

NORTH-EASTERN HILL UNIVERSITY
SHILLONG

NO: AC: 61-2/Conf/99 - 1276. Dated Shillong the 7th June, 1999.

To

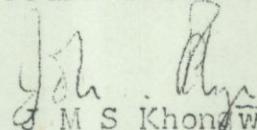
All Members of the Academic Council,
North-Eastern Hill University.

Sub: Agenda for the 61st meeting of the Academic Council.

Sir/Madam,

I am to forward herewith a copy of the agenda for the 61st meeting of the Academic Council to be held on 15th and 16th June, 1999 at 1000 Hrs. in the Seminar Hall, Mayurbhanj Complex, NEHU, Shillong for favour of your perusal.

Yours faithfully,


J. M. S. Khongwir
Deputy Registrar.

Enclo: a.a.

AGENDA PAPERS FOR THE 61st MEETING OF THE ACADEMIC COUNCIL TO BE HELD ON 15th AND 16th June, 1999

Item No: I CONFIRMATION OF THE MINUTES of the - 1:1(1-4)
60th meeting of the Academic Council
held on 17th April, 1999.

Item No: 5 - ACADEMIC MATTERS :

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

1) Amendment of clause 1(i) of Ordinance - 5:1:1(1-2)
OC-4 on the procedure of Admission to Ph.D.

5:2 - SYLLABUS :

i) Introduction of Certificate Courses - 5:2:1(1-17)
in Computer Centre.

ii) Revised M A Syllabus in Linguistics - 5:2:2(1-28)

5:5: EXAMINATION MATTERS -

1) Revised rates of remuneration for - 5:5:1(1-2)
payment to the employees of SBI and
Treasury Office.

ii) Admission to IIInd year class of - 5:5:2(1)
Degree part I.

iii) Admission criteria for Honours in - 5:5:3(1)
Three year Degree Course - Pt.I.

iv) Incentive of Rs.100/- to the paper - 5:5:4(1)
setter for preparation of answers to
the objective questions.

v) Award of Division for Improvement cases - 5:5:5(1)
of the Annual system of examination.

5:6- ESTABLISHMENT OF NEW DEPTTS/CENTRES/COURSES:

i) Introduction of New Courses/Restructuring
of the existing courses. - 5:6:1(1-8)

SG/7/6/99)

Item No:1-Confirmation of
the Minutes.

1:1:(1)

- i) Confirmation of the Minutes of the 60th meeting of
the Academic Council held on 17th April'1999

The Minutes of the 60th meeting of the Academic
Council were circulated to all members concerned and while
confirming the same, the comments received from some of the
members are placed as annexure 'A', 'B' and C for consideration
of the Council.

SG/4/6/99)

1:1(2)

Copy

NORTH-EASTERN HILL UNIVERSITY
Shillong

No:11/UACE/99-2000/39

Dated 10.5.99

To,

The Chairman,
Academic Council,
NEHU, Shillong.

Subject : Item 5:8(1) appointment of Course Co-ordinator for UGC sponsored Refresher Course. A C 60:99:5:8:1. The item has not been reported correctly. The council result that only lecturer in the Senior scale, Reader and or Professor may be appointed as Course Co-Ordinators. Teachers reappointed after retirement shall not be course Co-Ordinator.

Sd/-

(M C Pandey)
Head, UACE, NEHU, SHG

SG/4/6/99)

Copy

1:1(3)

NORTH-EASTERN HILL UNIVERSITY
SHILLONG

Prof N Malla
Dean,
School of Humanities and Education

No:F.7/SHE/99-2006
20th May, 1999

To,

The Dy Registrar (Conf),
NEHU, Shillong.

Sir,

Kindly refer to the AC:60:99:5:1(vii) of the AC minutes. In this respect I have to state the following :
1. I gave an agenda item seeking clarification on OC-4.3(i) and the Council clarified that a Lecturer of the University with Ph.D degree either with three years teaching experience or three years post doctoral research is eligible to supervise Ph.D thesis.

However, some members pointed out that since the provision on M Phil is not very clear so a committee was set up to examine the relevant provisions relating to M Phil teaching and supervision.

Kindly make necessary changes in the minutes.

Yours faithfully,

Sd/-

(N Malla)

NORTH-EASTERN HILL UNIVERSITY
SHILLONG

From : Prof N Malla
Dean,
School of Humanities and Education

No:48/SHE/99-1090
Dated the 17th May'1999

To,

The Deputy Registrar(Conf)
NEHU, Shillong.

Sir,

Kindly refer to the Notification No:AC:60:4/Conf/99-1227 dated the 10th May 1999. In this connection I have to state the following :

1. The agenda item on Ph.D supervision was sent by me to the 60th meeting of A C seeking clarification on OC 4.3(i) and the council clarified that a lecturer of this University with Ph.D degree either with three years teaching or three years post doctral research is eligible to supervise Ph D thesis,. It was never decided to set up a committee on this, and I have already written to you to correct the minutes accordingly.

2. However, some members pointed out that since there is no clear-cut provision as to who can teach and supervise at M Phil level, so the decision was to set up a committee to examine the provisions of ordinance OC-5(which deals with M Phil).

3. Further, there was no agenda item on RC-5 which deals with post graduate examination consequently no committee was set up.

Therefore I request you to kindly make necessary correction in the minutes as well as in the Notification (No:AC:60-4/Conf/99-1227 dated 10th May 1999).

The Committee was set up only to examine OC-5 relating to teaching and supervision at M Phil level so the Notification should accordingly change.

Yours faithfully,

Sd/-

N Malla

Item No:5

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

- i) Amendment of Clause 1(1) of Ordinance OC-4 on the procedure of Admission to Ph.D.

The amendment of Clause 1(1) of Ordinance OC-4 on the procedure for admission to Ph.D was approved by the 59th meeting of the Academic Council and 99th meeting of the Executive Council. The amendment of Ordinance was sent to the Ministry for obtaining the approval of the Visitor.

The Ministry vide its letter at Annexure 'A' advised the University to re-submit the Ordinance after making provision for 5% relaxation for SC/ST Candidates for eligibility to Ph.D. Programme similar to the provision in U.G.C Notification for revised scale of pay in appointments to teaching posts.

The matter is placed before the Council for consideration.

File No. Conf/13-2/ORD/87(Vol.IV)

5:1:1(2)

Annexure - 'A'

No.F.8-5/99-Desk(U)
Government of India
Ministry of Human Resource Development
(Department of Education)

Shastri Bhawan, New Delhi,
Dated, 24th May, 1999 .

To

The Registrar,
North-Eastern Hill University,
Shillong-793 022.

Subject: NEHU -Amendment of Clause 1(1) of Ordinance OC-4
on the Procedure of Admission to Ph.D.

Sir,

I am directed to refer to NEHU letter No. Conf/13-2/ORD/87/
(Vol.IV)/1167 dated 15.03.1999 on the subject mentioned above
and to advise the University to resubmit the Ordinance after
making provision for 5% relaxation for SC/ST Candidates for
eligibility to Ph.D. Programme similar to the provision in
UGC Notification for revised scales of pay in appointments to
teaching posts.

Yours faithfully,

Sd/-D.K.Bhawsar

(D.K. Bhawsar)

Asstt. Educational Adviser

Tele: 3383872.

SG/5/6/99)

ooOoo

5:2- SYLLABUS.

AGENCY - ...

1) Introduction of Certificate Courses in Computer Centre

The Management Committee of the Computer Centre had decided that the Computer Centre should start giving some certificate courses in Computer application. Accordingly the Computer Centre has prepared three - one semester certificate courses on Computer applications together with financial package for running these three courses. These are placed before the Academic Council for necessary consideration and approval.

SG/5/6/99)

SYLLABUS FOR MS-OFFICE

Duration : 6 (six) months

Unit 1: MS-WORD

Theory :15 Hours

Practicals : 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.

SYLLABUS FOR MS-OFFICE

Unit 2: MS-EXCEL

Theory :15 Hours
Practicals : 30 Hours

- 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

Theory :15 Hours
Practicals : 30 Hours

- 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.

SYLLABUS FOR MS-OFFICE

Unit 4: MS-ACCESS

Theory :15 Hours
Practicals : 30 Hours

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, Code 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.

SYLLABUS FOR MS-OFFICE

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 Guide to Running Your Small Office With Microsoft Office (Complete Idiot's Guide),-- Laurie Ann Ulrich, John San Filippo (Contributor); Paperback
2. Microsoft Office 97 for Windows for Teachers (--For Dummies) -- Neil J. Salkind; Paperback
3. The ABCs of Microsoft Office 97 -- Guy Hart-Davis, Davis Guy Hart; Paperback
4. The ABCs of Microsoft Office 97, Guy Hart-Davis, Davis Guy Hart / Paperback / Published 1997
5. The ABCs of Microsoft Office for Windows 95, Guy Hart-Davis, Guy Hart Davis / Paperback / Published 1996
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
Practicals : 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: UNIXTheory : 15 Hours
Practicals : 30 Hours**2.1 Editors**

Introduction, General Characteristics of Vi, Start 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.

Unit 3: HTML

Theory : 18 Hours
Practicals : 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
 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

Unit 4: HTML

Theory : 15 Hours
 Practicals : 30 Hours

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**Text Books**

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 Reference:

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. Rochkind / Paperback / Published 1986
6. Applied Unix Programming, Bharat Kurani / Paperback / Published 1996
7. Unix in a Nutshell: System V v 2.0 -- Daniel Gilly; Paperback
8. Unix for Dummies (For Dummies) -- John R. Levine, Margaret Levine Young; Paperback
9. UNIX Power Tools -- Jerry D. Peek, et al; Paperback
10. Advanced Topics in Unix, Ronald J. Leach / Paperback / Published 1994

HTML Book List**Text Books**

1. The Complete Idiot's Guide to Creating an Html 4 Web Page (3rd Ed. Book and Cdrom)
 (Complete Idiot's Guide To...) Paul McFedries / Paperback / Published 1997
2. Creating Web Pages for Dummies (3rd Ed) Bud E. Smith, Arthur Bebak / Paperback / Published 1998

SYLLABUS FOR UNIX & HTML

Reference Books

- 1.HTML 4 for the World Wide Web: Visual QuickStart Guide -- Elizabeth Castro; Paperback
- 2.Html : The Definitive Guide -- Chuck Musciano, et al; Paperback
- 3.Html 4 for Dummies (For Dummies) -- Ed Tittel, et al; Paperback
- 4.10 Minute Guide to Html 3.2,Tim Evans / Paperback / Published 1996
- 5.The Advanced Html Companion
- 6.Keith Schengili-Roberts, Kim Silk-Copeland / Paperback / Published 1998
- 7.Beyond Html,Richard Karpinski / Paperback / Published 1996
- 8.Building Better Web Pages,Rebecca Rohan / Paperback
- 9.Building Dynamic HTML GUIs,Champeon, et al / Paperback / Published 1999
- 10.Creating Cool Html 3.2 Web Pages,Dave Taylor / Paperback / Published 1996

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.

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

Unit 2: VISUAL BASIC

Theory : 15 Hours

Practicals : 30 Hours

- 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 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.

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

- 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.

Unit 3: Visual Basic

Theory : 15 Hours
Practicals : 30 Hours

- 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, 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.

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

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 4: JAVA

Theory : 15 Hours
Practicals : 30 Hours

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

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

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

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. Sams Teach Yourself Database Programming With Visual C++ 6 in 21 Days (Sams Teach Yourself in Days) -- Lyn Robison, Lyn Robinson; Paperback
2. Beginning Visual C++ 6 -- Ivor Horton; Paperback
3. Programming Visual C++ -- David J. Kruglinski, et al; Paperback
4. The Active Template Library : A Developer's Guide, Tom Armstrong / Paperback / Published 1998
5. The Beginner's Guide to Windows Programming Using Turbo C++ Visual Edition/Book and Disk Ivor Horton / Paperback / Published 1995
6. Beginning Atl Com Programming, Richard, Dr. Grimes, et al / Paperback / Published 1998
7. Beginning Visual C++ 4, Ivor Horton / Paperback / Published 1996
8. Beginning Visual C++ 6, Ivor Horton / Paperback / Published 1998
9. Intermediate Mfc, Vic Broquard / Paperback / Published 1998
10. Introduction to Window Programming : For Users of Microsoft Visual C++ Development System for Windows(Hands-On Windows Programming), Richard P. Braden / Paperback / Published 1995

Books for Visual Basic

Text Books

1. Advanced Microsoft Visual Basic 5 (Microsoft Programming Series) Ltd The Mandelbrot Set, Peter J. Morris / Paperback / Published 1997
2. Beginning Visual Basic 6, Peter Wright / Paperback / Published 1998

Reference Books

1. Microsoft Visual Basic 6.0 Professional (Step by Step) -- Michael Halvorson; Paperback
2. Beginning Visual Basic 6 Database Programming -- John Connell; Paperback
3. Beginning Visual Basic 6 -- Peter Wright; Paperback
4. 1001 Visual Basic Programmer's Tips, Kris A. Jamsa, Lars Klander / Paperback / Published 1997
5. Access 97 Macro & VBA Handbook, Susann Novalis / Paperback / Published 1997
6. Activex : Visual Basic 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 / Paperback / Published 1998
2. The Awesome Power of Java Beans, Lawrence H. Rodrigues, Lawrence Rodrigues / Paperback / Published 1998

Reference Books

1. Core Java 2, Volume 1: Fundamentals, 4/e -- Cay S. Horstmann, Gary Cornell; Paperback
2. Java in a Nutshell : A Desktop Quick Reference (The Java Series) -- David Flanagan(Preface); Paperback
3. Graphic Java 2, Mastering the JFC: Swing (Sun Microsystems Press Java Series) -- David M. Geary; Paperback
4. Abstract Data Types in Java, Michael S. Jenkins / Paperback / Published 1997
5. Active Visual J++ (Microsoft Programming Series), Scott Robert Ladd / Paperback / Published 1997
6. Advanced Java 1.1 Programming (McGraw-Hill Java Masters), Jeffrey C. Rice, Irving, III Salisbury / Paperback / Published 1997
7. Advanced Java Networking, Prashant Sridharan, et al / Paperback / Published 1997
8. Advanced Techniques for Java Developers, Daniel J. Berg, J. Steven Fritzing (Editor) / Paperback / Published 1998
9. Advanced Techniques for Java T M Developers, Daniel J. Berg, J. Steven Fritzing / Paperback / Published 1999
10. AFC Black Book , Clayton Walnum / Paperback / Published 1998

ANNEXURE

Financial Package for the scheme

Moto: 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 seats in a group of 30)

Fees for one batch : Rs. 4000x25 = 1,00,000.00

Rs. 2000x5 = 10,000.00

Total Rs. = 1,10,000.00

Total fees for 6 group 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

5:2:1(17)

| | |
|-------------------------------------------------------------------------------------------------------------------------|-----------------------|
| (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 stationnaries | Rs. 30,000.00. |
| (vi) Other office contingencies | Rs. 15,000.00. |
| (vii) Depreciation fund (7.5% of the total fees collected. | Rs. 49,500.00 |
| Total B Revenue | <u>Rs.3,60,750.00</u> |
| 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 Bank
- (D) The Director will be entitled to withdraw upto Rs.5,000/- 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.

(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
MEMU core fund (25% of total receipts) Rs. 1,65,000.00
(ii) Honor. to the resources personal
from outside @ Rs. 100.00 per hour
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 15%
of the total fees collected. Rs. 49,500.00

5:2:2(1)

ii) Revised M A Syllabus in Linguistics.

The Local School Board in Humanities and Education in its meeting held on 14.5.99 approved the revised M A Syllabus in Linguistics which is placed as annexure - 'A'.

The matter is placed before the Council for consideration.

SG/5/6/99)

NORTH EASTERN HILL UNIVERSITY
DEPARTMENT OF LINGUISTICS

M.A.Syllabus 1999

SEMESTER +I

- C-1 Introduction to Linguistics
- C-2 Morphology
- C-3 Syntax I
- C-4 Phonetics and Phonology

SEMESTER-II

- C-5. Semantics
- C-6.Sociolinguistics
- C-7. Psycholinguistics
- C-8. Syntax II

SEMESTER - III

- C-9. Generative Phonology
- C-10.Historical and Comparative Linguistics
- C-11.South Asia as a Linguistic Area with special reference to the North-East India.
- C-12.Language Teaching and Testing.

SEMESTER -IV

- C-13. Structure of Tibeto-Burman/Austro-Asiatic
- C-14. Field Methods(including compulsory dissertation)
- C-15.(Optional)
 - (a) Computational Linguistics
 - (b) Language Planning
 - (c) Syntax III
 - (d) Neuro-Linguistics
 - (e) Linguistics and Literary Stylistics
 - (f) Language Acquisition
- C-16 (Optional)
 - (a) Linguistic Theory and Schools of Linguistics
 - (b) Translation Theory and Practice
 - (c) Language and Education
 - (d) Lexicology and Lexicography
 - (e) Anthropological Linguistics
 - (f) Dialectology

C-1. Introduction to Linguistics

- 1.1. Language and linguistics: language and communication: human and non-human communication; design features of language; language; mind and society; language independent and language dependent semiotic systems; spoken vs written language; writing systems; traditional approaches to language study; linguistics as a science branches of linguistics.
- 1.2. Basic concepts of language structure; Saussure's contribution; synchronic vs diachronic approaches; linguistic sign; language as a system; syntagmatic vs paradigmatic relations; language; langue and parole; competence vs performance; form and substance; etic and emic particular vs universal grammar; typological and areal studies.
- 1.3. Linguistic Elements and their relationship; phone, allophone and phoneme; morph, allomorph and morpheme; allophone and morphophoneme; external and internal sandhi; morphemic processes; inflection and derivation; form classes; grammatical categories; gender, person, number, case, tense, aspect, mood, models of linguistics description.
- 1.4. Linguistic analysis; syntax and semantics; IC-analysis and construction types; endocentric vs exocentric counter-categorical morphology; back-formation; item and arrangement; Word and Paradigm; Item and Process, concatenation; cliticization.

C.2. Morphology:

- 2.1. Scope and nature of morphology; word vs morpheme; simple and complex word; root; stem; morpheme; morph; allomorph; free and bound morphemes; affixes (prefixes, infixes and suffixes); Zero morpheme; invariant; words; open and closed words.
- 2.2. Morphological constructions; inflectional; derivational; compounding types of compounds; formal vs semantic classification; dvanda; bahuvrihi; tatpuruṣa and avyayibhava; rules for compound formation.
- 2.3. Identification and isolation of morphemes; principles and problems; Nida's principles of morpheme identification.
- 2.4. Morphological processes; morphological alternations and word formation rules; internal and external sandhi; phonological changes; intra- and inter-categorical morphology; back-formation; item and arrangement; word and paradigm; item and process; concatenation.

C-3. Syntax-I

- 3.1. Assumptions and goals of a syntactic theory; concepts of competence and performance; universal grammar and language specific grammar; as a theory of language acquisition; descriptively and explanatorily adequate grammar; evaluation and expressive power of syntactic theory.
- 3.2. Syntactic structure; basic lexical categories in terms of distinctive features +/-N, +/-V, advantage and limitation of such an approach; basic phrasal categories; syntactic tests to identify lexical and phrasal categories of a language; discontinuous constituents; relation between structures; command; c-command; m-command and government.
- 3.3. X-bar syntax; why x-bar syntax? ; concepts of head, specifier and complements; difference between complements and adjunct; projection and extended projection principles; maximal projections of lexical and functional categories.

3.4. Lexicon; c-selection and s-selection properties of lexical items; combinatory factors and generation of constituents; thematic relations between predicate and arguments in a sentence; theta grid of predicates of various types.

C-4. Phonetics and Phonology

4.1. Study of speech; phonetics; articulatory; auditory and acoustic aspects, speech production; anatomy and physiology of speech production, airstream process, articulation process, oral-nasal process, phonation process.

4.2. Classification of sounds; major classes; vowels; consonants; liquids and glides; place and manner of articulation; cardinal vowels; diphthongs, other aspects of articulation; complex articulation; segmental articulation, gemination, suprasegmentals.

4.3. Phonemic organizations; phonetics and phonology; phonetic variability; phoneme, phone and allophones; phonemic norms, discovery procedures; classification of sounds; distinctive features and feature systems; syllable and syllabification; phonological reality of units and boundaries, biuniqueness, neutralization and free variation.

4.4. Phonetic transcription; speech and writing; phonetic transcription IPA, broad and narrow transcription, transliteration.

C-5.(I) Semantics

5.1. Some basic concepts; meaning; use and mention, type and token; form and expression; symbol, icon and index; sense and reference; denotation and connotation; deixis and definiteness; words and lexeme. Sense relations; paradigmatic relations in lexical semantics; synonymy; hyponymy; antonymy; gradable, non-gradable (i.e. complementary) and converse relations; incompatibility and contradiction; homonymy; polysemy and ambiguity; extension of meaning; prototype theory and metaphors.

5.2. Semantic components of the lexicon; structural semantics and field semantics; organisation of lexemes into fields of meaning; hierarchical structures in the vocabulary and lexical gaps; componential analysis and the concept of semantic primes in transformational grammar, lexical decomposition and conceptual structure.

5.3. Sentence meaning; and predicate calculus sentence and proposition, predicates, arguments and their participant roles, connectives, statements, contradictions, questions and variables, presupposition and focus, logical presupposition and entailment, truth value of propositions, paraphrase relations, analytical meaning of sentences

5.4. Pragmatic Meaning

Speech act analysis, illocutionary and perlocutionary acts, sincerity condition, conversational implicature, universe of discourse, social meaning of utterances, politeness and such other variables.

C:5(2) Linguistics and Environment. (25 Marks)

5.2.(i) Interpretation of meaning in different environments Linguistics, social; cultural; physical.

5.2.(ii) Application of semantic field theory and contextual theory of meaning to environmental studies.

- C-11. South Asia as a Linguistic Area (Special reference NE India and related Tibeto Burman and Austro-Asiatic languages in South Asia)
- 11.1 Language families of South Asia; distribution, characteristics, enumeration, area feature and convergence processes.
 - 11.2 South Asia as a linguistic area; empirical basis concept of a linguistics area; linguistic change; borrowing; convergence; diffusion area vs linguistic area; India as a linguistic area; language families of India; geographical locations of Indo-Aryan, Dravidian, tibeto-Burman and Austro-Asiatic language.
 - 11.3. Feature characteristics of a linguistic area; retroflexion, reduplication, onomatopoeia; echo words; quotative constructions; dative subjects; ergativity; conjunctive participial construction; relative clause; agreement patterns; quantifiers; qualifiers; classifiers; anaphora; ordering of modifiers; glottal stop.
 - 11.4 North East India; geographical locations of different languages and dialects; similarities and differences within TB and AA families.
- C-12 Language Teaching and Testing.
- 12.1. Linguistics and language teaching ; linguistic theory and language teaching; concepts of universal, language specific, pedagogic and polylectal grammars; error analysis; contrastive analysis and needs analysis; contrastive analysis and needs analysis; a brief survey interference; intralingual and developmental errors.
 - 12.2. Approaches and methods in languages teaching; traditional grammar -translation method, direct method, audio-lingual method-bilingual method, communicative and communicational approaches (Situational, notional-functional, procedural, natural).
 - 12.3 Language teaching analysis; factors in language learning; learner, aims and objectives, materials, methods, facilitator instructor, curriculum, course design, types of syllabus (grammatical, situational, notional-functional and task based). principles of syllabus design.
 - 12.4 Language testing; type of tests norm referenced vs criterion referenced; aptitude; proficiency, diagnostic, achievement, placement test, modes of testing (discrete vs integrative; objective vs subjective, pragmatic and communicative tests, criteria for tests (reliability, validity, economy, practicality) standardization of tests.
- C:13: Structure of Tibeto-Burman/Austro-Asiatic language.
- 13:1 Phonology: inventory of phonemes, vowels, semivowels, consonants and their combinations, phonotactics, syllabifications, sandhi: automatic/non-automatic alternations, tone.
 - 13.2 Inflectional morphology: nouns, pronouns, classifications; plural formation, oblique stem formation; case; numerals; ordinate; inordinate; adjectives and adverbs verbs: stem formation; tense, aspect and mode markings; participles; compound verbs; adverbs and clitics; derivational morphology; types of derivation; compounding.
 - 13.3 Syntax sentence types; interrogative negative; imperative; relative, passive. sentence structures expressing reciprocity, comparison possession, complementation, subordination, retroflexion.
 - 13.4. Syntax internal structure of the sentence; word order typology;

8.3. Move alpha and the conditions on transformations; motivation for and the conditions on movement; movement Vs scrambling; obligatory Vs optional movement; interaction of theta theory with case theory traces and the binding theory; a brief history of conditions on transformations from Ross's constraints to subadjacency and barriers.

8.4 Empty categories and ECP; difference between trace; pro; PRO and parasitic gaps; roles of the binding theory and control theory in their interpretation; distribution of EC in some specific languages.

C-9. Generative Phonology.

9.1 Distinctive features revisited; reassessment of the concepts like MWLOW , ATR, RTR, etc; feature geometry; phonological processes; assimilatory processes; neutralization; free variation and morphophonemic alternations.

9.2. Phonological representation; phonemic analysis; formulation of rules; structural; prosodic; linear and non-linear phonological representation.

9.3 Prosodic phonology; sounds and prosodies; prosodic analysis.

9.4 Generative Phonology; generative paradigm, basic rule notation, abbreviatory devices, rule ordering, functional considerations, naturalness and markedness.

C-10 Historical & Comparative Linguistics.

10.1. Nature; scope and models of language change; genetic, areal, typological classifications; concern with language change; use of written records; comparative philology; discovery of Sanskrit and its impact on language study. Beginning of 19th century; Rasmus Rask, Franz Bopp & Jacob Grimm. The neogrammarians; regularity hypothesis. Grimm's law Verner's law & Grassman's laws; the concept of rule ordering.

10.2 Sound change; types of sound change; processes of change; assimilation, vowel harmony and umlaut; palatalization; phonetic change vs phonemic change; conditioned vs unconditioned change; merger and split-primary split and secondary split, views of structuralists-chain shifts; generativists' views on sound change and change of grammar; causes and mechanisms of sound change; the concept of lexical diffusion; sociolinguistic insights into change.

10.3 Grammatical change & Semantic Change; analogy; general discussion and typology; systematic processes; leveling and 4-part-analogy, non-systematic processes blending; elipsis; contamination; backformation; folk-etymology etc; syntactic change-some examples; semantic change types; causes of semantic change.

10.4 Linguistics Reconstruction; comparative vs internal reconstruction; principles governing internal reconstruction; some well known examples of internal reconstruction; comparative reconstruction; proto-language, cognates, phonological reconstruction; use of structuralist methodology; status of reconstructed forms; morphological reconstruction; laws and tendencies of analogical change; Kurylowing and Manenzak's observations; semantic reconstruction; use of reconstruction as a tool for the study of prehistory; problems of borrowing on chronology of change.

C-6. Sociolinguistics

- 6.1. Language and society; sociolinguistics vs sociology of language; language and dialect, language varieties; types of speech communities; verbal repertoire; domains of language use; communicative competence; ethnography of speaking; forms of address; semantics of power and solidarity.
- 6.2. Social dimensions of language; the social significance of speech variation; variability hypothesis and the axiom of categoricity; the quantitative study of speech; linguistic variable, social variable and sociolinguistic variable; age, sex and class as sociolinguistic variables; variable rule; linguistic variation and language change.
- 6.3. Languages in contact; bilingualism and multilingualism; types of bilingualism and types of bilinguals; interference; borrowing; code-switching and code-mixing. diglossia; communication processes in multilingual societies; pidgins, creoles and lingua francas.
- 6.4. Linguistic dimensions of society and applied issues; language maintenance and language shift; language and nationalism; language conflict; language and identity. Concept of linguistic and social inequality; Deficit hypothesis; elaborate and restricted codes; sociolinguistics and education language planning.

C-7. Psycholinguistics

- 7.1. Approaches to the study of language acquisition; behaviorist and mentalistic models; cognitive and interactionist approaches; language and cognition; cognitive basis of language development; cognitive development (piaget).
- 7.2. Concepts in First language acquisition and development; linguistic environment (Motherese/Caretaker's Speech), stages of language development; early phonology; Holophrastic, Telegraphic speech, Pivot-Open grammar, semantic-based approach (Bloom), later language acquisition.
- 7.3. Speech planning perception, comprehension and production; theories and models in speech perception, perceptual strategies; speech, comprehension and production encoding and performance measures; speech errors and its implications.
- 7.4. Language and thought; Universals and relativity; perceptual, cognitive and social categories.

C-8. Syntax -II

- 8.1. Some basic concepts in the principles and parameters theory; the modular approach; interaction of subset of principles; theta theory case theory; government theory; binding theory; bounding theory and control theory; projection and extended projection principles and x-bar syntax; the concepts of parameters, universal grammar and parametric variation.
- 8.2. Theta-theory and properties of the lexicon; relation between predicates and arguments; types of verbs and the nature of their arguments; theta criterion and its impact on movement transformation; theta and non-theta positions: A and non-A positions; well-formedness condition; theta roles and the theta absorption. Is thematic relation syntactic or semantic?

structures of NP & VP; post/prepositions and PP phrases; tense and aspect, compound verbs, case markers, clitics, anaphora. (those features that do not exist in the particular language family under study e.g, 'tone', will not be included).

C.14 Field Methods (Including Compulsary Dissertation).

14.1 This course is meant for practical field work to prepare students for research in linguistics. Students are required to submit a short dissertation for evaluation.

C. Optional Courses

C:15a Computational Linguistics.

15.1 Man-machine interface; concept of artificial intelligence (ai), information system and information processing; concept of formal language 'natural language (nl) and real language; nl as man-machine interface.

15.2 Natural language processing (nlp); basic characteristics; goals; knowledge representation, three models-'frame', script information format; function of natural language.

15.3 Computational linguistics; relationship between linguistics and nlp, project grammara (miller) parsers and nlp, computational model for linguistics in morphology, phonology, syntax, semantic, pragmatics and lexicon-some important issues.

15.4 Language engineering computer application -speech synthesis, machine translation, associative information retrieval, testing linguistic hypothesis, computer and language teaching (calt); making a dictionary and collection of materials; factors and variables, preparing dictionaries of unwritten language/dialect.

C:15b Language Planning and Development (with a special reference to North-East India)

15.1 Nature and scope; the interrelationship between language and society; evolution of language planning; social planning; language policy vs language planning; examples of language problems; typology of language problems; language planning goals; ethical issues in planning; planning for social change; national development.

15.2. Frameworks ideologies and variables; the use of frameworks; descriptive frameworks; planning sensitive variables; organisational; attitudinal, demographic, implementational; systems approach and constraints; ideologies-pluralism and assimilation, nationalism, purism, internationalism and vernacularization, linguistic imperialism, language rights; evaluation of choices; use of sociolinguistic surveys.

15.3. Language planning processes & specific objects of planning; Haugen's model; standardization approach; corpus planning vs status planning; Stewart's functions as targets of status planning; corpus planning activities-graphization, standardization modernization and renovation acquisition planning; schooling and education, bilingual education as a strategy.

15.4 Language planning issues in North-East India; linguistics; profile of the north-east; linguistics diversity and ethnic diversity; status of tribal languages; problems of corpus development language use in literacy programmes, interlingual and interethnic communication; role of linguafrancas; choice of official language; language

15.2. Linguistics function and style: language variation and style speech acts; discursive vs expressive language; poetic language; poetical language and language in literature linguistic function: Bühler, Jakobson, Langer, Halliday; transformations and style, style as a quality of texts; linguistics functions and literary genre; and covert style.

15.3. Concept and tool of analysis; code and message; redundancy and information; sample and norm; discourse text; foregrounding and interpretation; parallelism and verbal repetition, deviation, semi, sentence and poetic license; principles of equivalence, selection, contiguity; coupling analogy; atylostatistics.

15.4. Levels of textual organization: structure and texture; texture structure, information structure and cohesion; sentence symbols, symbols, symbols in art and art symbol; thematic object and aesthetic object.

C.15f Second Language Acquisition.

15.1 Theories of second language acquisition; contrastive; innatist, and developmental hypotheses; Corder's Transitional; Competence, Selinker's Interlanguage, Krashen's Monitor Model, Schumann's Acculturation model; accommodation theories.

15.2 Social psychological factor in SLA: aptitude, attitude, motivation (integrative and instrumental); attitude-motivation index; learning cognitive and communicative strategies, cognitive processing of linguistic input (filter, organizer, monitor) input; intake, output.

15.3 Linguistics aspects of SLA: phonological, morphological and syntactic aspect; universality and variability.

15.4 Consequences of SLA: the bilingual brain; SLA, Bilingualism, bilingual education, biculturalism; bilingualism and cognitive development; new methods in second language teaching (SLT), interaction between theory, research and pedagogy.

C: 16a Linguistic Theory and School of Linguistics.

16.1 Traditional approach: basic assumptions, classical basis, merits and limitations.

16.2 Structural linguistics: Prague school of linguistics, functions of language; expressive appellative and representative, theme and rheme, automatization automixation; aesthetic function and de-automatization, standard and folk speech, American structuralism; immediate and ultimate constituents, various forms of IC analysis, basic assumptions and limitations.

16.3 Systemic Grammars; categories, units, structures, class & system, scales of obstructions, rank exponence; delicacy, choice and chain relations, functions, types, given and new, theme, rheme. Firth's contextual theory of meaning.

16.4 Transformational generative grammars: goals, phrase structure grammars, deep and surface structure, transformations.

C: 16 b Translation Theory and Practice:

16.1 Theory of translation: theory of approximation, principle of translation equivalence, functional equivalence; translation, transliteration, transcreation, paraphrase and interpretation, monist & dualist views of translation communication theory and translation.

in education; language maintenance and language shift, language spread; communication policy.

C-15c Syntax - III

- 15.1 Basic issues in the principles and parameters theory; interaction of principles with certain parameters; language specific examples and the question of basic word order; problems with the theory.
- 15.2 From principles and parameters theory to the minimalist program. reasons for discarding D structure and S Structure how does the computational system work in the minimalist program? functional categories and the significance of DP analysis; AGRSP, AGROP and tense phrase, scope for innovation to account for language specific phrasal categories.
- 15.3 Some key concepts in the minimalist program; spell-out greed, procrastination, last resort, AGR-based case theory, multiple-spec hypothesis, strong and weak features; interpretable and non-interpretable features.
- 15.4 Transformational components; its properties; motivation for move Alpha, LF and PF movement; checking devices and features of convergence the copy theory of movement, its properties Logical form; question of semantic interpretation in the minimalist program; how does it differ from that in the principles and parameters theory.

C:15D Neuro Linguistics:

- 15.1 Brain-Language relationship. issues in neurolinguistics and linguistics aphasiology; approaches to neurolinguistics and linguistics aphasiology; historical overview.
- 15.2 Models of brain-language relationship classical connectionism; classical connectionist model; hierarchical models; models, global models; process models; clinical aphasiology and neurolinguistics.
- 15.3 Brain Pathology and language break down. aphasia and its classification; classical categories; linguistics account; overview of linguistics aphasiology. dyslexia.
- 15.4 Contemporary issues and trends. cerebral dominance, lateralization and handedness; overview of contemporary neurolinguistics; implications.

C: 15g Linguistics and literary Stylistics.

- 15.1 Semiotics, aesthetics, Poetics, rhetorics and linguistics; and linguistics. stylistics-scope, definition; stylistics and literary criticism. linguacsthetic and semio-linguistics approach to verbal art.

- 16.2 Types of translation:-text-oriental vs reader-oriental;partial vs total translation;literal vs free translation;intra-lingual vs interlingual translation;semantic vs communicative translation;scientific vs technical;back translation.
- 16.3 Process of translation:interpretation and analysis of the text;translation of lexical terms and of syntactic structures;comparative and contrastive analysis of source and target language, restructuring the translated material, amplification and reduction, substitution naturalization, compensatory glossing and other devices;understanding socio-cultural context.
- 16.4 Lexical gaps in the target language;collocational restrictions in source & target language;overttranslation and undertranslation semantic loss & gain;transparency and choice of style,choice of standard,regional and social-dialects,language of literary and non-literary text (scientific,official, mass-media,advertisements etc): culture specific texts,Evaluation of translation;actual "text" practice and analysis.
- C-16: Language and Education
- 16.1. Language and Mind:knowing a language and learning a language;cognition,thought and reality;views of piaget,Vygotsky,Whorf,Slobin and Chomsky;cognitive prerequisites of language learning:Universal Grammar.
- 16.2 Language,School and Society;languages of home and languages of school;deficit hypothesis and variability hypothesis;medium of education,mother tongue and other tongue;language across the curriculum;language and mathematics language and science;language and social science;attitudinal factors and societal issues.
- 16.3 Language Proficiency;spoken and written language;description and measurement of language proficiency;BICS & CALP,text and context, general principles of learning and teaching;teaching strategies,teaching different skills-comprehension,reading,listening, speaking, writing.Integrated language learning strategies;language proficiency in Multilingual settings.
- 16.4 Language Policy and Approach;language planning and language policy acquisition planning;ideological issues and ethical issues;majority and minority communities;disadvantaged groups;language policy in India;reports of education commissions,three-language formula;bilingual education;multilingual classrooms-linguistic diversity as a resource; language and literacy.

C:16d Lexicology and Lexicography

- 16.1 Basic concept,nature and scope of lexicography;history of lexicography;western and indian;word meaning dictionary,encyclopaedia,glossary,thesaurus,definitional dictionary;relationship between dictionary and grammar,lexemes & word;item and system.
- 16.2 Structure,Function and Entry of lexemes;simple & composite,set and free,set combinations,word formation processes-nonce forms,borrowing blending;clipping;back formation,acronyms,compounding,derivations, functional words;denotation,connotation,synonymy,hyponymy,polysemy, technical terms;onomasiology,order and hierarchy of entries,lemma sense and sub-classes,paraphrases,compounds,collocation,idioms, proverbs,illustrations,names,ghost words,reference,cross-reference.

- 16.3 Types of dictionaries; purpose of dictionary; little dictionary, pocket dictionary, School/college dictionary, desk-top dictionary, synchronic and diachronic (historical and etymological), monolingual and bi-/multilingual dictionary; period dictionary; scientific dictionary; dialect dictionary; reverse dictionary; pronouncing dictionary; terminological dictionary; language atlas.
- 16.4. Dictionary making and utilization; collection of material; factors and variables; preparing dictionaries of unwritten language or dialects; role of computers in dictionary making; automatic data processing; using dictionary-teaching of vocabulary; pedagogy; translation; comparative studies; ~~xxx~~ stylistic choices; structure and retrieval of mental vocabulary; representation of lexical knowledge; evaluation of dictionary.

C-16e Anthropological Linguistics

- 16.1 Scope of anthropological linguistics-relationships with anthropology of language; sociolinguistics and ethnolinguistics; linguistics and cultural anthropology; the role of language in cultural studies.
- 16.2 Language and culture; cultural setting; situational settings; the Sapir-Whorf hypothesis; ethnography of communication; emic and etic levels of behaviour; linguistic analysis of kinship terms and colour terms.
- 16.3 Language and society; linguistic variation in society; social stratification (Labov); concepts of language, dialects; (regional, class, caste); linguistic and social inequality; inter-group and intra-group communication; semantics of power and solidarity; ethnicity and identity.
- 16.4 Theories of meaning and culture; Malinowsky and Firth's contextual theory of meaning; semantic field theory; cultural semantics; politeness principle; co-operative principle and Grice's theory of conversational implicature.

C-16f Dialectology.

- 16.1 Issues/concepts; language vs dialect; dialect; standard and non-standard; regional and social (class and caste); dialectalization and standardization; lexical; morphological; phonological and syntactic differences in dialects.
- 16.2 Traditional approaches to dialectology-basic assumptions and limitations; dialect geography and principles of preparing a dialect atlas; atlas questionnaire; informants; localities; data; isogloss maps; dialect and sub-dialect areas, correlating political and cultural historical with regional and social dialects.
- 16.3 Structural dialectology.
- 16.4 Recent approaches in dialectology; generative dialectology,

Books for M.A in Linguistics (Revised)

Detailed Texts: Books marked with an asterisk other books are for supplementary reading.

INTRODUCTION TO LINGUISTICS

1. Akmajian, A R. A Demers and R.M Harnish 1984 second revised edition. Linguistics: An Introduction to language and communication. Cambridge, Mass: M.I.T Press (Indian Ed 1991 Prentice Hall)
2. Asher, R (ed) 1994 Encyclopedia of Language and Linguistics Elsevier-Paragon.
3. Bloom field, L 1933 Language New York Henry Holt Indian Edition Delhi: Motilal Banarsidass.
4. Bright W. (Ed) 1992 International Encyclopedia of Linguistics New York : OUP
5. Crystal, D 1980 First Dictionary of Linguistics and Phonetics London: Andre Deutsch.
6. Columas, F 1989 Writing system of the World Oxford: Blackwell
7. Daniels, P.T and W Bright 1996 The world's writings systems New York OUP.
- * 8. Fromkin, V, and R Rodman 1974. An Introduction to language New York : Holt, Rinehart and Winson (2nd ed).
9. Hockett, C.F 1958 A course in Modern Linguistics New York Macmillan Indian Edition, New delhi : Oxford and IBH Publishing Co.
- * 10. Joos M (ed) 1957 Reading in Linguistics, Vol I American Council Of learned Societies.
- * 11. Lyons J 1968 Introduction to Theoretical Linguistics. Cambridge (UK) CUP.
- * 12. _____ 1981 Language and linguistics Cambridge (UK) CUP Cambridge (UK) CUP
13. Radford, A 1988. Transformational Grammar A first Course Cambridge (UK) CUP.
14. Sapir, E, 1949 Language New York: Harcourt, Brace and World.
15. Sampson, G 1985 Writing systems: An Introduction London: Hutchinson
- * 16. Saussure F, Den 1966. "A course in General Linguistics" New York: McGraw Hill.
- * 17. Smith, N, and D Wilson 1979 Modern Linguistics: The results of Chomsky's Revolution. Harmondsworth: Penguin Books.

C - 2 MORPHOLOGY

- * 1. Mathews, P.h 1972 Inflectional Morphology Cambridge University Press.
- * 2. _____ 1974, Morphology: An Introduction to the Theory of Word Structure Cambridge, Cambridge University Press.
3. Aitchison, J, 1987 Words in the Mind, Oxford Basil Blackwell.
- * 4. Spencer, A 1991: Morphological Rheory Oxford: Basil Blackwell.
5. Singh R and Agnihotri, R.K 1997. Hindi Morphology: A word Based Description Delhi, Motilal Banarsidass.
6. Aronoff, M 1976 Word formation in Generative Grammar Cambridge, Mass MIT: Press.
- * 7. _____ 1994. Morphology by itself: Stems and Inflectional Classes Cambridge Mass : MIT Press.
8. Disciullo, A.M and Williams, E 1987 on the defination of Word Cambridge Mass: MIT press.

C - 3 T.G Syntax

1. Cowper Elizabeth A. 1992 A concise Introduction to syntactics theory: The Government and Binding approach Chicago: The University of Chicago Press.
- * 2. Freidin, R, 1992 Foundations of Generative Syntax .Cambridge .
3. Haigeman, L 1991 (revised) Introduction to Government and Binding theory Oxford : Blackwell.
- * 4. Radford, Andrew. 1981. Transformational Syntax (Chapters 1-4 only) Cambridge: Cambridge University Press.
- * 5. Radford Andrew 1988, Transformational Grammar (Chapters 4-10 only) Cambridge University Press.
- * 6. Radford, Andrew. 1997. Syntax: A Minimal Introduction Cambridge University Press.
- * 7. Vanriemsdijk Hank and E Williams 1986 Introduction to the Theory of Grammar Cambridge Mass : MIT Press.

C-4 PHONETICS AND PHONOLOGY

1. Abercrombine, D 1967 Elements of General Phonetics Edinburgh: Edinburgh University Press.
- * 2. Clark J, and Yallop, C. 1990 An Introduction to Phonetics and Phonology Oxford: Basil Blackwell.
3. Ladefoged P. 1975 A Course in Phonetics. N.Y Harcourt Brace Javanovich.
4. Ladegodged, P. and Maddieson, I 1996 The sounds of the World's Languages. Oxford Blackwell.
- * 5. Laver, J 1994 Principles of Phonetics. Cambridge Cambridge University Press.
- * 6. O' Connor, J.D 1973 Phonetics London: Pencil.

- *7. Fisher-Jorgensen, C. 1975 Trends in Phonological Analysis, Copenhagen: Akademisk Forlag.
- 8. Fudge, E.C (ed) 1973 Phonology. Harmondsworth: Penguin.
- 9. Joos, Martin (ed) 1968. Readings in Linguistics. Vol. 1 New York American Council of Learned Societies.
- 10. Pike, K.L 1947. Phonemics Ann Arbor: The University of Michigan Press.
- *11. Schane, S.A 1973, Generative Phonology, Englewood-Cliffs, N.J Prentice-Hall.
- *12. Trubetzkoy, N.S 1979 Principles of Phonology: University of California Press.

C-5 I SEMANTICS and C-5 II LINGUISTICS AND ENVIRONMENT

- 1. Austin J.L 1962 (2nd ed 1975) How to do things with words Oxford : Clarendon Press.
- 2. Berlin and Paul Kay 1969 Basic Colour Terms: Their Universality and Evolution. Berkeley: University of California Press.
- *3. Chierchia G. and S McConnell Ginet 1990 Meaning and Grammar : an Introduction to Semantics. Cambridge Mass : MIT press.
- 4. Davidson, Donald 1984 Inquiries into Truth and Interpretation Oxford: Oxford University Press,
- 5. Grice, H.P 1975 "Logic and conversation" Peter Cole and Jerry Morgan (eds) Syntax and Semantics Vol.3 Speech Acts. 43-58 New York: Academic Press.
- 6. Grice, H.P 1978 "Further Notes on Logic and Conversation" in Peter Cole (ed) Syntax and Semantics Vol 9 Pragmatics, 113-28 New York: Academic Press.
- *7. Hurford, James R and Brendan Heasley 1983 Semantics an' Coursebook Cambridge University Press.
- *8. Jackendoff, Ray 1990 Semantic Structure Cambridge, Mass: MIT Press
- 9. Lakoff, George and Mark Johnson, 1980 Metaphors we live by Chicago, University of Chicago Press.
- *10. Leech, Geoffrey N. 1981 (revised 1994) Semantics Penguin.
- 11. Lyons, John. 1997 Semantics Vol. I and 2 Cambridge University Press.
- 12. Pustejovsky, James (ed) 1993. Semantics and the Lexicon Dordrecht: Kluwer.
- *13. Saeed, John I 1997. Semantics. London Blackwell.
- 14. Searle, John 1969. Speech Acts. Cambridge University Press.

C-6 SOCIOLINGUISTICS AND SOCIOLOGY OF LANGUAGES:

1. Sprott W.J.H 1958 Human Groups. Harmondsworth:Penguin.
2. Preston, D.R 1989. Sociolinguistics and Second Language Acquisition Oxford ,Basil Blackwell.
3. Le-page, R.B and Tabouret-Killer, A 1985. Acts of Identity Cambridge: Cambridge University Press.
- * 4. Hudson, R.A 1980 Sociolinguistics Cambridge University Press.
1996 (2nd edition)
5. Hymes D 1971 ed Pidginization and Creolization of Language Cambridge University Press.
6. Fasold, R. 1984. The Sociolinguistics of society. OxfordBasil Blackwell.
- * 7. 1990 Sociolinguistics of Language B.Blackwell .
- * 8. Coulmas , P (ed) 1997 The handbook of Sociolinguistics. Basil Black well Publication.
- * 9. Chambers J. 1995 Sociolinguistics Theory . Basil Blackwell Publication.
10. Dittmar , N. 1994 Sociolinguistics A critical survey of theory Application Edward Arnold Publication.
- * 11. Wardaugh 1992 and Introduction to Sociolinguistics Blackwell.

C -7 PSYCHOLINGUISTICS

1. Aitchison, Jean.1983. The Articulate Mammal. London:Hutchinson.
2. Bickerton, D 1990. Language and Species Chicago: University of Chicago Press.
3. Caplan, D 1987 Neurolinguistics and Linguistics Aphasiology Cambridge University Press: Cambridge.
- * 4. Carroll,David W. 1994 Psychology of Language. Brooks/Cole Publisher Co. California.
- * 5. Chomsky, N. 1968 Language and Mind. Harcourt, Brace and Jovanovich New york.
6. Clark, Herbert H. and Eve V Clark 1977 Psychology of Language. New york: Harcourt Brace Jovanovich.
7. Fodor, J.A 1983 The Modularity of Mind Cambridge, MA: MIT Press.
- * 8. Kess, Joseph F. 1992. Psycholinguistics Amsterdam/ Philadelphia: John Benjamin.

9. MC Neill, David. 1979 The Conceptual Basis of Language Hillsdale, N.J Lawrence Erlbaum Associates.
10. Prideaux, Gary D. 1984. Psycholinguistics: The Experimental studies of language London: Croom Helm.
11. Shapiro Theodore. 1979. Clinical Psycholinguistics. New York: Plenum Press
- *12. Steinberg, Dany D. 1982, Psycholinguistics: language, Mind and the world London Longman.
13. Anisfield, M 1984. Language Development from birth to three Hillsdale, N.J Lawrence Erlbaum.
14. Baker C.L and McCarthy, J (eds) 1981.. The logical Problem of language Acquisition. Cambridge Mass MIT Press.
15. Bates, E 1979. The Emergence of symbols cognition and Communication in Infancy. New York : Academic Press.
16. Brown, R 1973 A first language: The Early Stages Cambridge, M.A. Harvard University Press.
17. Clark, David E.V 1993. The Lexicon in Acquisition, Cambridge University Press. Cambridge.
- *18. Ingram, David. 1989. First language Acquisition Cambridge; Cambridge University Press.
19. McNeill, I.M 1970. The Acquisition of Language New York: Harper. and Row.
20. Schlesinger, I.M 1982. Steps toward language: Toward a Theory of Native Language Acquisition Hillsdale, NJ. Erlbaum.
21. Snow, C.E and Ferguson, C.A 1977.- Talking to children : Language Input and Acquisition Cambridge University Press.

C - 8 INTERMEDIATE SYNTAX

- *1. Chomsky, Noam 1981 Lectures on Government and Binding Dordrecht: Foris.
- *2. Chomsky, Noam 1982. Some concepts and Consequences of the theory of Government and Binding Cambridge, Mass: MIT Press.
- 3. Chomsky, Noam 1986 Barriers Cambridge, Mass: MIT: press.
- *4. Freidin, R 1992 Foundations of Generative syntax Cambridge Mass: MIT Press.
- 5. Hornstein, N 1995. Logical Form GB to Minimalism Oxford: Blackwell
- 6. Jaeggli, Osvaldo and Kenneth W. Safir(eds) 1989 the null subject parameter. Dordrecht: Kluwer.
- *7. Lasnik. Howard and Juan Uriagereka 1988 A course in GB Syntax: Lectures on Binding and Empty categories Cambridge, Mass MIT, Press.
- 8. Lasnik, Howard and Momoru Saito 1992. Move alpha Condition on its Application and output Cambridge Mass MIT Press.
- *9. Radford Andrew. 1997 syntax: A minimalist Introduction Cambridge University Press
- 10. Rizzi, Luigi 1990. Relativized. Cambridge Mass MIT Press

C- 9 GENERATIVE PHONOLOGY

- 1. Anderson, J 1979, The organisation of Phonology New York: Academic Press .
- 2.*Chomsky, N and Halle M 1968, The south Pattern of English New York Harper and Row.
- 3. Firth, J.R (ed) 1957 ~~Foundations of Theoretical Phonology~~ papers in Linguistics 1934-51 London Oxford University Press.
- 4. Folley, J. 1977 Foundations of Theoretical Phonology Cambridge: Cambridge University Press.
- 5.*Fudge , E.C 1969 Phonology Penguin Book Limited.
- 6. Hockett, ~~J.R 1976~~ C.F 1955 Manual of Phonology Baltimore wavelly press.
- 7. Hooper, J.B 1976 An Introduction to Natural Generative Phonology New York Academic Press

- *8. Hyman, L.M 1975 Phonology Theory and Practice New York: Holt Rinehart and Winston INC
- 9. Jorgensen, E.F 1975 Trends in Phonological Theory: A Historical Introduction; Copenhagen Akademik forlag.
- 10. Kiparsky, P, 1968 How abstract is Phonology? Indiana University Linguistics Club.
- *11. Lass, R. 1984 Phonology: An Introduction to Basic Concepts: Cambridge: Cambridge University Press.
- 12. Ohala, M, 1983. Aspects of Hindi Phonology. Delhi: Motilal Banarsidass.
- 13. Stampe, D. 1980 A Dissertation on Natural Phonology : New York Castand.
- 14. Trubetzkoy, NS 1979 Principles of Phonology Baltaxe, CAM (Trans) 1969. Berkley: University of California Press.
- 15. Van Der Hulst, H and Smith N 1985. Advances in Non-Linear Phonology Dordrecht: Foris.

C - 10 Historical Humanities:

- *1. Lehman W.P 1962, Historical Linguistics New York Holt Rinehart and Winston.
- *2. Bynon 1977 Historical Linguistics Cambridge : Cambridge University Press.
- *3. Hans, Hock 1988 Principles of Historical Linguistics Mouton de Gruyter.
- 4. Hockett C.F, 1958. A course in Modern Linguistics New York, Macmillan and Co.
- 5. Bloom field, L 1933 Language . New York: Henry Holt Rinehart and Winston
- 6. Benvenste, E. 1971. Vocabulary of Indo- European Institutions.
- *7. Crowley, Terry, 1992: Introduction to Historical Linguistics Oup New Zealand.

C - 11 SOUTH ASIA AS A LINGUISTIC AREA:

Special Reference to North East.

- *1. Brass, P. 1975. Language Religion and Politics in India, Delhi Vikas Publishing House.
- *2. C rane- R.I (ed) 1967. Regions and Regionalism in South Asian Studies: An Explanatory study Monograph No 5 Duke University.
- 3.

- * 3. Dua, Hans R. 1978. A Socio Linguistics Profile of India. Golden Jubilee Souvenir of Linguistic Society of India.
- * 4. Emeneau, M.B 1964 " India as a Linguistic Area " In language in Culture society: A Reader in Linguistics and Anthropology (ed) Dell Hymes 642-651 New York : Harper and Row.
- * 5. Tryon, Robert C. 1955. Identification of Social Areas by Cluster Analysis. Berkeley, Univ., of California Press.
- * 6. Masica, C.P 1976. Defining a Linguistic Area : South Asia: Chicago Univ., of Chicago Press.
- * 7. Pandit, P.B 1972, India as a sociolinguistic Area, Poona University press. Poddar, A (ed) 1969. Language and Society in India, Transaction, Col, 8, Simla Institute of Advanced Study.

C - 12 LANGUAGE TEACHING AND TESTING:

- * 1. Oller, J.W 1979 Language Tests at School London: Longman.
- * 2. Vallette, R.M 1967 Modern language testing : handbook. Harcourt, Brace and world.
- * 3. Harris D. 1969 Testing English as a second language McGraw Hill
- 4. Allen, J and Davies A ed 1977. Testing and experimental methods Edinburgh course in Applied linguistics Vol 4, Oxford : oup
- 5. Bell, R.T 1981. An Introduction to applied linguistics. London Batsford Academic and educational limited.
- 6. Halliday, M.A.K et al 1964. The linguistic science and language teaching London: longman.
- 7. Gass, S.M and Sachachter J ed 1989. Linguistic perspective on second language acquisition Cambridge University Press.
- 8. Dulay, H, Burt, M and Krashen, S 1982. Language two Oup.
- 9. Stevick, R.W 1976 Memory meaning and method Newbury House.
- 10. Widdowson, H.G 1978. Teaching language as communication Oxford: Oxford University Press.

C - 15 (A) Computational Linguistics:

- *1. Andrew, A.M 1983. Artificial Intelligence. Kent, Abacus Press.
2. Grishman, R. 1986. Computational Linguistics Cambridge: Cambridge University Press.
- *3. Keith, G. and Glover, M 1987. Primary language Learning with Micro computers. London: Grocm Helm.
- *4. Nirenburg, S (ed) 1987 Machine Translation: I Theoretical and Methodological Issues Cambridge : Cambridge University Press.
- *5. Sedlow, W.A and Sellow, S.Y (eds) 1979. Computer in Language Research Hillsdale: N.S Lawrence Erlbawn.
- *6. C- 15 (b) Language Planning and Development.
1. Alisjahbana, S.T 1976. Language planning for modernization : The case of Indonesia and Malaysian. The Hague:Mouton.
2. Cobarrubias, J and J Fishman (eds) 1983. Progress in language Planning: International Perspective. the Hague :Mouton.
3. Coulmas, F (ed) 1984 Linguistic Minorities and Literacy Berlin/New york: Mouton.
- *4. Eatsman, S.M 1983 Language Planning: An Introduction san Fransisco: Chandler and Sharp.
- *5. Fishman, J.A (ed) 1974 Advances in Language Planning The Hague: Mouton.
6. Gudschinsky, S.C 1984 Literacy: The Growing Influence of Linguistics. The Hague: Mouton.
7. Joseph, J.E 1987. Eloquence and Power london: Frances Printer.
8. Khubchandani, L.M 1983 Blural Languages, Plural Culture, East-West Centre Book: University of Hawaii Press.
- *9. Krishnamurti, Bh. and A.Mukherji (eds) 1983 Modernization of Indian Languages in News Meia Hyderabad: Osmania University Press.
- *10.Ray, P.S 1963 Language Standardization : The Hague: Mouton.

- *11. Rubin J. and R. Shuy (eds) 1973. Language planning: Current Issues and Research Washington D.C
12. Stubbs, M 1980 Language and Literacy: The Sociolinguistics of Literacy Boston: Routledge & Kegan Paul.
13. Whitley, W.H (ed) 1971 Language Use and Social Change London Oxford University Press,
- *14. Cooper, R.L 1989 Language Planning and Social Change, CUP.
- *15. Das Gupta, J, J A Fishman, C, A Ferguson (eds) 1971. Language Planning ~~Processes~~ Processes Mouton.
- *16. Singh, U.N 199 On Language Planning and Development Indian Institute of Advanced studies; Simla.
- *17. Dua, Hans Raj, 1985 Language Planning in India Harban Publication
C - 15 (c) ADVANCED SYNTAX:
- *1. Chomsky, Noam. 1981 Lectures on Government and Binding Dordrecht: Foris.
- * 2. Chomsky, N 1995. The Minimalist Program Cambridge, Mass: MIT Press.
- * 3. Hornstein, N 1995. Logical Form: from GB to Minimalism Oxford. Blackwell.
- * 4. Lasnik, Howard 1993 Lectures on Minimalist Syntax, University of Connecticut Monograph,
5. Kayne, Richard. 1994. The Antisymmetry of Syntax. Linguistic Inquiry Monograph No, 25 MIT Press.
6. Mahajan Anoop 1990. The A and A-bar distinction and the movement theory. MIT doctoral dissertation.
7. Radford, A 1997 Syntactic theory and the structure of English: A Minimalist Approach Cambridge University Press.
- * 8. Webelhuth, G (ed) 1995. Government and Binding Theory and the Minimalist program Oxford: Blackwell.

C - 15 (d) NEUROLINGUISTICS:

- *1. Arbib, A Caplan D. and Morshall, J.C (ed) 1982. Neural Models of language Processes. New york: Academic Press.
2. Benson, D. F 1979. Aphasia, Alexia and Agraphia New york Churchill Livingstone.
- *3. Caplan, D (ed) 1980 Biological Studies of Mental Process. Cambridge, Mass : MIT: Press.
4. Caplan, D 1987. Neurolinguistics Aphasiology CambridgeL CUP.
- *5. _____ 1997. Language: Structure, Processing and Disorders. Cambridge, Mass: MIT. Press.
6. Goodglass, H. 1993. Understanding Aphasia. San Diego: Academic Press.
7. Grodzinsky, Y 1990 Theoretical Perspective on Language Deficits. Cambridge, Mass: MIT Press.
8. Jakobson, R 1968. Shild Language, Aphasia and Phonological Universal. The Hague; Mouton.
9. Lesser, R. 1978. Linguistic Investigations of Aphasia. New york Elsevier.
10. Menn, L and Obler, L.K 1990 Agramatic Aphasia Amsterdam:

-15 (e) LINGUISTICS AND LITERARY STYLISTICS

1. Birch, D and O'Toole, M. 1988. Function of Style. London Printer
* Publishers.
2. Bradford, R 1997. Stylistics. London: Routledge.
*
3. Carter, R (ed) 1982. Language and Literature: An Introductory
* Reader in Stylistics. London. George Allen and Unwin.
4. Chatman, S (ed) 1971. Literary Style: A Symposium Oxford University
* Press.
5. Gargesh, R 1990. Linguistics Perspective to Literary Style Delhi:
University of Delhi.
6. Gennette, G 1980 Narrative Discourse. Ithaca: Cornell University
Press.
7. Leech, G.N 1969. A Linguistic Guide to English Poetry. London:
Longman.
8. Rifattere, M. 1978. Semiotics of Poetry. Bloomington: Indiana
University Press.
9. Seabok, T.A (ed) 1960. Style in Language. Cambridge, Mass: MIT
* Press.
10. Sharma, V.P 1990 Stylistics of Figurative Language . Delhi:
University of Delhi.
- *11. Turner, C.W. 1973. Stylistics. Harmondsworth: Penguin.

Suggested ReadingsC - 15 (f) LANGUAGE ACQUISITION:

- *1. Klein, W 1986, Second Language Acquisition, Cambridge: Cambridge
University Press.
2. Fisiak, J ed. 1981. Contrastive Linguistics and the language
teacher. Oxford: Pergamon Press.
- *3. Beebe, L.M ed 1988. Issues in Second Language Acquisition: Multiple
Perspectives. New York: newbury House.
4. Alderson, J.C and Beretta, A ed. 1992. Evaluating second language
Education Cambridge: Cambridge University Press.
5. Grosjean, F. 1982. Life with Two Languages Cambridge: Harvard
University Press.
6. Agnihotri, R.K and Khanna, A.L ed. 1994 Second Language Acquisition
Socio-Cultural and Linguistic Aspects of English in India New Delhi
Sage.

7. Prabhu, N.S 1987. Second language Pedagogy: Oxford: Oxford University Press.

8* Krashen, S 1992. Principles and Practice in Second Language Acquisition. Oxford: Pergamon Press.

C - 16 LINGUISTICS THEORY AND SCHOOLS OF LINGUISTICS.

1. Baker, C.L 1979 Introduction to Generative- Transformational Syntax Eaglewood Cliffs No.5 : Prentice Hall.

2.* Bloom field 1933. Language Newyork : Holt Rinehart & Winston .

3. Chomsky, N. 1957. Syntactic Structure ~~xxxxxxx~~ The Hague, Mouton

4.* Binean, F.P. 1967. An Introduction to General Linguistics Holt Rinehart & Winston, New York.

5. Krishnaswamy, N. 1971, An Introduction to Linguistics for Language Teachers Somaiya Publications, Bombay

6. Lyons, J: 1970, Chomsky. Fontana, London;

7. Martinet, A 1962. A Functional View of Language. Oxford: Clarendon Press.

8.* Sapir, E. 1949 Language, New York, Harcourt Brace and World.

9. Verma, S.K and N. Krishnaswamy, 1989, Modern Linguistics: OUP

10.* Akmajian, A, R.A Denera and R.M Harnish, 1984, Linguistics An Introduction to Language and Communications Cambridge, Mass: The MIT Press (2nd Revised Edn.)

11.* Bolinger, D 1975 Aspects of Language, New york: Harcourt Brace Jovanovich (2nd edn)

12. Frankin, U, and R Rodman, 1974 An Introduction to Language, New-york Holt, Rinehart and Winston.

13. Hockett, C.F, 1958 : A Courses in Modern Linguistics, New York Machmillan.

14.* Langaker, R.W 1968, Language and Its Structure New york L Harcourt, Brace and World:

15. _____ 1972 Fundamentals of Linguistics Analysis, New York: Harcourt Brace Jonanovich.

16. Lyons, J 1969, Introduction to Theoretical Linguistics, CUP-1981 Language and Linguistics, CUP.

17. Robins, R.H General Linguistics: Introductory Survey Longman

18. Sapit E. 1949 Language, New York: Harcourt Brace and World.

19. Saussure, F. 1966 A Course in General Linguistics, New York:

McGraw Hill.

- 20.* Smith, N.U. and D Wilson, 1979, Modern Linguistics, The Result of Chomskyan Revolution, Hammonds Worth : Penguin
- 21.* Wallwork, J.F Language and Linguistics : An Introduction to the Study of Language. Heinemann Education Books.
- C - 16 (b) TRANSLATION THEORY.
1. Catford, J.C 1965. A Linguistics Theory of Translation. Oxford University Press.
 - 2.* Newmark, P. 1981. Approaches to Translation Oxford ~~University Press~~ Pergamon Press.
 - 3.* Nida, Eugene, A 1975. Language, Structure and Translation (Essays) selected by A.S Dil) Stanford Univ. Press.
 - 4.* Nida, Eugene A. & G.R Taber, 1971. The theory and Practice of Translation Leiden: E.J Brill.
- Course - 16-c LANGUAGE AND EDUCATION:
1. Abdul Aziz, M.H (1991) Language in Education: A Comparative study of the situation in Tanzania, Ethiopia and Somalia in O.Garcia (eds) Bilingual Education, Focusschrift in honor of J.A Fishman 75-86 Amsterdam. John Benjamins.
 - 2.* Adams, M.J (1989) Beginning to Read: Learning and thinking about Print, Cambridge; MA; MIT Press.
 3. Au, K.H (1993) Literacy Introduction in Multilingual Settings Orlands: Holt, Rinehart and Winston.
 - 4.* Barton, D (1994) Literacy: An Introduction to the ecology of written language Oxford: Basil Blackwell.
 5. Benonstein, B (1971/73) Class, Codes and control: Towards a theory of Educational Transmission .London: Routledge and Kegan Paul.
 6. Biber, D (1988) Variation across speech and writing Cambridge Cup.
 - 7.* Bratt Paulston, C (1994) Linguistics Minorities in Multilingual settings, Amsterdam: John Benjamins.

8. Chomsky, N (1997). Language and Mind.
 - 9.* Chomsky, N 1992. On the nature, use and acquisition of Language
In Martin Pitz (ed) Thirty years of Linguistics Evolution (3-29)
Amsterdam and Philadelphia Benjamins.
 - 10.* Cook-Gumperz, J (1986) (eds) The social construction of Literacy
Camb, Camb University Press.
 11. Cummins, J 1984. Bilingualism and Special Education, College Hall
 12. Dua, H.R (1985) Language planning in India, Delhi, Harnam
Publications.
 13. Elkind : Piaget.
 14. Education Commission Reports, Govt of India , Ministry of Education,
1964-66 Kothari, Commission Report.
- 16 - D LEXICOLOGY LEXICOGRAPHY
1. Aitchinson, J.F (1987) Words in the Mind: An Introduction to the
Mental Lexicon: Oxford : Blackwell.
 2. Bergenholtz, H (ed) 1995 Manual of specialised Lexicography.
Amsterdam.
 - 3.* Boguraev, B.K Briscoe, T (ed) (1989) Computational Lexicography for
Natural Language Processing London:
 - 4.* Burchfield, R.W (ed) (1987) Studies in Lexicography. Oxford.
 - 5.* Cruse, D.A (1986) Lexical Semantics Cambridge University Press.
 6. Hausmann, F.J Reichmann, O (1989-91) Wörter Bucker/Dictionaries/
Dictionaries ... An International Encyclopedia of Lexicography.
(3 Volumes, Berlin; de Gruyter.
 - 7.* Ilson, R (ed) (1985) Dictionaries, Lexicography and Language
teaching, Berlin; Pergamon Press.
 8. Jackson, H (1988) Words and their Meaning London: Longman.
 9. Malkiel, Y (1976) Etymological Dictionaries: A Tentative Typology
University of Chicago Press.
 10. Lyons, J (1977) Semantics Cambridge University Press.
 - 11.* Svensen, B (1993) Practical Lexicography: Principles and Methods
of Dictionary making (trans J.Sykes and K Schofield) Oxford
University Press.

- 12.* Vogel, C (1979) Indian Lexicography. Wiesbaden: Harrassowitz.
13. Zgusta, L (1971) Manual of Lexicography, The Hague: Mouton.

C - 16 (e) ANTHROPOLOGICAL LINGUISTICS

- 1.* Duranti, A 1998. Linguistics Anthropology, CUP. Foundation Books N.Delhi.
- 2.* Allen Gardner, R. Et (eds) (1994) the Ethnological Roots of Culture NATO Advanced Science Institutes series: D. Behavioral and Social Science 78.
3. Russel, James A et al (eds) (1995) Everyday Conceptions of Emotion: An Introduction to the Psychology, Anthropology and Linguistics of Emotion NATO Advanced Science Institutes Series D.

C - 16 (e) DIALECTOLOGY.

1. Birnbaum, H J Puhvel (eds) 1967. Indo-European Dialects. Berkeley, Univ. of California Press.
- 2.* CIIL, Mysore 1971 Distribution of Languages in States and Union Territories.
3. Hymer, D. 1971. Pidginization and Creolization of Languages, Cambridge CUP.
4.* Menon, P.S.K et, al 1978. Areas of Tribal Concentration in India, Min. of Home Affairs, Natarajan, G.U A Report of Goudi Dialect Survey. CIIL, Mysore.
- 5.* Trudgill, P. 1983. On Dialects: Social and Geographical Perspectives Oxford: Basil, Blackwell.

5:5 - Examination Matters

5:5:1(1)

i) Revised rates of remuneration for payment to the employees of State Bank of India and Treasury Office.

The Deputy Registrar Mizoram Campus has informed that the Government of Mizoram has revised the rates of remuneration for the Treasury Staff with effect from October 1997 (copy enclosed at annexure - 1) and that the staff of the Treasury Office Aizawl who were involved in the safe custody of confidential papers for the Under Graduate Examination 1999 have submitted their claims in accordance with the revised rates of the Government.

The existing rate for payment of remuneration of the University is Rs.50/- per session and as per the revised rate is Rs.100/- per day.

As the staff of the Treasury Office Aizawl and all other employees of State Bank of India of other centres have also been giving full cooperation all along, the Vice-Chancellor had approved payment of remuneration at the revised rate for similar function.

The matter is reported to the Academic Council for ratification.

No.A.11013/1/96-FEAR(G.S.) : Dated Aizawl, the 15th October, 1997.

To,

The Secretary,
Mizoram Public Service Commission
Mizoram, Aizawl.

Subj:-

Remuneration payable to Treasury staff.

Ref:-

Your No.118/D/97-MPSC. Dt. 19.8.97.

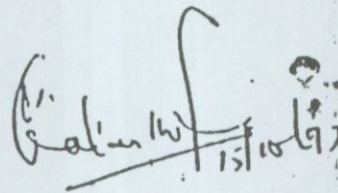
Sir,

In inviting a reference to your letter no. cited on the above subject, I am directed to convey herewith Govt. approval for payment of remuneration to the Treasury staff as follows :-

1. Treasury Officer - Rs.100/- per day
2. Treasurer - Rs 60/- per day
3. Driver - Rs 40/- per day
4. Chowkidar - Rs.40/- per day.

This issues with the concurrence of Finance Department vide I.D. No.FIN(E) 55/97. Dt.9.10.'97.

Yours faithfully,



(V. LALRETHANGA)

Under Secretary to the Govt. of Mizoram,
Deptt. of Personnel & A.R.,
General Service Wing.

5:5:2(1)

(b) Admission to 2nd Year Class of Degree Part I

Quite a number of students of the Annual System of Examinations have approached the Department to consider them for a Special Chance to enable them clear their Degree Examination as they have already exhausted the 5 (3+2) permissible chance.

In this connection, it may be stated that there is no provision in the Annual System of Examinations to allow students to appear beyond the 5 permissible chances. Therefore, for the general interest of the student community, such category of students may be allowed to take re-admission in the 2nd year of the New Course of Part I and Part II System of Examinations as the Syllabus is the same.

Similarly, students who have completed the 2nd year Class of the Annual System of Examination but unable to fill up their 2nd year exam. Form may also be allowed to join the 2nd year class of the New Course.

Further, some students who had cleared the 2nd year examinations but unable to continue the 3rd year class of the Annual System of Education have also requested for permission to join the 3rd year class of the Part II Three Year Integrated Degree Course. As per the Regulations of the TDC of Part I and Part II examinations, relevant extract given below:-

"A candidate should be permitted to appear for the Part II examinations only after having cleared all the papers of the Part I Examinations".

Such category of candidates if allowed to join the 3rd year Class will create confusion while Tabulating the results, as their previous marksheets would consists of 1st yr and 2nd yr of the Annual System of Examinations and the 3rd year of the Part II system of Examinations of the New Course.

Therefore, these candidates may be allowed to join the 2nd yr Class of the New Course(Part -I) and not the 3rd yr Class.

The matter is placed before the A.C. Meeting for consideration.

(ii) Admission criteria for Honours in Three Year Degree Course Part- I.

As per the relevant Ordinance OC-8 the admission to the Degree (Honours) course "a candidate shall have passed the same with 45% marks in the subject concerned or 45% marks in overall aggregate for the subject not offered taken at the Plus Two Level. Provided further the candidates of streams other than Arts shall also be eligible for admission to the Arts Stream fulfilling the criteria set".

Now it has been observed that the performance of many Honours candidates are not satisfactory from among the students who had not offered the subject at the Plus Two level.

Therefore, it is felt that it will be necessary to amend the Existing Ordinance OC-8 for admission to the Degree (Honours) Course as "a candidate shall have passed the same with 45% marks in the subject concerned with 45% in the aggregate and 50% in aggregate for the subjects not offered taken at the Plus Two Level for all the streams for admission to the Degree (Honours) Course.

The matter is placed before the Academic Council for consideration.

5:5:4 (1)

iv) Incentive of Rs. 100 - to the paper setter for
Preparation of answers to the objective questions.

With the introduction of Three Years Degree Integrated Course since 1994, the pattern of question papers for general/pass course has been splitted into two sections containing questions like Multiple choice, True or False and short answers.

The answers to the objective questions are required at the time of evaluation, by the examiners and in order to have the answers readily available to expedite the process of evaluation, the paper setters are being requested to submit the answers to the objective questions.

As the paper setting for general course itself is a strenous job and therefore, it has been considered and approved by the Vice Chancellor to pay a sum of Rs.100/- to the concerned paper setter as an incentive for preparation of answers to the objective questions in addition to the amount approved for paper setting.

The matter is hereby reported to the Council for ratification.

v : AWARD OF DIVISION FOR IMPROVEMENT CASES OF
THE ANNUAL SYSTEM OF EXAMINATIONS.

Some students who had appeared for Improvement under the Annual System of Examinations (Old Course) have approached the University for ^{the} Award of Division as they have secured more than 45 % in the Degree Major Papers as a result of improvement examination and are, therefore, eligible for Second Division in terms of percentage.

According to the Salient Features of the Three Year Degree Course (Annual System) the relevant extract regarding the improvement facility is given below :

"the provision for improvement shall be available to any passed candidate, either in one particular subject or in all the subject for general improvement in Division. Such provisions shall however be available for once only immediately following the year of passing."

Under this system, unless the Honours candidates appear for improvement in all the honours subject they are not eligible for the award of Division/Class even if they have secured more than 45 % in the aggregate and also the marksheets for Improvement are also clearly indicated.

Representations have been received that since the University has allowed improvement facility, it will be unfair to deny their improvement in Division/Class, when improved upon.

The matter is placed before the A.C, for consideration.

5:6:1(1)

- 1) Introduction of New Courses/Restructuring of the existing courses.

The Academic Council in its 59th meeting held on 19th and 20th November 1998 considered the introduction of the following new courses (as optional courses) in the Mathematics Department as approved by the School Board in its earlier meeting and referred back the same to the School Board of Physical Sciences for some clarifications on the term "non-routine problems" and also "number of lectures in each unit" :

- (a) Topics in Algebra and number Theory-I
- (b) Topics in Algebra and number Theory-II
- (c) computational fluid dynamics
- (d) C-Implementation of mathematical Algorithms
- (e) Common Lisp implementation of mathematical Algorithms.

Accordingly, the Dean, School of Physical Sciences wrote to the Chairman BPGS in Mathematics to do the needful in this connection. The Chairman, BPGS in Mathematics has sent the syllabi of these courses. After necessary modification to the School Board of Physical Sciences for its consideration.

The matter was placed before the School Board and all the course were approved (as optional courses), since the clarifications sought by the Academic Council were duly taken care of.

The matter is placed before the Academic Council for its approval.

DSPS: 6:99/98

TOPICS IN ALGEBRA AND NUMBER THEORY I

(Each unit will be covered in nine lectures)

Unit

Divisibility properties of integers, congruence arithmetic, remainders, last digits; primes and composites, squares, cubes, higher powers, Fermat's little theorem; Wilson's theorem. Chinese remainder theorem and applications.

Unit 2

Unique factorisation in integers (and rationals); lcm and gcd, factorials; binomial coefficients; binomial theorem.

Unit 3

Polynomials over integers, rationals, real numbers and complex numbers; relations between roots and coefficients; Divisibility and remainders; irreducibility of polynomials. Rational root theorem and Gauss's Lemma;

Unit 4

Inequalities: Arithmetic, geometric and harmonic means; the A.M.-G.M. inequality, the Cauchy-Schwarz inequality.

Unit 5

Sets, functions and relations; cardinality questions. Permutations.

Books:

1. George E. Andrews, Number Theory
Hindustan Publishing Corporation, Delhi, 1992.
2. David M. Burton, Elementary Number Theory,
Universal Book Stall, New Delhi, 1995.
3. Niven and Zuckerman, An introduction to the Theory of
Numbers, New Age International, 1991.
4. J.W. Archbold, Algebra, Fourth Edition, ELBS, London,
1977

Topics in Algebra and Number Theory II

(Each unit will be covered in nine lectures.)

Unit 1

Divisibility and unique factorisation; Diophantine equations. Euler's ϕ -function (totient function) and Euler's theorem. Legendre's theorem on the exponent in the factorization of $m!$

Unit 2

Combinatorics: The pigeon-hole principle and the inclusion-exclusion principle; number-theoretic problems involving these principles.

Unit 3

Eisenstein's theorem on irreducibility of polynomials. Inequalities involving relations between coefficients and roots of polynomials. Inequalities involving rational functions.

Unit 4

Inequalities involving real and complex numbers including Tchebychev's, Holder's and Minkowski's inequalities.

Unit 5

Functions and functional equations over integers, rationals, real numbers and complex numbers.

Text Books:

1. George E. Andrews, Number Theory, Hindustan Publishing Corporation, Delhi, 1992.
2. David M. Burton, Elementary Number Theory, Universal Book Stall, New Delhi, 1995.
3. Niven and Zuckerman, An Introduction to the Theory of Numbers, New Age International, 1991
4. J.W. Archbold, Algebra, Fourth Edition, ELBS, London, 1977.

Suggested Reading:

1. The Hungarian Problem Book, Mathematical Association of America, Washington, 1963.
2. C.R. Pranesachar et al, Mathematical Challenges, Interline, Bangalore, 1995.
3. Loren C. Larson, Problem-solving through Problems, Sprinter-Verlag, New York, 1983.

Computational Fluid Dynamics

(Each unit will be covered in nine lectures)

1. Two questions are to be set from each unit. Any five questions are to be attempted taking one from each unit. Each question carries 15 marks.

2. Whenever possible the paper could be set in the following pattern: Each question will be divided into two parts: Part (a) will follow the traditional pattern, while part (b) will be devoted to true/false type questions. If this recommendation is followed the question paper should be preceded by the following note:

(Note for Examinees) Part (a) of each question carries nine marks. In part (b) you have to determine whether the assertions made there are true or false (choose any two out of three). (Notation: t/f) You have to justify your answer by a proof or a concrete counter-example; this part (b) carries six marks.

UNIT I

Governing equations of Fluid dynamics: The continuity equations, the momentum equations, the energy equations, boundary conditions.

UNIT II

Partial differential equations in Fluid Dynamics: Derivation of elementary finite difference quotients, basic aspects of finite difference equations, errors and analysis of transformation and grids.

UNIT III.

Explicit finite difference methods, some selected applications to inviscid and viscous flows: The Lax-Wendroff method, McCormack's method, stability criterion, selected applications of the explicit time-dependent technique, non-equilibrium nozzle flows, flow field over a supersonic blunt body.

UNIT IV

Introduction to finite element techniques in computational fluid dynamics: strong and weak formulations of boundary value problem, weighted residual formulation, Galerkin formulation, weak formulation, variational formulation.

UNIT V

Introduction to finite volume techniques in computational fluid dynamics: FEM like finite volume techniques, cell vertex formulation, FDM like finite volume techniques, upwind type discretization.

TEXT BOOKS:

1. An introduction to computational fluid dynamics - by C.Y. Chow, John Wiley & Sons, Inc, New York, 1979.
2. Computational fluid dynamics - Edited by - John F. Wendt, Springer-Verlag 1982.

Reference Books:

1. Computational Fluid Mechanics and Heat Transfer - by Dale A. Anderson John C. Tannehill, and Richard H. Fletcher, Mc Graw-Hill, New York, 1984.

COMMON LISP IMPLEMENTATION OF MATHEMATICAL ALGORITHMS

(Each unit will be covered in nine lectures)

1. Two questions are to be set from each unit. Any five questions are to be attempted taking one from each unit. Each question carries 15 marks,
2. Wherever possible the paper could be set in the following pattern: Each question will be divided into two parts : Part (a) will follow the traditional pattern, while part (b) will be devoted to true/false type questions. If this recommendation is followed the question paper should be preceded by the following note:
(Note for Examinees) Part (a) of each question carries nine marks. In part (b) you have to determine whether the assertions made there are true or false (choose any two out of three). (Notation t/f) You have to justify your answer by a proof or a concrete counter-example; this part (b) carries six marks.

UNIT I

Structure of lisp programs, atoms, lists, expressions, procedures and arguments, elementary arithmetic, some lisp primitives for list processing, defining procedures in lisp using primitive defun, binding parameters.

UNIT II

Predicates like equal, eq, eql, member etc, conditionals like if, when, unless, cond, case etc., recursion in lisp, primitives like mapcar, funcall, lambda.

UNIT III

Iteration on numbers and lists, dotimes, dolist, do, do*, manipulation involving polynomials and matrices, manipulations like union, intersection, difference, mapping and relations involving sets.

UNIT IV

Algorithms for polynomials: Multiplication and division of polynomials, Euclid's algorithms for polynomials over a field and over a UFD, sub-resultant algorithm, resultants and discriminants.

UNIT V

Factorization of polynomials modulo p , squarefree factorization, distinct degree factorization, Factorization of polynomials over \mathbb{Z} or \mathbb{Q} , a root finding algorithm over \mathbb{C} .

TEXT BOOKS :

1. Lisp - By Patrick Henry Winston and Berthold Klaus Paul Horn, (Third Edition), Addison-Wesley Publishing Company, 1989.
2. A Course In Computational Algebraic Number Theory (Selected Algorithms from first Two chapters) By Henri Cohen, Graduate Texts in Mathematics No. 138, Springer-Verlag, 1993.

C IMPLEMENTATION OF MATHEMATICAL ALGORITHMS

(Each unit will be covered in nine lectures)

1. Two questions are to be set from each unit. Any five questions are to be attempted taking one from each unit. Each question carries 15 marks.

2. Wherever possible the paper could be set in the following pattern: Each question will be divided into two parts : Part (a) will follow the traditional pattern, while part (b) will be devoted to true/false type questions. If this recommendation is followed the question paper should be preceded by the following note:

(Note for Examinees) Part (a) of each question carries nine marks. In part (b) you have to determine whether the assertions made there are true or false (choose any two out of three).

(Notation : t/f) You have to justify your answer by a proof or a concrete counter-example; this part (b) carries six marks.

UNIT I

Introduction to C programming language using elementary C programs which will involve inclusion of standard library, the function *main*, print statement, character string, new line character, escape sequences, variables, arithmetic expressions, comments, type declaration, while loop, for statement, symbolic constants, character input and output, operators and && and ||, if-else statements.

UNIT II

Array input using if-else, else-if, conditional statements, switch statements, Function definition, function prototype, arguments-call by value, pointers, character arrays, external variables and scope, automatic variables, header lines, definition and declaration of external variables. (The actual running of a C Program in Linux will be carried out during practicals in the laboratory)

UNIT III

Fundamental number theoretic algorithms: The powering algorithms, Euclid's algorithms, Euclid's and Lehmer's algorithms, Euclid's extended algorithms, The Chinese Remainder Theorem, continued fraction expansion of real numbers.

UNIT IV

Fundamental number theoretic algorithms (continued): The Legendre Symbol, The Legendre-Jacobi-Kronecker Symbol, computing square roots modulo P -the algorithm of Tonelli and Shanks, Power detection-integer square roots, square detection, prime power detection.

UNIT V

Linear algebra algorithms for square matrices: Gaussian elimination and solving linear systems, computing determinants, the characteristic polynomials, Kernel and image, Hermite and Smith normal forms, The Gramschmidt orthogonalization procedure.

TEXT BOOKS :

1. The C Programming Language - By Brian W. Kenighan, and Dennis M. Ritchi, Prentice Hall of India (Eastern Economy Edition), 1995.
2. Computer Programming in C - By V. Rajaraman, Prentice Hall of India (Eastern Economy Edition), 1998.
3. A Course in Computational Algebraic Number Theory (selected algorithms from first two chapters)- By Henri Cohen, Graduate Texts in Mathematics No. 138, Springer-Verlag, 1993.
