

Maharshi Dayanand University Rohtak



Ordinances, Syllabus and Courses of
Reading for
5 year Integrated M.Sc. (Honours in
Economics
B.Sc. (Honours) in Economics (Semester I-VI)
&
M.Sc. (Honours) in Economics (Semester VII- to X)
Session 2008 - 2009

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**ORDINANCE : M. SC. HONS. (FIVE YEARS COURSE) IN
ECONOMICS SEMESTER SYSTEM**

1. The duration of the course leading to the degree of Master of Sciences (Honours Economics shall be of five academic years. Each year shall be divided into two semesters i.e. July to December and January to May. The examination shall ordinarily be held in the month of December and May on such dates as may be fixed by the Vice- Chancellor.
2. The schedule of dates fixed in accordance with Clause-I shall be notified by the Controller of Examinations.
3. The last date by which the examination forms and fee must reach the Controller of Examinations shall be fixed by the Vice- Chancellor.
4. A candidate, who fulfills the following conditions shall be eligible to seek admission in the First Semester of M. Sc Hons. (Five Years) Course :-
 - i) has passed an examination in 10+2 course of schooling recognized by the educational authority of Central or State Government with 50% marks in aggregate and with mathematics.

OR

- ii) Posses any other equivalent academic qualifications recognized by this University. Those who have done graduation or Post-graduation shall not be eligible for Five Year M. Sc. Hons. Course.

Note : If seats in the M. Sc. (Hons.) VII semester remain vacant then the admission of those candidates who have 1st Division in B. A./ B. Sc. with mathematics/ statistics may be made.

5. A person who has passed the Semester I or II or III or IV or V or VI or VII or VIII or IX or X respectively of the M. Sc. Hons. Course. This is, however, subject to Clauses-12 and 13 (2) below.
6. The examination of Semester I/II/III/IV/V/VI/VII/VIII/

IX/X shall be open to a student who :-

- i) has passed the requisite examination as laid down above in Clause 4 and 5, as the case may be, or is covered under Clause 13 below; and
- ii) has his name submitted to the Controller of Examination by the Head of the Department of Economics and produces the following certificates signed by him :
 - a) of having good Character
 - b) of having remained on the rolls of the Department of Economics for the semester concerned proceeding the examination;
 - c) of having satisfactorily performed the work of his class;
 - d) of having attended not less than 75% of the lectures in each semester as also in practical training (to be counted upto the last day when the classes break up for the preparatory holidays).
7. A candidate on the rolls of the Department of Economics or an Ex-student shall submit his application for admission to an examination on the prescribed form with the requisite certificate duly countersigned by the Head of the Department of Economics or a senior member of the teaching staff nominated by him.
8. The amount of admission fee to be paid by a candidate for each semester shall be prescribed by the University from time to time.
9. The medium of instruction and examination shall be English only.
10. Candidates shall be examined according to the scheme of examination and syllabus as approved by the Academic Council from time to time.

11. The minimum number of marks required to pass in each paper of M. Sc. Hons. I, II, III, IV, V, VI, VII, VIII, XI, and X semester Examination shall be 35% and 40% in aggregate of Semester Examination.

12.1 A candidate who has failed in a semester examination, or having been eligible fails to appear there in, may be allowed on the recommendation of the Head of the Department of Economics to appear/ re-appear in the examination/ paper(s), as the case may be, in accordance with clause-I, Such a candidate may be exempted from appearing in the paper(s) in which he obtains at least 35% marks.

12.2 A special supplementary examination may be held in the month of December/ January for the students of 10th semester along with 9th semester students and vice-versa, who got re-appear in the 10th semester, but has cleared all papers up to 8th semester.

provided that a candidate for the M. Sc. Hons. Degree must pass the whole examination (Semester I, II, III, IV, V, VI, VII, VIII, IX, and X) within seven years of his admission to the M.Sc. Hons. first Semester class failing which he will be deemed to be unfit for the course and shall not be allowed to appear in the same either by attending classes again as a regular student or as an ex-student.

Note : The candidate admitted to M. Sc. (Hons.) Course shall not be allowed to switch over to any other course, otherwise his/ her candidature for M. Sc. (Hons.) course shall be cancelled forthwith.

13.1 A candidate who has appeared and failed in a semester Examination shall be promoted from I to II, III to IV, V,

VI, VII, VIII, XI, to X semester, subject to the provision of Clause 13.2.

The Vice-Chancellor may, in very exceptional cases and where he is satisfied that there are unavoidable circumstances e.g. serious illness, serious calamity like death of father or mother etc. allow a candidate who having been eligible failed to appear in the I/III/V/ VII/IX semester Examination on, to study for the II/IV/ VI/VIII/X semester Examination, as the case may be; provided that an intimation to this effect accompanied by a documentary proof thereof is received in the office of the Controller of Examinations through the Head of the Department of Economics within 10 days of the expiry of the concerned examination.

13.2 A candidate who has failed in the Semester I & II, III & IV or V & VI or VII, and VIII shall be promoted to the III, IV, V, & VI, VII, IX Semesters, as the case may be, only if he has got exemption in the papers as mentioned below :-

From Semester I & II of to Semester III	If he has passed at least six papers Semester I & II
From Semester III & IV to Semester V	If he has passed at least 15 papers of Semester I & IV including six papers of Semester I & II and six papers of Semesters III & IV.
From Semester V & VI to Semester-VIII	If he has passed all papers of Semesters - I & II, 15 papers of Semester III to VI including six papers of Semesters III & IV and six papers of Semesters V & VI
From Semester VII & VIII to Semester-IX	If he has passed all papers of Semesters - I & IV, 15 papers of Semester V and VIII including six papers of Semesters V & VI and six papers of Semesters VII & VIII

Every student of Semester I, II, III, IV, V, VI, VII, VIII and IX who is entitled to be promoted to M. Sc. Hons. semester II, III, IV, V, VI, VII, VIII, IX and X respectively, shall submit an application on the prescribed form for fresh admission to the Semester II, III, IV, V, VI, VII, VIII, IX and X. Any such admission may be refused by the head of the Department on reasonable grounds.

14 Four weeks after the termination of the examination or as soon thereafter as is possible, the Controller of Examination shall publish the result and issue Detailed Marks Cards.

15.1 The successful candidates after passing I, II, III, IV, V, and VI, Semester Examinations of Five Year Hons. Course will be awarded a graduate degree of B. Sc. Hons. in Economics.

Classification of division for the successful candidates of B.Sc. Hons. shall be arranged as under on the aggregate marks of I, II, III, IV, V and VI Semester Examinations :-

- (i) Those who obtain 70% or more of the total aggregate marks
First Division with Distinction
- (ii) Those who obtain 60% or more but less than 70% of the total aggregate marks
First Division
- (iii) Those who obtain 50% or more but less than 60% of the total aggregate marks
Second Division
- (iv) Those who obtain less than 50% of the total aggregate marks
Third Division

15.2 The candidate who successfully completes the five years (Semester I to X) of M. Sc. Hons. Course will be awarded M. Sc. Hons. Degree.

A list of successful candidates shall be prepared on the aggregate marks obtained in Semester VII, VIII, IX and X examination and shall be arranged in division as under :-

- (i) Those who obtain 70% or more of the total aggregate marks
First Division with Distinction
 - (ii) Those who obtain 60% or more but less than 70% of the total aggregate marks
First Division
 - (iii) Those who obtain 50% or more but less than 60% of the total aggregate marks
Second Division
 - (iv) Those who obtain less than 50% of the total aggregate marks
Third Division
16. Notwithstanding the integrated nature of this course which is spread over more than one academic year, the ordinance in force at the time of a student joining the course shall hold good only for the examination held during or at the end of the academic year and nothing in this ordinance shall be deemed to debar the University from amending the ordinance and the amended ordinance, if any, shall unless specified otherwise, apply to all students whether old or new.

Scheme of Examinations

		Maximum		Internal
		Marks	Practical	Assessment
Semester-I	I Communicative skills in English -I	80		20
	II Microeconomics - I	80		20
	III Macroeconomics - I	80		20
	IV Mathematical Method for Economics - I	80		20
	V Statistical Methods in Economics -I	80		20
	VI Computer Fundamentals	60	20	20
Semester-II	I Communitive skills in English -II	80		20
	II Microeconomics - II	80		20
	III Macroeconomics - II	80		20
	IV Mathematical Method for Economics - II	80		20
	V Statistical Methods in Economics - II		80	20
	VI Operating Systems	60	20	20
Semester-III	I Economic Histroy of India 1857-1947	80		20
	II Economic, Society & Polity	80		20
	III Histroy of EconomicThought	80		20
	IV Mathematical Methods for Economics - III	80		20
	V Statistical Methods in Economics - III	80		20
	VI Introduction to GUI Pacakges	60	20	20
Semester-IV	I India's Economic Develop ment since 1947	80		20
	II Development Theory and Experience	80		20
	III Introductory Econometrics	80		20
	IV Database of Indian Economy and Computer Analysis of Data	80		20
	V Agricultural Economics	80		20
	VI Relational Database Management System	60	20	20
Semester-V	I Haryana Economy	80		20
	II Public Finance	80		20
	III Money and Financial Market	80		20
	IV International Economics	80		20
	V Industrial Economics	80		20
	VI SAD and Structure Programme	60	20	20

		Maximum	Internal
		Marks	Practical Assessment
Semester-VI	I Accounting & Financial Management	80	40 20
	II Environmental Economics	80	20
	III Managerial Economics	80	20
	IV Labour Economics	80	20
	V Economic Journalism	80	20
	VI Project on Application Packages/ Web Pages/ Multimedia	100	20
Semester-VII	I Micro Economics-I	80	20
	II Macro Economics-II	80	20
	III Economics of Growth & Development-I	80	20
	IV Internatlonal Trade & Finance-I	80	20
	V Public Economics -I	80	20
	VI Econometrics-I		
Semester-VIII	I Micro Economics-II	80	20
	II Macro Economics-II	80	20
	III Economics of Growth & Development-II	80	20
	IV Internatlonal Trade & Finance-II	80	20
	V Public Economics -II	80	20
	VI Econometrics-II		
Semester-IX	I India in a Globalising World-I	80	20
	II Financial Institutions & Markets-I	80	20
	III to V Any three of the following :-		
	i) Operations Research-I	80	20
	ii) Mathematical Economics -I	80	20
	iii) Industrials Economics-I	80	20
	iv) Managerial Economics-I	80	20
	v) Agricultural Economics -I	80	20
vi) Survey Methods	80	20	
vii) Methodology of Writing & Dissertation	80	20	
Semester-X	I India in a Globalising World-II	80	20
	II Financial Institutions & Markets-II	80	20
	III to V Any three of the following :-		
	i) Operations Research-II	80	20
	ii) Mathematical Economics -II	80	20
	iii) Industrials Economics-II	80	20
iv) Managerial Economics-II	80	20	
v) Agricultural Economics -II	80	20	
VI Dissertation			

Noite : Dissertation shall be of 200 marks.

**B.Sc. (Hons.) Economics
Semester - I
Paper-I Communicative Skills in English - I**

Max. Marks : 80

Time : 3 Hrs.

Objectives : To Introduce students in a graded manner to the communication skills of Reading & Writing in English. At the end of semester I, the students should be able to demonstrate adequate competence in comprehending the prescribed text and performing the given writing tasks.

Readings :

a) Developing habits of independent and fast reading.

Students will be required to read a prescribed prose anthology titled Selections from Modern English Prose (Ed. Haladhar Panda published by University Press). The essays in the anthology will be read by students at home with the help of glossary given in the book. Progressing from one lesson to another, they should learn to read fast. Students are supposed to keep a record of their reading in the form of notes, difficulties, summaries, outlines and reading time for each essay. Class teacher may use this record for award of internal assessment (if any).

b) Developing Comprehension Skills.

Teacher will provide guided comprehension of the prescribed texts in the class and help students in answering the questions given at the end of each lesson. Teacher can construct more questions of factual and inferential nature to enhance the comprehension skills of the students. The teacher shall also guide students to do the grammar exercises given at the end of each lesson.

Writing :

a) Developing skills in personal writing

Students will be required to learn short personal write-ups involving skills of description and narration. The types of composition task may include personal letter writing, telegram writing, notice writing, diary writing etc. Teacher shall instruct the students about the appropriate format and usual conventions followed in such writings. The teacher may also prescribe composition/ writing book if so required.

b) Developing writing skills based on guided composition

The Students will be required to write a longish composition on a question from the essays on Selections from Modern English Prose. The composition will require presentation of ideas beyond the prescribed essays. Sample composition topics are given at the end of each lesson.

Question paper : The following format is suggested for a 3-hour test.

(Appropriate choices may be given where possible)

1. Short-answer comprehension questions (at least 5) based on the lessons included in Selections from Modern English Prose. **15 Marks**
2. Questions on grammar and vocabulary (words, phrases, proverbs) **10 Marks**
3. Two short writing tasks of app. 200 words. One a personal letter involving narration of a personal experience or description of objects, persons, places or events. The second may be a telegram or public, notice or a diary entry about a personal or family achievement, loss or celebration. **8+7=15 Marks**
4. One long composition of about 300 words on one of the topics discussed in Selections from Modern English Prose. Due consideration be given to the organisation of details and coherence in writing. **10 Marks**

Paper-II Microeconomics - I

Max. Marks	: 100
External Examination	: 80
Internal Assessment	: 20
Time	: 3 Hrs.

Unit - I

Nature and scope of Economics and Microeconomics, role of assumptions in analysis.

Basics of market. Budget constraint, consumer preferences and utility. Various measures of utility.

Unit - II

Optimal choice, Determinants of Demand, Slutsky equation, Revealed Preference approach.

Unit - III

Assets and budget constraint, intertemporal choice. Asset markets. Choice under uncertainty and risk management.

Unit - IV

Market Demand, Elasticity and Revenue, Market equilibrium, Consumer Surplus.

Note : The question paper shall have five units. Each of the first four units will contain two questions and the students shall be asked to attempt one question from each unit. Unit five shall contain eight to ten short answer type questions without any internal choice and it shall cover the entire syllabus. As such, unit five shall be compulsory.

Prescribed Text : Varian, Hal R. "Intermediate Microeconomics - A Modern Approach (7th edition, W.W. Norton and Co.)

Supplementary Reading: Lipsey, R.G. and Chrystal, K. Alec "An introduction to Positive Economics" (OUP)

Salvatore, D. : "Microeconomic Theory (Schaum's Outline Series, Tata McGraw Hill).

Paper-III Macroeconomics - I

Max. Marks	: 100
External Examination	: 80
Internal Assessment	: 20
Time	: 3 Hrs.

Unit - I

Basic Concepts : Micro Vs. Macroeconomics Full employment and various types of unemployment. Aggregate demand and supply functions. Effective demand. Phases of business cycles.

Variables : Real and nominal; Induce and autonomous; Lagged and unlagged; Ex ante and ex-post; Model and Equations; Comparative Static and Dynamic analysis; Equilibrium and Disequilibrium.

Unit - II

National Income : Definition- Productive Vs. Non productive intermediate and final output; Concepts and components of national income.

Measurement of National Income : Income, output and Expenditure, Circular flow of income in two, three and four- sector economics And difficulties.

Unit - III

Determination of Income and Employment : Classical view - Labour market ; Product market and money market. Say's Law of market (Barter and monetized economy) Classical theory of income and output determination.

Unit - IV

Keynesian Economics : Determination of income, employment and output in Keynesian frame work. Keynes' consumption function, saving and investment functions, marginal efficiency of capital, multiplier, Accelerator theory of investment.

Note : The question paper shall have five units. Each of the first four units will contain two questions and the

students shall be asked to attempt one question from each unit. Unit five shall contain eight to ten short answer type questions without any internal choice and it shall cover the entire syllabus. As such, unit five shall be compulsory.

Suggested Readings :

- Ackley, G : Macroeconomics : Theory and Policy, Macmillan Publishing Co. New York.
- Edgmond, M.R. : Macroeconomics Theory and Policy.
- Peterson, W.C. : Income, Employment and Economic growth, Norton, New York, 1978.
- Shapiro, E. : Macroeconomic Analysis, Galgotia Publication, New Delhi.

Paper-IV Mathematics for Economists - I

Max. Marks	:	100
External Examination	:	80
Internal Assessment	:	20
Time	:	3 Hrs.

Unit - I

Economic models, relations and functions, linear and quadratic equations.

Fundamentals of Matrix Algebra, solution of linear equation system (Cramer's rule and matrix inversion). Input-output analysis (static open model)

Unit - II

Differentiation - Concept of limit, meaning and economic interpretation of derivation. Rules of differentiation including logarithmic and exponential functions but excluding derivation from first principles. Partial and total derivatives (derivative approach only excluding differential approach), derivatives of implicit functions.

Unit - III

Optimisation for single choice variable, multiple choice variables

(excluding Maclaurin and Taylor series). Constrained optimisation.

Unit - IV

Integration including integration by parts and by substitution (excluding improper integrals and application to growth models).

First order linear differential equations.

- Note :**
1. Emphasis is on conceptual understanding and application in Economics. Proofs and derivations are not to be emphasized.
 2. The question paper shall have five units. Each of the first four units will contain two questions and the students shall be asked to attempt one question from each unit. Unit five shall contain eight to ten short answer type questions without any internal choice and it shall cover the entire syllabus. As such, unit five shall be compulsory.

Prescribed Text : Chiang, Alpha C "Fundamental Methods of Mathematical Economics" (Mc-Graw Hill).

Supplementary Text : Dowling, E.T. " Mathematics for Economists " (Schaum's Outline series, Tata- Mc Graw Hill).

Paper-V Statistical Method - I

Max. Marks	:	100
External Examination	:	80
Internal Assessment	:	20
Time	:	3 Hrs.

Unit - I

Index numbers : Problems and methods of construction of various types of indices, Laspeyres, Paasch's and Fisher's ideal index numbers, Time reversal, factor reversal and circular tests; chain base indices, base shifting, splicing and deflating the index nos.

Unit - II

Correlation and regression : simple correlation, Pearson,

Spearman's correlation coefficients, concept of multiple and partial correlation analysis, specification of a simple linear regression model, least square estimation of linear regression coefficients, interpretation of correlation and regression coefficients and their properties.

Unit - III

Sampling theory and design of sample surveys : Universe and sampling, types of sampling, simple random sampling, stratified random sampling, systematic sampling, cluster sampling, multistage sampling, Quota sampling, Parameter and statistic, sampling distribution, standard error, law of statistical regularity, principle of Inertia of large numbers, principle of persistence of small nos. census versus sample enumeration; principle steps in a sample survey, errors in statistic, limitations of sampling.

Unit - IV

Theoretical distributions : Review of theory of probability, binomial distribution : parameter and mode of binomial distribution, properties and fitting of binomial distribution, Poisson distribution : parameters and mode of poisson distribution, properties and fitting of poisson distribution, normal distribution. Equation of normal probability curve, standard normal distribution.

Properties of normal distribution, areas under standard normal probability curve, importance of normal distribution. Relation between binomial, poisson and normal distributions.

Note : The question paper shall have five units. Each of the first four units will contain two questions and the students shall be asked to attempt one question from each unit. Unit five shall contain eight to ten short answer type questions without any internal choice and it shall cover the entire syllabus. As such, unit five shall be compulsory.

Suggested Readings :

- Fundamentals of Statistics by S.C. Gupta ; Himalaya

Publishing House. (2007)

- Statistics for Management : By R.I. Levin & D.S. Rubin; Prentic- Hall of India, 2006.
- Statistics for Business and Economics by R.P. Hooda; Macmillan India Limited.
- Statistical methods for Social Sciences, By Cohen
- Schaum's outlines of statistics by M.R. Spiegel and L.J. Stephen, Tata Mc Graw Hill.

Paper-VI Computer Fundamentals

Time Allowed	: 3 Hours	Max. Marks	: 100
Teaching Hours	: 60	Theory	: 60
Practical	: 20	Int. Ass.	: 20

Note : Candidates are allowed to use the simple (non-scientific) calculator.

- i) In all 5 questions are to be attempted. First question consisting of 10 short answer type based upon the entire syllabus, (each carrying 2 marks) will be compulsory.
- ii) 4 questions of 10 marks each, 1 out of 2 from each of four units are to be attempted.

Unit - I

1. Elements of a Computer System.

- 1.1 What is a Computer ?
- 1.2 Evolution of computers, their classification and limitations.
- 1.3 Uses of Computers in modern society (e.g. Weather Forecasting, Census, Oil Exploration, Speech Recognition, Banking, Publishing, Accounting, Research etc.
- 1.4 Characteristics of Desktop.
- 1.5 Characteristics of Portables / Laptops.

- 1.6 Introduction to Hardware, Software : System S/W, Operating System, Translators, Utilities and Service Programme, Data base , DBMS.
- 1.7 Application Software (user and standard packages).
- 1.8 Introduction to Programming Languages (C, Pascal, Fortan).

Unit - II

2. Input Output Devices.

2.1 Input Devices and Functions

- Keyboard and teletypewriter terminals.
- Joystick.
- Mouse
- Light pen
- Magnetic Tapes and Cassetts.
- Magnetic Disks.
- Floppy and Winchester Disks.
- Optical Mark Reader
- Optical Character Reader (OCR)
- Magnetic Ink Character Reader (MICR)
- Punched Cards.

2.2 Output Devices and Functions.

- Visual Display Units (Monitor)
- Plotters
- Printers
- CTD

3. H/W Organisation of Desktop Computer.

- 3.1 Introduction to Hardware components
- 3.2 CPU (Control Unit, ALU)

Unit - III

3.4 Memory

- a) RAM - Dynamic RAM, Static RAM
- b) ROM - PROM, EPROM, EEPROM.
- c) Cache, Virtual, Extended and Expanded Memories.

3.5 Secondary Memory (Storage Devices) with Details of FD, Cluster, FAT, Tracks.

- a) Floppy Disk
- b) Hard Disk
- c) DAT
- d) Video or Optical Disk (CD ROM)
- e) CTD

4 Standardization of PC - Hardware Devices

- 4.1 Disk Drives (1.2 MB, 1.44 MB, CTD, DAT, CD -ROM drives).
- 4.2 Power Supply and Distribution.

Unit - IV

- 4.3 Monitors (VDU)- Pixels, Monitor Sizes, Mono, Color, VGA, SVGA.
- 4.4 Printers- impact and Non-Impact (Character, Line, Page).
- 4.5 Modems and its types.

5. Data Representation

6. Introduction to Number Systems and Character Codes.

7. Flow Charts

8. Introduction and Development of programmes in QBASIC (Using file Handling).

Recommended Texts.

1. Introduction to Computer Science by Francis Scheid.
2. PC Complete by Sybex
3. Computer Fundamental by S. Jain
4. Introduction to Computer : Fundamentals of Computer Science buy N. Subramaniam.
5. Understanding Computers by Dinesh Kumar.

B.Sc. (Hons.) Economics
Semester - II
Paper-VII Communicative Skills in English - II

Max. Marks : 80

Time : 3 Hrs.

Objectives : To Introduce students in a graded manner to the communication skills of Reading & Writing in English. At the end of semester II, the students should be able to demonstrate adequate competence in comprehending an unseen passage and performing the prescribed communication writing tasks.

Prescribed Reading : Vandana R.Singh. The Written Word, Oxford University Press, New Delhi (Selected Chapters).

Readings :

a) Developing Comprehension Skills

Students will be required to read simple comprehension passage in Chapter Critical Reading and Comprehension of the prescribed book. Teacher will help students in handling text and answering questions given at the end of each passage. Teacher can bring in more texts and construct questions of factual and inferential nature to enhance the comprehension skills of the students.

b) Developing habits of additional reading.

The students will be required to show evidence of additional independent reading. They will maintain a scrap book consisting of such readings as clippings from newspapers and magazines, short articles, stories etc. The minimum quantum of such additional reading will be decided by the class teacher, who will also test students individually on their additional reading (and appropriately award internal assessment, if required).

Writing :

a) Developing vocabulary and using it in the right context

Students will be required to pay special attention to build up their vocabulary. They should master the contents of the chapter on Vocabulary in the prescribed book. Teacher will help the students learn the correct and appropriate use of the given set of words/ phrases/ expressions.

b) Developing skills in formal

Students will be required to do write-ups involving skills of making formal complaints, requests, orders etc., reporting, note taking, summarizing and transcoding. The types of composition task may include business and public interest letters, news/feature writing, speeches, minutes, instructions, summary reports etc. Teacher shall instruct the students about the appropriate format and usual conventions followed in such writings. The following chapters in the prescribed book may be consulted for exercise materials on these tasks:

- 1.1 Paragraph and essay writing
- 1.2 Report Writing
- 1.3 Letter Writing
- 1.4 Note Making and Summarizing
- 1.5 Transcoding

Question Paper : The following format is suggested for a 3 hour test.

(Appropriate choices may be given where possible)

1. One unseen passage of app. 300 words with at least 5 questions for testing comprehension.
(at least three of them may be multiple choice) **10 Marks**
2. Vocabulary and other expressions **10 Marks**
3. Two writing tasks pertaining to formal letter writing, reporting, note taking, summary writing etc. **10+10=20Marks**
4. One task involving transcoding from dialogue to prose or prose to dialogue. **10 Marks**

Paper-VIII Microeconomics - II

Max. Marks	:	100
External Examination	:	80
Internal Assessment	:	20
Time	:	3 Hrs.

Unit - I

Production Function : long run, short run, role of technology.
Cost curves, cost minimization. Competitive markets and profit maximization, supply of firm and industry.

Unit - II

Market structures- Monopoly, Oligopoly. Game theory

Unit - III

Welfare Theory - Exchange, Production, Social Welfare function.

Unit - IV

Externality, public goods and information asymmetry.

Note : The question paper shall have five units. Each of the first four units will contain two questions and the students shall be asked to attempt one question from each unit. Unit five shall contain eight to ten short answer type questions without any internal choice and it shall cover the entire syllabus. As such, unit five shall be compulsory.

Prescribed Text : Varian, Hal R. "Intermediate Microeconomics - A Modern Approach (7th edition, W.W. Norton and Co.)

Supplementary Reading: Lipsey, R.G. and Chrystal, K. Alec "An introduction to Positive Economics" (OUP)

Salvatore, D. : "Microeconomic Theory (Schaum's Outline Series, Tata McGraw Hill).

Paper- IX Macroeconomics - II

Max. Marks	:	80
Time	:	3 Hrs.

Unit - I

Money : Concept and functions of money; Supply of money; theories of demand for money; Classical Cambridge, Keynes and Friedman. Theories of rate of interest : Classical, Loan able and Liquid preference.

Keynes Vs. Classical with special reference to wage price flexibility and full employment. Real Balance Effect; Keynes and under-developed economics.

Unit - II

Trade Cycles : Features, Keynes' View on trade Cycle, Schumpeter, Kaldor, Samuelson Hicks model, control of trade cycles.

Unit - III

Economic Growth : Meaning and measurement, Harrod and Domar model, Neo-classical growth models Solow and Meade, economic growth and technical progress.

Unit - IV

Inflation : Causes, consequences and cures. Inflation - unemployment trade off. Natural rate of unemployment.

Macroeconomic policy : Monetary policy - instruments, objectives and effectiveness in recession & boom. Fiscal Policy - Instruments and full employment; budget surplus; problems of stabilization policy.

Note : The question paper shall have five units. Each of the first four units will contain two questions and the students shall be asked to attempt one question from each unit. Unit five shall contain eight to ten short answer type questions without any internal choice and it shall cover the entire syllabus. As such, unit five shall be compulsory.

Suggested Readings :

- Ackley, G : Macroeconomics : Theory and Policy, Macmillan Publishing Co. New York 19 .
- Branson, W. : Macroeconomics Theory and Policy, New York, Harper & Row, 1972.
- Dornbush & Fisches : Macroeconomics, Mc-Graw Hill, New Delhi, 1981.
- Heijdra, B. J. and F.V.Ploeg : Foundations of Moder Macroeconomics, Oxford University Press Oxford.
- Shapiro, E. : Macroeconomic Analysis, Galgotia Publication, New Delhi.

Paper-X Mathematics for Economists-II

Max. Marks	:	100
External Examination	:	80
Internal Assessment	:	20
Time	:	3 Hrs.

Unit - I

Second order linear differential eqtaion with constant coefficient and constant term. Case of variable term. Non-linear equation of first order - exact and variable separable type only.

Unit - II

Difference equation of first and second order with constant coefficients and constant term. Case of variable term

Unit - III

Simultaneous differential and difference equations (excluding phase diagram and linearization).

Unit - IV

Linear Programing - Simplex and dual solutions. Economics interpretation of dual (excluding activity analysis).

Note : 1. Emphasis is an conceptual understanding and application in Economics. Proofs and derivations are not to be emphasized.

2. The question paper shall have five units. Each of the first four units will contain two questions and the students shall be asked to attempt one question from each unit. Unit five shall contain eight to ten short answer type questions without any internal choice and it shall cover the entire syllabus. As such, unit five shall be compulsory.

Prescribed Text : Chiang, Alpha C "Fundamentals Methods of Mathematical Economics" (Mc-Graw Hill).

Supplementary Text : Dowling, E.T. "Mathematics for Economists" (Schaum's outline series, Tata- Mc Graw Hill).

Paper-XI Statistical Method - II

Max. Marks	:	100
External Examination	:	80
Internal Assessment	:	20
Time	:	3 Hrs.

Unit - I

Theory of estimation : Point estimation and it'sproperties, Methods of point estimation, sampling distribution of a statistic(mean & proportion); interval estimation for large samples, confidence limits for mean, confidence limits for proportion, confidence limits for standard deviation, confidence limit for difference of means, confidence limits for difference of proportions.

Unit - II

Testing of hypothesis : Simple and composite statistical hypothesis, tests of significance null and alternate hypothesis, Types of errors in testing of hypothesis, level of significance, critical region, one tailed and two tailed tests, critical values and critical region, procedure for testing of hypothesis.

Large sample tests : test of signifiacne for single proportion, confidence limits for P, test of significance for single mean and its

confidence limits, test of significance for difference of means, test of significance for difference of standard deviations.

Unit - III

Small sample tests : X^2 (Chi-square) distribution, t.F and Z distributions, theory of attributes : introduction, notation, classes and class frequencies. Inconsistency of data, independence of attributes Association of attributes.

Unit - IV

Interpolation and Extrapolation, methods of interpolation, graphic method, algebraic method, method of parabolic curve fitting, method of finite differences, Newton's forward difference formula, Newton's backward difference formula. Binomial expansion method for interpolating missing values, interpolation with arguments at unequal intervals, Newton's divided difference formula, Lagrange's formula inverse interpolation.

Note : The question paper shall have five units. Each of the first four units will contain two questions and the students shall be asked to attempt one question from each unit. Unit five shall contain eight to ten short answer type questions without any internal choice and it shall cover the entire syllabus. As such, unit five shall be compulsory.

Suggested Readings :

- Fundamentals of Statistics by S.C. Gupta ; Himalaya Publishing House. (2007)
- Statistics for Management : By R.I. Levin & D.S. Rubin; Prentice-Hall of India, 2006.
- Statistics for Business and Economics by R.P. Hooda; Macmillan India Limited.
- Statistical methods for Social Sciences, By Cohen
- Schaum's outlines of statistics by M.R. Spiegel and L.J. Stephen, Tata Mc Graw Hill.

Paper-XII Operating Systems

Time Allowed : 3 Hours

Max. Marks : 100

Teaching Hours : 60

Theory : 60

Practical : 20

Int. Ass. : 20

Note : Candidates are allowed to use the simple (non-scientific) calculator.

- i) In all 5 questions are to be attempted. First question consisting of 10 short answer type based upon the entire syllabus, (each carrying 2 marks) will be compulsory.
- ii) 4 questions of 10 marks each, 1 out of 2 from each of four units are to be attempted.

Unit - I

1. What is an Operating System - Evolution of OS.

Machine Language, Assembly, Compiler, Interpreter.

2. Types of Operating Systems with Examples.

- a) Single User Systems : MS DOS.
Memory Management with Reallocation Technique, Paging, Demand Paging Techniques).
- b) CPU Management (First Come First Served, Shortest job First, Round Robin Policy).
- c) File Management
- d) I/O Device Management
- e) Command Interpreter.
- f) Data Management

Unit - II

- g) Programme Development Tools.
- h) Time Sharing.
- i) Security
- j) Communication.

4. Brief History of MS -DOS.

5. Terminology for MS-DOS.

- a) File
- b) Types of File (Data, Programme)
- c) Wild Cards (*, ?).
- d) Directory (Root, Single, Multi, Current)
- e) Relative and Absolute Path.
- f) Booting a System (ROM BIOS, self test, Post, IO, SYS, MSBIOS. SYS Autoexec.bat, Config. Sys, Command. Com).

Unit - III

- a) Internal and External Commands with Syntax (Arguments & Parameters)**
 - b) Internal :** cls, date, time, md, cd, copy con, dir., type, ren, delete, rd, copy.
 - c) External :** chdisk, scandisk, mem, attrib, xcopy, diskcopy, diskcomp., backup, restore.
- 7. Features and Benefits of Unix.
 - 8. Unix System (multi-programming, time sharing, multi-tasking).
 - 9. Components of Unix (Kernel, Shell).
 - 10. Unix file system (data blocks, ilist, super block, boot block.)

Unit - IV

- 11. Types of files (Ordinary, directory and Special Files.)
- 12. Types of users in Unix-levels of users (0-2)
- 13. Login and Logout from Unix Session.
- 14. Types of Shells (Bourne, c-shell, r-shell).
- 15. Shell as a Command Interpreter - Functions
- 16. Simple Directory and File Commands - cat, ls, ln, chmod, mail, who, whoami, cal, pwd, date, ps, mkdir, rm, tput, clear.
- 17. Piping, filters, batch processing, shell programming (echo, read, case constructs).
- 18. Editors (vi) : Commands for opening, inserting, modifying, deleting and saving a file.