p> | <p>Such Colleges should not be granted an Examination Centre.</p> |
| <p>10. Problems are also faced by the Examination Department when they are unaware of the subject affiliation of a College.</p> | <p>There should be an effective co-ordination between Examination and College Development Council.</p> |
| <p>11. In PG evaluation, it was pointed out that sometime there has been a large variation in marks obtained from paper to paper by a same candidate.</p> | <p>Such cases should be pointed out by the Screening Committee for results constituted in the respective departments.(OC-7:12).</p> |

5:7 - Affiliation etc

i) Affiliation of T.Romana College.

The Academic Council in its 62nd meeting approved renewal of affiliation for one year for the subjects in Public Administration and Sociology of T.Romana College. The matter was placed before the 105th meeting of the Executive Council and the Council approved the decision of the Academic Council.

While confirming the Minutes of the 105th meeting of the Executive Council, the Council noticed that these two subjects were the new subjects and are yet to be introduced. Hence, the Council decided to refer back to the Academic Council for its decision.

Further the Council decided regarding provisional affiliation for allowing starting of Honours in History also referred back to the Academic Council as there are only two History teachers in the College. A letter received from Dr. C. Lalkima, is appended herewith in Annexure-'A' & its Inspection Team Report is at Annexure-'B'.

The matter is placed before the Council for consideration.

NORTH-EASTERN HILL UNIVERSITY
MIZORAM CAMPUS:: AIZAWL - 796007 FAX : 20313
No.MC(PA)P-10/EC/95
Dated Aizawl, the 11th May'2000

Dr C Lalkima,
Reader & Head,
Department of Public Admn.

To,

The Vice Chancellor,
Chairman,
Executive Council,
NEHU, Mawlai Shillong - 22

Subject : Observations on the 105 EC Minutes.

Sir,

With kind permission, I like to submit a few observations on the minutes of the 105 EC meeting which had been received vide letter No:EC:105-3/Conf/99/620 dated 24 April'2000 (Copy attached for ready reference).

(a) Vide the EC Resolution 105:99:5:7(i), T Romana College is affiliated with two subjects only i.e. Public Administration and Sociology for one year; whereas the inspection team recommended renewal of affiliation for six more subjects namely, English, Mizo, History, Political Science, Education and Economics. The Academic Council recommended them all for renewal of affiliation but they have not been reflected in the EC minutes.

(b) Para 3 of the forwarding letter says that the above two subjects i.e. Public Administration and Sociology are to be referred back to the Academic Council as 'Yet to be introduced'. The para 3 of the forwarding letter is contradictory to the above cited EC resolution. It would, however, be good to mention that the subject of Public Administration has been opened and started its classes in the T Romana College in 1998. Similarly, the subject of Sociology was also started in the college in 1999. Fortunately, these two subjects have NET qualified teachers as mentioned in the inspection report dated 20 Aug 1999. I would further submit that the subject of Sociology is one of the oldest subjects in the NEHU and the discipline of Public Administration is also now in the University system for more than fourteen years. Both the subjects are quite popular in the jurisdiction of the NEHU.

North-Eastern Hill University, Mizoram Campus Aizawl-776007

(c) It is also not understood as to how only two History Teachers in the T Romana College are reflected in the said forwarding letter. There were four teachers as on 20 August'1999, the day of the college inspection (extract copy of teachers attached).

Sir, the above mentioned facts had been considered by the members of Academic Council and passed the resolution.

Therefore necessary correction may please be made accordingly.

Thanking you,

Yours faithfully,

Sd/-

(Dr C Lalkima)

Reader & Head

Department of Public Admn.

&

Convener, Inspection Team,
T Romana College, Aizawl.

Copy to :-

- a) Director, College Development, NEHU, Shillong-22 for kind information and necessary correction please.
- b) Deputy Registrar (Conf), NEHU, Shillong for kind information and necessary correction please.
- c) Pro Vice Chancellor, NEHU, Mizoram Campus Aizawl for information please.

Sd/-

(Dr C Lalkima) 11/5/2000

5:7:1(4)

NORTH-EASTERN HILL UNIVERSITY
SHILLONG

No:EC:105-3/Conf/99-1620

Dated Shillong the 24th April, 2000.

To,

1. The Deans of Schools (Other than the members of the Executive Council), NEHU, Shillong.
2. All Heads of Departments/Centres, NEHU, Shillong/Aizawl/Tura.
3. Librarian, NEHU, Shillong.

Subject :- Minutes of the 105th meeting of the Executive Council held on 9th December, 1999.

Sir/Madam,

I am forwarding herewith the Minutes of the 105th meeting of the Executive Council held on 9th December, 1999.

The Minutes were confirmed at the 106th meeting of the Executive Council held on 13th April, 2000 with the following modifications:

1. EC:105:99:5:1(vii):3. "The initial pay of Professors and other equivalent academic staff in the revised pay may be fixed at the minimum of the initial pay fixed for the College Principals (in the Professors grade). Similarly, the initial pay of Readers and equivalent other equivalent staff in the University may be fixed at the minimum of the initial pay of the College Principals (in Readers Grade), subject to the approval by the University Grants Commission".
2. EC:105:99:5:1(vii):7. "The benefit of re-employment to superannuated teachers could be extended till the age of 65 years and Rule RU-2 may be suitable amended".
3. EC:105:99:5:7(i) "The matter regarding renewal of affiliation for the subject of Public Administration and Sociology in the case of T Romana College may be referred back to the Academic Council as these two are new subjects "Yet to be" introduced.

The provisional affiliation for allowing starting of Honours in History be referred back to the Academic Council as there are only two History Teachers in the College".

This is for your information and record.

Yours faithfully,

Sd -

JMS Khongwir
Deputy Registrar

Enclo : a.a.

5:7:1(5)

Sl No:	Names	Qualification	Date of Appointment	Date of Joining	Remarks
<u>ECONOMICS DEPARTMENT</u>					
1.	Lalrinchhana	M A (Econ)	30.8.93	3.9.93	58.06% in Economics.
2.	C Lalnuntluangi	M A (Econ)	21.10.98	22.10.98	M A Eco, result awaited.
3.	H Vanlalsanga	M A (Econ)	30.7.99	2.8.99	57.63% in Economics.
4.	Lalsiamthanga	M A (Econ)	30.7.99	2.8.99	55.62% in Economics (Poone).
<u>POL SC. DEPARTMENT</u>					
1.	Mary Lalngaihawmi	M A (PA)	14.5.98	25.5.98	B A (Hons) in Pol.Sc, 55.31% in P A
2.	Ramoliliani	M A (PA)	29.6.98	1.7.98	B A (Hons) in Pol.Sc. 57.88% in P A
3.	Lalthansanga	M A (Pol Sc.)	8.9.98	9.9.98	55% in Pol.Sc.
4.	Lalmingmawii Pachua	M A (Pol.Sc.)	29.7.99	2.8.99	55.06% in Pol. Sc.
<u>Education Department</u>					
1.	Lalzodinpuii	M A (Edu)	26.9.97	28.9.97	59.38% in Education
2.	Lalmachhuane	M A (P A)	14.5.98	25.5.98	60.13% in Education
3.	Zothansangi	M A (Edu)	1.7.98	2.7.98	60.13% in Education
4.	Rolathianghlina	M A (Edu)	30.7.99	2.8.99	58.56% in Education.
<u>P A Department</u>					
1.	Lalchhuanmawii	M A (P A)	1.10.97	2.10.97	58.25% in P A with N E T
2.	Albert Zonunsanga	M A (P A)	14.5.98	15.5.98	55.94% in P A
3.	C V L Tlanhlua	M A (P A)	25.6.99	28.6.99	57.19% in P A
4.	Lalthanuana Pautu	M A (P A)	29.7.99	2.8.99	57.19% in P A
<u>SOCIOLOGY DEPARTMENT</u>					
1.	C Laldingsanga	M A (Sociology)	18.6.99	21.6.99	62.85% in Sociology (Poone)
2.	Lalngaihawmi Khiangte	M A (Sociology)	14.7.99	15.5.98	62.85% in Sociology (Poone)
3.	Laltanpuui Rokhum	M A (Sociology)	30.7.99	2.8.99	68.38% in Sociology with N ET
4.	Lalransanga Sailo.	M A (Sociology)	30.7.99	2.8.99	61.81% in Sociology with NET.

iii) Affiliation cases of various Colleges.

The following Colleges were inspected by the respective Inspection teams for consideration of Renewal/Provisional affiliation.

The Inspection Reports are placed as Annexures shown against each :-

<u>Name of College</u>	<u>Affiliation sought for.</u>	<u>Subjects</u>	<u>Annexure -</u>
1. T. Romana College	Renewal of provisional affiliation.	Public Administration and Sociology.	'A'
2. Sohra College	- do - in Degree General Courses (Arts) in Honours Courses	- English, MIL (Khasi), Economics, Edu., Pol. Science, History & S.L. Khasi. - SL (Khasi), Pol. Science, Economics, History, & Education.	'B'
3. Mendipathar College	Introduction of new Subjects in - - - -	Major in Pol. Science -	'C'
4. Tura Law College	- Renewal of provisional affiliation.	L.L.B. - - - -	'D'
5. Zawlnuam College	- Provisional affiliation in Degree General Courses & in Honours Courses.	- History, Pol. Science, Education	'E'
6. Johnson College.	- Provisional affiliation in Degree General Courses and Honours Courses	- English, Mizo, Edu., History, Economics, Pol. Science. - English, Mizo, Edu.	'F'
7. Raid Laban College	Provisional affiliation to upgrade BA/B.Sc. Major Courses in - - - -	Economics, Philosophy, Edu., Khasi, English, Pol. Science, Sociology, History.	'G'
	B.Com in - - - -	Accountancy.	
8. Review Report on St. Dominic College, Shillong	in pursuance of the decision adopted at the 57th meeting of the Academic Council.	- - - - -	'H'

The matter is placed before the Council for consideration.

ITEM NO. 5: 7: Affiliation etc.

INSPECTION REPORT OF VARIOUS COLLEGES:

Item No. 1: Inspection Report of T. Romana College, Aizawl:

- | | | |
|-----|--|---|
| (a) | Renewal of affiliation to the College. | } Team recommended for extension & introduction of new subject. |
| (b) | Introduction of New subjects. | |
| | Public Admn, Sociology. | |

Item No 2. Sohra College: Cherrapunjee:

- | | | |
|-----|---------------------------------------|--|
| (a) | Renewal of affiliation to the College | } Team Recommended for Extension of 3 years. |
| | | |

Item No 3. Mendipathar College, Mendipathar:

- | | | |
|-----|---|-----------------------------------|
| (a) | Opening of Major in Political Science.) | Team Recommended with conditions. |
|-----|---|-----------------------------------|

Item No. 5. Tura Law College, Tura:

- | | | |
|-----|---------------------------------------|-----------------------------------|
| (a) | Renewal of affiliation to the College |) Team recommend with conditions. |
|-----|---------------------------------------|-----------------------------------|

Item No 5. Zawluam College, Mizoram:

- | | | |
|-----|---|--|
| (a) | Opening of Hon Courses in History, Pol Sc, Education. | } Team Recommended for opening of Hons courses in these subjects |
| | | |

Item No 6. Johnson College, Mizoram:

- | | | |
|-----|--|--|
| (a) | Extension of Provisional Affiliation to the College. | } Team Recommended for Extension of 3 years. |
| | | |

Item No 7: Raid Laban College, Shillong:

- | | | |
|-----|---|--|
| (a) | Introduction of Major subject in Edonomics, Philosophy Education, Khasi, English, Pol Sc, History, Sociology, | } Team: reco-
men =
ded
(for provisional affili-
liation with condition
(laid down in the In-
spection Report. |
| | | |

Item No 8: St. Dominic College, Shillong:

- | | |
|-----|--|
| (a) | Review of the earlier Inspection Report for granting affiliation to the College. |
|-----|--|

NORTH EASTERN HILL UNIVERSITY
SHILLONG

FOR NEW COURSE/UPTRADATION.

INSPECTION REPORT.

1. Name of the College: T. Romana College.
2. a) Year of affiliation & corresponding University Notification No. CDC/A.130/95-96/4993-97 dated 18.12.96.
b) Level to which affiliation; BA|BSC.|B.COM.
B.A. with Honours.
3. Affiliation/permission sought to upgrade to or BA|B.SC/Pass course in B.A. WITH HONOURS

Introcuction Renewal Affiliation.

Introduce (a new subject) Public administration & Sociology

B. Sc. Hons in N. A.

B. Com in N.A.

4. Admission for the last three years.

YEAR	B.A.I.	B.A.II.	B.A. III.	TOTAL
1997.	353.	72.	26.	451.
1998.	86.	365.	52.	503.
1999	131.	180.	230.	541.

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

Examination. year. Percentage pass.

B.A. (GEN) 1998. 46.57

B.A. (HONS) 1998. 62.16.

B.A.(GEN) 1999. 56.72.

B.A. Hons) 1999. 24.65.

NOTE: THE UNIVERSITY REGULATION STIPULATES THE FOLLOWING STAFFING REQUIREMENT.

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 Student appeared	% Success.
-------	------------------------	------------

N. A.

7. FUND :

- (a) Whether the College is having a Reserve Fund in long term fixed deposit:

YES, the Mizoram Cooperative Apex Bank Ltd.

For No. 065344 for Rs. 630,000/-

For No. 065643 for Rs. 270,000/-

& No. 2158237/47/99 dated 15.9.99 for Rs. 1,41,250.00

- (b) Present Working Fund: Rs. 5,00,000/-

8. Qualification/Specialization of the teaching Staff of the relevant subjects only.

List of Teaching Staff in Appendix 'A'.

Attach extra sheets if necessary.

Contd Page 3/-

NOTE: THE UNIVERSITY REGULATION STIPULATES THE FOLLOWING STAFFING REQUIREMENT.

<u>LEVEL/CLASS.</u>	<u>MINIMUM NO OF TEACHERS IN EACH SUBJECT</u>
a) Degree Non-Laboratory(pass)	Two in all subjects & 3 in English
b) Degree Laboratory (Pass)	Six of whom four should be Lects.
c) Degree Non-Laboraty (Pass) & Hons.	Four in all subjects other than English & Otther Elective language in which there should be at least five. <u>Y E S.</u>
d) Degree Laboratory(Pass) + Hons.	Seven of whom Six shall be Lect.

9. LAND AND SITE:

- Whether the College is having permanent Building on its own Land ; Y E S.
- Area of the College Campus: 0.41. Bighas
- Accommodation (give Size).
 - One room for the Principal 13' x 19'
 - One room for the Vice-Principal 12' x 12'.
 - One room for the College Office 20' x 15'
 - For Staff Common Room 17' x 15' & Reading Room 10' x 10'
 - Common room for boys and girls 20'x 45'
 - Library with reading room 30' x 22'.
 - Class room 38' x 25' for I.BaA. Adequate.
38' x 25' for II.B.A.
 - 30' x 22' for III B.A. & Honours Room of 12'x 12' Each.G.Total
/2704 Sq.Ft.

10. Workload of Teachers: 17 period per week.

11. Library Books:

Total Volumes: 5740.

Subjectwise break-up (of relavant subjects only).

			<u>Magazines & Journals.</u>	
1. English	-	579 Vols.		
2. Mizo.	-	685 Vols.		
3. History.	-	660 Vols.	Political Sc(Journal)	- 9.
4. Pol. Science-	-	699 Vols.	History Mag.	- 5
5. Education.	-	728 Vols.	Education	- 7
6. Economics	-	758 Vols.	Economic.	- 6
7. Pub.Admn.	-	503 Vols.	Pub. Admn.	- 4
8. Sociodlogy.	-	516 Vols.	Mizo.	- 5
9. Man & Environ-	-		Sociology.	- 3.
ment	-	44 Vols.		
10. Other Books	-	568 Vols.		

G. Total:5740.

Whether the College has a trained Librarian: Yes.

12. Laboratory facilities: N. A.
- a) Whether accommodation is adequate or not:
- b) No of shifts the students do their practicals:
- N.A.

13. When was the last Governing Body meeting. 11.8..1999

14. Any other relevant information (s) Point (s)

R E C O M M E N D A T I O N S.

Please make your recommendation without any ambibmity. 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.

OBSERSERVATION AND RECOMMENDATION:

1. Renewal of affiliation fee for the period of (Dec-1999-Dec-2002) @ Rs. 3000/- for 6 subjects English, Mizo, History, Pol Sc, Education and Economics alongwith the introduction fee of Sociology and Public Admn, subjects have been deposited to the NEHU by the CollegeVide SBI Mission Veng Aizawl Draft No. 073165 dated 12th Aug 99 and No. 391506 dated 5th Nov 98. Also renewal fee of Rs. 5000/- Vide Draft No. 392372 dated 27th May 1999 have been deposited to the NEHU.
2. Library under full time Librarian is equiped just Satisfactory. More effort is suggested to increase the Volume of Books, and Journal.
3. The Existing class rooms of I and II yr B.A. are adequate. But the classes of B.A.(HONS) of various subjects are conducted in a very week RCC building which requires urgent renovation and these class rooms require proper partitions.
4. The College has more than one thousand students and the College is one of the Colleges under the process of upgradation into State Govt. deficit management Vide Govt, of Mizoram Memo No.B.17013/52/96 Dte (HTE) Aizawl dated 26th July '88.

Affiliation as applied is recommended. Introduction of the subjects of Public Admn. and Sociology for B.A.(Hons) is also recommended alongwith other Six subjects as these departments have U.G.C. qualified teachers with NET.

The Members of Inspection Team.

Sd/- (Mr.R.Biaksanga) Joint Director, Higher & Technical Education, Government of Mizoram.	Sd/- (Dr.Lalkima) Convenor 20.8.99
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20.8.99.

Sd/- (Mr.H.S.Lalsangpuia) Lecturer, P.U.C.	Sd/- (Mr. Lallungmuana) Head of Department, Sociology.
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Sd/- (Mrs.Lalbiakdiki Hnamte) Lecturer, Department of Education, NEHU, Mizoram Campus, AIZAWL.	Sd/- (Mr. S.K. Ghosh) Sr. Lecturer, Department of Economics, NEHU, Mizoram Campus, AIZAWL.
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Sd/-
(Dr.Laltluangliana Khiangte)
Reader & Head Of Department,
Mizo, NEHU Mizoram Campus,
Aizawl.

LIST OF TEACHING STAFFS IN RESPECT OF T. ROMANA COLLEGE.

<u>Sl No.</u>	<u>Names.</u>	<u>Qualification.</u>	<u>Date of Appointment.</u>	<u>Date of Joining.</u>	<u>REMARKS.</u>
<u>MIZO DEPTT.</u>					
1.	L. Biakthianghlma.	M.A.(Hist)	27.5.92.	1.6.92.	Grade 'B' in Hist
2.	Lalthanthuami.	M.Com,M.A.(Eco)	27.5.92.	1.6.92.	61.13% in Commerce.
3.	H.Lalbiakzuali.	M.A.(P.A)	25.6.98.	26.6.98.	56.88% in P.A.
4.	Dorothy Zonunsangi.	M.A.(Eng)	31.7.98.	1.9.98.	M.A.(Eng)improve- ment result await- ed.
5.	Lalremmawii.	M.A.(Edu)	31.9.98.	1.10.98.	52.96% in Education.
<u>ENGLISH DEPTT.</u>					
1.	Jennifer Lalbiakdiki.	M.A.(Eng)	14.5.98.	20.5.98.	57.38% in English.
2.	Lalnummawii Pachu.	M.A.(Eng)	14.5.98.	20.5.98.	55.94% in English.
3.	Margaret Lalthansangi.	M.A.(Eng)	1.6.98.	3.6.98.	53.13% in English.
4.	Margaret L. Pachuau.	M.A.(Eng)	29.7.99.	29.7.99.	Ist Class Ph.D. Thesis submitted in April. 1999.
5.	Lalremsangi Hmar.	M.A.(Eng)	29.7.98.	2.8.98.	Grade 'B' in Eng (Ponna)
<u>HISTORY DEPTT.</u>					
1.	F. Lalremsiama.	M.A.(Hist)	30.8.93.	3.9.93.	56.88% in Hist and M.Phil. Grade A.
2.	Carolyne Laldinsangi.	M.A.(Hist)	4.8.98.	5.8.98.	57.06% in History.
3.	H. Lalrinpuui.	M.A.(Hist)	19.5.99.	20.5.99.	55.81% in History.
4.	Lalsangzuala.	M.A.(Hist)	30.7.99.	2.8.99.	60.38% in History.

Sl No.	Names.	Qualification	Date of appointment.	Date of joining.	Remarks.
<u>ECONOMICS DEPARTMENT.</u>					
1.	Lalrinchhana.	M.A.(Econ)	30.8.93.	3.9.93.	58.06% in Economics
2.	C. Lalnuntluangi.	M.A.(Econ)	21.10.98.	22.10.98.	M.A.Eco, result awaited.
3.	H. Vanlalsanga.	M.A.(Econ)	30.7.99.	2.8.99.	57.63% in Economic
4.	Lalsiamthanga.	M.A.(Econ)	30.7.99.	2.8.99.	55.62% in Economics (Poone).
<u>POL. SC. DEPTT.</u>					
1.	Mary Lalngaihawmi.	M.A.(PA)	14.5.98.	28.5.98.	B.A.(Hons) in Pol Sc, 55.31% in P.A.
2.	Ramoiliani.	M.A.(P.A)	29.6.98.	1.7.98.	B.A.(Hons) in Pol Sc, 57.88% in P.A.
3.	Lalthansanga.	M.A.(Pol.SC)	8.9.98.	9.9.98.	55% in Pol Sc.
4.	Lalmingmawii Pachuia.	M.A.(Pol.Sc)	29.7.99.	2.8.99.	55.06% in Pol.Sc.
<u>EDUCATION DEPARTMENT.</u>					
1.	Lalzcdinpuii.	M.A.(Edu) M.A.(P.A)	26.9.97.	28.9.97	59.38% in Edu.
2.	Lalmachhuane.	M.A.(Edu)	14.5.98.	20.5.98.	60.13% in Edu.
3.	Zothansangi.	M.A.(Edu)	1.7.98.	2.7.98.	60.13% in Edu.
4.	Rolathianghlina.	M.A.(Edu)	30.7.99.	2.8.99.	58.56% in Edu.
<u>P.A. Deptt.</u>					
1.	Lalchhuanmawii.	M.A.(P.A)	1.10.97.	2.10.97.	58.25% in P.A. with N.E.T.
2.	Albert Zonunsanga.	M.A.(P.A)	14.5.98.	15.5.98.	55.94% in P.A.
3.	C.V.L.Tlanhlua.	M.A.(P.A)	25.6.99.	28.6.99.	57.19% in P.A.
4.	Lalthanuana Pautu.	M.A.(P.A)	29.7.99.	2.8.99.	57.19% in P.A.

SOCIOLOGY DEPARTMENT:

1. C. Laldingsanga.	M.A.(Socio)	18.6.99.	21.6.99.	62.85% in Sociology (Poone)
2. Lalngaihawmi Khiangte.	M.A.(Socio)	14.7.99.	15.5.98.	62.85% in Sociology (Poone)
3. Laltanpuui Rokhum.	M.A.(Socio)	30.7.99.	2.8.99.	68.38% in Sociology with NET.
4. Lalransanga Sailo.	M.A.(Socio)	30.7.99.	2.8.99.	61.81% in Sociology with NET.

- 1) Undertaking . State specific responsibility in the field of Education.

While considering the D.O.letter No.F.1-2/99/DPEP.5 of 13th November,1999 received from the Secretary,Ministry of Human Resource Development placed as annexure 'A' the Executive Council in its 105th meeting Resolved that the matter be referred to the Education Department who will place a document on the matter for consideration by the Academic Council.

As a follow-up action,the Head,Department of Education has submitted a write-up on the matter which is placed as annexure 'B'.

The matter is placed before the Council for consideration.

.....

5: 8: 1(2)

Maharaj Krishen Kaw

Tel : 3386451

Fax : 3385807

SECRETARY

Government of India

Ministry of Human Resource Development

Department of Education

New Delhi -110 001

November 18, 1999.

D.O.No.F 1 2/99DPEP.5

Subject: Undertaking State specific responsibility in the field of Education.

Dear Prof.Miri,

I am writing to you to seek your assistance in improving the management of education by influencing research-based decision taking at the Central and State levels. Each of you is heading a premier institution in the country and have distinguished yourself as a pre-eminent centre of excellence in education and research. While some of you have specifically carried out studies in the field of education, many others have a distinguished faculty which can contribute meaningfully towards emergence of effective policies and programmes for the improvement of education in the State where your institution is located. It has been felt for a long time that institutions with international and national acclaim must also pursue a local agenda so that their relevance for their immediate surrounding is enhanced. Education in a sector that is crucial for human development and sustained economic growth. The Department of Education would like to formally request each of you to take up State specific responsibility in the field of education.

2. The development of education requires constant feedback on the programmes being implemented. In a changing world where globalisation and reforms have become so significant, education needs to mould itself in a manner that it is able to contribute effectively towards the process of nation building. An institution with excellence like yours could contribute towards improved educational performance in the following ways.

- undertaking state specific studies on financing or education and advising the State Government on the basis of findings;
- carrying out restructuring studies for reforming systems of educational management;
- working out norms to facilitate participation of the non-governmental sector in education.
- carrying formative and summative evaluation of specific education projects;
- carrying out manpower planning studies to provide a basis for vocationalisation of education;
- advising State Government on management of higher education;
- building advocacy for universal basic education as a necessary pre-condition for sustained economic well-being;
- studying the physical and academic infrastructure of institutions in the states, identifying gaps and suggesting strategies for overcoming them;

Contd....

5:8:1(3) - 2 -

examining the quality of educational effort put in by the State institutions and monitoring the efforts of selected institutions so that they may achieve accreditation from NACC/NBA;

contributing to teacher resource development of State institutions. This may involve studying the existing situation, projecting education, training and other needs for developing the teacher resource, identifying appropriate strategies and undertaking planning of developmental actions.

The list is only illustrative.

3. Tentative identification of institutions and States/UTs has been attempted and is subject to the convenience of your institutions. I am sure that undertaking such State specific responsibility will further add to the stature of your institution and will serve a major social purpose. I look forward to your response in this regard. After receipt of your response, we would write to the States to initiate the process of consultation to work out specific studies and proposals.

4. You may also keep this matter in the next meeting of your Board of Management for information of the members, as also to chalk out a plan of action.

With kind regards,

Yours sincerely,

Sd/-Maharaj Krishen Kaw)

(Maharaj Krishen Kaw)

Prof. Mirinal Miri
Vice-Chancellor
North-Eastern Hill University
Mawkynroh Umshing
Shillong-793 022.

(25:8:H4)

TENTATIVE LIST OF STATES AND INSTITUTIONS TO BE ENTRUSTED
STATE SPECIFIC RESPONSIBILITY FOR THE EDUCATION SECTOR

ANDHRA PRADESH	INDIAN INSTITUTE OF MANAGEMENT, BANGALORE
ARUNACHAL PRADESH	INDIAN INSTITUTE OF MANAGEMENT, CALCUTTA
ASSAM	INDIAN INSTITUTE OF TECHNOLOGY, GUWAHATI
BIHAR	XAVIER LABOUR RELATIONS INSTITUTE, JAMSHEDPUR
GOA	TATA INSTITUTE OF SOCIAL SCIENCES, MUMBAI
GUJARAT	INDIAN INSTITUTE OF MANAGEMENT, AHMEDABAD
HARYANA	NATIONAL COUNCIL OF APPLIED ECONOMIC RESEARCH, NEW DELHI
HIMACHAL PRADESH	INDIAN INSTITUTE OF MANAGEMENT, LUCKNOW
JAMMU AND KASHMIR	INSTITUTE OF ECONOMIC GROWTH, NEW DELHI
KARNATAKA	INDIAN INSTITUTE OF MANAGEMENT BANGALORE
KERALA	CENTRE FOR DEVELOPMENT SOCIETIES TIRUVANANTHAPURAM
MADHYA PRADESH	INDIAN INSTITUTE, OF MANAGEMENT, INDORE
MAHARASHTRA	TATA INSTITUTE OF SOCIAL SCIENCES, MUMBAI

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MANIPUR	NORTH EASTERN HILL UNIVERSITY, SHILLONG.
MIZORAM	NORTH EASTERN HILL UNIVERSITY, SHILLONG.
MIZORAM	INDIAN INSTITUTE OF MANAGEMENT, CALCUTTA
NAGALAND	NORTH EASTERN HILL UNIVERSITY, SHILLONG.
ORISSA	XAVIER INSTITUTE OF MANAGEMENT, BHUBANESHWAR
PUNJAB	INSTITUTE OF ECONOMIC GROWTH, NEW DELHI
RAJASTHAN	INSTITUTE OF DEVELOPMENT STUDIES, JAIPUR
SIKKIM	IIM, CALCUTTA
TAMIL NADU	MADRAS INSTITUTE OF DEVELOPMENT STUDIES, CHENNAI
TRIPURA	IIM, CALCUTTA
UTTAR PRADESH	INDIAN INSTITUTE OF MANAGEMENT, LUCKNOW
WEST BENGAL	INDIAN INSTITUTE OF MANAGEMENT, CALCUTTA
A&N ISLANDS	IIT, KHARAGPUR
CHANDIGARH	NCAER, NEW DELHI
D&N HAVELI	TISS, MUMBAI
DAAMAN & DIU	TISS, MUMBAI
DELHI	NATIONAL COUNCIL OF APPLIED ECONOMIC RESEARCH, NEW DELHI
LAKSHADWEEP	CENTRE FOR DEVELOPING SOCIETIES, TERUVANANTHAPURAM
PONDECHERRY	MADRAS INSTITUTE OF DEVELOPMENT STUDIES, CHENNAI

UNDERTAKING STATE SPECIFIC RESPONSIBILITY IN THE FIELD OF
EDUCATION

Reference: Govt. of India, MHRD, Dept of Education, New Delhi
letter No. F.12/99 DPEP 5 dated 18.11.99

and

DR. Conference, NEHU, Shillong letter No. EC: 105-4/..
Conf/99-1514 dated 6-1-2000 together with an extract
of the E.C. resolution No. EC: 105:99:8: (V).

There is no denying the fact that improvement in education results in socio-economic progress of a nation. Various programmes have been initiated by the centre as well as the states, over the years, for improving education, quantitatively and qualitatively, at various levels (i.e., Pre-primary to Higher education). For achieving desired success in this regard, proper management of the programmes is absolutely necessary. Various institutions operating in the field of education are physically scattered and conceptually varied and not linked meaningfully to each other. The fruits of efforts put in for improving education can be enjoyed by all the institutions if they are closely inter-linked. It may be difficult to get all the states co-ordinated immediately for the aforesaid purpose. An effort can, however, be made to get two/three states in a region co-ordinated.

The Govt. of India, Ministry of HRD, New Delhi, has, in the letter under reference, asserted that research based decision at the central and state levels be taken for improving the management of education. The Ministry has identified a number of institutions of excellence in education and research to undertake state specific responsibility in the field of education. It has been stated that each of these institutions will contribute meaningfully towards emergence of effective policies and programmes for the improvement of education in the state in which the institution is located. NEHU is one of such institutions of higher education identified for the purpose and the works of co-ordinating/guiding/undertaking researches on the management of education in the three north-eastern states of Meghalaya, Manipur and Nagaland have been assigned to NEHU. In order for NEHU to make a beginning in this respect it is necessary to have consultations at different levels, study of related records/documents and undertaking of research studies etc. Some of the research based activities which can be undertaken by NEHU may be as follows :

- (i) Financing of education and advising the State Govts on the basis of the findings.
- (ii) Man-power planning to provide for a basis for vocationalisation of education.

- 5:8:1(7)
- (iii) Reforming system of educational management.
 - (iv) Modalities for participation of NGOs in education at the State level.
 - (v) Awareness about universal Basic education as a precondition for sustained economic growth.
 - (vi) Physical and academic infrastructure of institutions in the States.
 - (vii) Teacher resource development at the state level.

It is suggested that NEHU may constitute a University level committee for doing the needful.

Sd/-
Head
Department of Education
NEHU

Mawkynroh-Umshing
Mawlai, Shillong-22.

(ii) Changing of fee for imparting practical training in Computer Application by the Department of Library & Information Science.

It may be seen from the Dean's School of Economics, Management & Information Science letter No.F.2/SEMIS/SB/2000-48 dt.16.5.2000 as at Annexure-'A' that the Department of Library and Information Science maintains a Computer Laboratory for imparting practical training to the Students as part of the Curriculum and that there are four compulsory Courses presently being offered by the Department on Computer Applications.

The above matter was discussed in the Board of Post Graduate Studies of the Department & subsequently placed in the School Board meeting held on 1st October, 1999, wherein the Board Resolved to approve the proposal Laboratory fee may be charged as per rates provided under Ordinance OF -1 "On Fees Payable by Students".

The matter is placed before the Council for consideration.

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North- Eastern Hill University
Mayurbhanj Complex, Nongthymmai, Shillong -793014
(Meghalaya)

Dean,
School of Eco.Manage & Inf,Sc.

No.F.2/SEMIS/SB/2000-48

Dated 16.5.2000.

To

The Deputy Registrar,
Conference,NEHU,Shillong.

Sub: Agenda item for Academic Council.

Sir,

I would like to draw your attention to the Resolution No.7(a) of the minutes of the School Board meeting held on 1st October,1999.

The Resolution reads as follows :

Considered the proposal from the BPGS of the Department of Library and Information Science to charge Laboratory Fee.

The Head of the Department of Library and Information Science informed the Board that the department was maintaining a Computer Laboratory for imparting practical training to the students as part of the curriculum. There are four compulsory courses being offered by the department on Computer applications.

Resolved to approve the proposal. It was also resolved that the fee may be charged according to the Ordinance OF-1 "on Fees payable by Students."

Thanking you,

Yours faithfully,

Sd/-J.C.Binwal
(J.C. Binwal)

6:6 -Service conditions and Financial Benefits.

i) Addition of Clause 3(iii) to Regulation Re-6 on terms and conditions of service of teachers elected/nominated/to Parliament/State Legislature/District Council.

On the above subject, the Executive Council in its 106th meeting vide resolution No. EC: 106: 2000: 8: (iv): considered the Report of the Committee appointed by it vide resolution No. 105: 99: 6: 5; (iii): to look into the amendment of Regulation Re-6, and resolved that the Report along with the latest guidelines from the UGC be placed before the Academic Council.

Accordingly, the said Report of the Committee is placed at Annexure-I and a copy each of the University Grants Commission's D.O. letters No. F.1-113/73(CPP), dt. 6th March 1987, No. F.1-113/73(CD) of September 10, 1974 is placed as Annexure.-II & III respectively for favour of perusal by the Council.

The matter is placed before the Council for consideration.

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MINUTES OF THE COMMITTEE APPOINTED BY THE EXECUTIVE
COUNCIL VIDE RESOLUTION NO:EC:105:99:6:6:(iii) HELD ON 12.4.2000
AT 2.30 P.M. IN THE VICE-CHANCELLORS'S CONFERENCE ROOM,
ADMINISTRATIVE BLOCK, PERMANENT CAMPUS.

Members Present:

1. Prof.M S Sangma
2. Prof.J B Bhattacharjee
3. Prof.S S Khare

The Committee elected Prof.M S Sangma as the Chairman.

The Committee considered the Representation made by some of the teachers of the University in connection with the addition of Clause 3 (iii) to Regulation Re-6 which allows a teacher of the University to be a member of the Parliament, Legislative Assembly and District Council for a maximum period of ten years during their entire service career. The Committee examined the original Regulation in letter and spirit and observed the following :

The original Regulation allows a teacher to be a member of Parliament/Legislative Assambly/District Council without taking Extra Ordinary Leave provided he is involved in teaching and other academic activities in the Department. He has an option either to take Extra Ordinary Leave or not to take Extra Ordinary Leave. However, if he is appointed to an executive post, it is mandatory on his part to take Extra Ordinary Leave.

The Committee therefore recommends that a teacher while being a member of either of these bodies does not take Extra Ordinary Leave and continues to involve himself in his normal duties as a teacher there may not be any restriction in terms of the number of years for which a teacher may be a member of such bodies. However, in case he takes Extra Ordinary Leave while being a member or he is required to take Extra Ordinary Leave while he is in executive post, the period of Extra Ordinary Leave, so allowed, should not exceed ten years in his entire career as a teacher in this University.

The meeting ended with a vote of thanks from the Chair
3.10 P.M.

Sd/-
Prof.M S Sangma
Chairman

Sd/-12.4.200
Prof. S.S. Khare
Member

Sd/-
Prof.J B Bhattacharjee
Member

♦♦♦♦♦

COPY OF D.O.NO.F.1-113/73(CPP), DATED 6TH MARCH 1987 FROM DR.S.P. GUPTA, ADDITIONAL SECRETARY, UNIVERSITY GRANTS COMMISSION, BAHADUR SHAH ZAFAR MARG, NEW DELHI ADDRESSED TO THE VICE-CHANCELLOR, NEHU, SHILLONG.

Kindly refer to Commission's D.O. letter of even number dated September 10, 1974 (copy enclosed) regarding election/nomination of teachers to the Parliament/State Legislature.

The Programme of Action on National Policy on Education under Para 7 (iv) on page 74 states as under:

".....Teachers who are elected/nominated to Parliament or State Legislature will be required to take leave of absence during their term as Member. However, in this process they will not belosing their seniority or increments."

The above provision in the "Programme of Action" (NEP) is brought to the notice of the University for appropriate action and guidance.

We shall be grateful if the action taken in this regard is intimated to the UGC at an early date.

COPY OF D.O. LETTER NO. F.1-113/73 (CD) of SEPTEMBER 10, 1974
FROM M.K CHHABRA, SECRETARY, UNIVERSITY GRANTS COMMISSION,
BAHADUR SHAH ZAFAR MARG, NEW DELHI ADDRESSED TO THE VICE-
CHANCELLOR, NEHU, SHILLONG.

The question whether a teacher who is elected or nominated to the Parliament or State Legislature may be allowed to continue teaching work without being obliged to resign his teaching position or to take long leave from the University or college concerned and the procedure to be followed by the Universities in this respect, have been under consideration of the University Grants Commission.

The University Grants Commission had referred this question earlier for advice to its Advisory Committee of Vice-Chancellors and the Commission after consideration the advice of the Committee of Vice-Chancellors had expressed the view that "the teachers who are either elected or nominated to the Parliament/State Legislatures may not be required to resign their academic position or to take long leave during the tenure of their membership. In order that the teaching work may not suffer, the University may consider prescribing the minimum number of days that such teachers should be available for their academic teaching and the research work in the University, such teachers should not hold any administrative position/responsibilities in the University or College during the period they are members of Parliament/Legislature."

The Government of India have agreed with the views of the Commission. I am writing to bring the above advice of the Commission to the notice of the University. This may also kindly be brought to the notice of the Colleges affiliated to your University.

The receipt of this letter may kindly be acknowledged.