

COMMON CURRICULA

B. Tech. 1st Year

B. Tech. 1st Semester

S. No.	Course Code	Subject	L-T-P	Credits
1	HUL1101	Communicative English	3-0-0	6
2	MAL1101	Mathematics-I	3-1-0	8
3	PHL1101	Physics	3-0-0	6
4	MEL1101	Engineering Mechanics	3-0-0	6
5	CSL1101	Computer Programming	3-0-0	6
6	PHP1101	Physics Practical	0-0-0	2
7	MEP1101	Engineering Mechanics Practical	0-0-2	2
8	CSP1101	Computer Programming Practical	0-0-2	2
		Total		38

B. Tech. 2nd Semester

S. No.	Course Code	Subject	L-T-P	Credits
1	HUL1202	Social Science	2-0-0	4
2	MAL1202	Mathematics-II	3-1-0	8
3	CHL1201	Chemistry	3-0-0	6
4	EEL1201	Basic Electrical Engineering	3-0-0	6
5	MEL1202	Engineering Drawing	4-0-0	8
6	EEP1201	Basic Electrical Engineering Practical	0-0-2	2
7	CHP1201	Chemistry Practical	0-0-2	2
8	MEP1203	Workshop	0-0-2	4
		Total		40

NIT Mizoram
Department of Physics

Paper : Physics
Code : PHL 1101

(L-T-P: 3-0-0) **Credit-6**

Wave and Oscillations: Overview of vibrations with emphasis on damped and forced oscillations, Resonance, Coupled oscillations, Simple Harmonic Motion. **(05 hrs)**

Optics: Interference- Conditions for interference, types, Methods for producing Interference pattern of light, Fresnel's bi-prism, Newton's ring.

Diffraction- Types of Diffraction, Diffraction by a single slit, double slit, diffraction by a N parallel slit: Diffraction grating.

Polarization- Types of polarized light, Brewster's law, Nicol prism. **(10hrs)**

Wave Mechanics: Planck's theory of black body radiation, Photoelectric effect, Compton effect, Wave particle duality, de-Broglie matter waves, Davisson and Germer's experiment, Physical interpretation of wave function, Schrodinger's wave equation and its application particle in a box. **(10 hrs)**

Solid State Physics: Free electron theory, Band theory of solids- Classification of materials based on band theory of solid, Semiconductor, Fermi level in an intrinsic and extrinsic semiconductor, Hall effect. **(06 hrs)**

Lasers and Fibre optics: Lasers, Einstein's A and B coefficients, Population inversion, Optical pumping, Optical Resonators, Characteristics of lasers, Ruby laser, He-Ne laser, Semiconductor laser, Introduction to fibre optics, Construction, types, Principle of wave propagation, Numerical aperture, Fibre losses, Applications of optical fibre. **(10hrs)**

Text books:

1. Concept of Modern Physics; Arthur Beiser: Tata Mc Graw Hills, 6th edition, 2009.
2. Applied Physics for Engineers; Neeraj Mehta: PHI Publication, 1st edition, 2011.
3. Fundamental of Physics Extended Volume; Resnick Halliday and Walker: John Wiley & Sons , 8th Asian Edition, 2008.

Reference books:

1. Quantum Mechanics; L. I. Schiff: TataMc Graw Hills, 3rd edition, 2010.
2. Optics; Ajoy Ghatak: Tata McGraw Hills, 4th edition, 2009.

NIT Mizoram
Department of Physics

Paper : Physics Laboratory
Code : PHP 1101

(L-T-P: 0-0-2) Credit-2

Minimum eight experiments are required to be performed in a semester:

List of the Experiments:

1. Hall Effect experiment.
2. CRO experiment.
3. Semiconductor diode characteristics.
4. Characteristics of a solar cell.
5. To determine the bandgap in a semiconductor using reverse biased p-n junction diode.
6. To determine e/m for an electron by Thomson's method.
7. He-Ne Laser experiment.
8. Diffraction grating experiment by using semiconductor diode laser.
9. Newton's Ring experiment.
10. Dispersion of prism experiment by using spectrometer.
11. To determine the wavelength of sodium light by using plane transmission grating.
12. Fresnel's biprism experiment.

Note: Department may add or delete any experiment subject to availability.

NATIONAL INSTITUTE OF TECHNOLOGY–MIZORAM
DEPARTMENT OF MECHANICAL ENGINEERING
1st Semester B.Tech

MEL-1101 ENGINEERING MECHANICS

L-T-P: 3-1-0

Credits: 6

PART-I: STATICS

1. Review of Basic Concepts of Mechanics- Statics:

Introduction to mechanics; Basic concepts – mass, space, time and force; Particles and rigid bodies; Scalars and vectors; Free, sliding, fixed and unit vectors; Addition, subtraction and multiplication of two vector; Definition of a force; Classification of forces; Principle of transmissibility.

Introduction to different force systems; Composition of forces – triangle, parallelogram and polygon law of forces, and addition of two parallel forces; Resolution of forces; Moment of a force, Varignon's theorem; Couple of forces; Force-couple system; Resultant of a force system.

Lectures 06

2. Two and three-dimensional force systems: Force, moment, couple system, Resultant with engineering application.

Lectures 04

3. Equilibrium condition for a force system: Free body diagram, different type of support reaction with engineering application.

Lectures 04

4. Concentrated and distributed loading on a beam: Shear force and bending moment diagrams.

Lectures 02

5. Structures: Plane trusses, Method of joints, Method of sections, Frames and Machines.

Lectures 06

6. Dry friction-Review of law of friction: Laws of dry friction; Co-efficient of friction; Angle and cone of friction; Angle of repose; Applications of friction—wedges, screw-jacks, bearing, pulleys.

Lectures 03

7. Virtual work: Work done by forces and couples; Virtual displacement and virtual work; Principle of virtual work for equilibrium bodies; Active force diagram; Degree of freedom.

Lectures 04

PART-II DYNAMICS

1. Review of Basic Concepts of Mechanics- Dynamics: Introduction, Basic concepts-Effect of altitude, effect of a rotating earth, apparent weight.

Lectures 02

2. Kinematics of Particles: Differential equations of kinematics – plane, rectilinear and curvilinear motions; Cartesian co-ordinate system; Normal and tangent co-ordinate system, projectile motion. **Lectures 03**

3. Kinetics of Particles: Newton's second law of motion; Work and energy principle in engineering application– gravitational potential energy, elastic potential energy, kinetic energy, power, efficiency; Principle of impulse and momentum; Impact motion- direct central impact. **Lectures 04**

4. Dynamics of Rigid Bodies: Kinematics of rotation; Kinetics of rotation- equation of motion, principle of work and energy; Principle of impulse and momentum. Plane Motion of Rigid Bodies Translation of a rigid body in a plane; Kinematics of plane motion; Instantaneous centre of rotation; Kinetics of plane motion – equation of motion, principle of work and energy; Principle of impulse and momentum, Gyroscopic motion. **Lectures 04**

Total Lectures: 42 Hrs

MEP-1101 ENGINEERING MECHANICS LABORATORY

L-T-P: 0-0-2

Credits: 2

- Determination of centre of gravity (C.G)
- Verification of Lami's Theorem
- Proving the law of polygon of Forces
- Analysis of shear leg structure
- Determination of coefficient of static friction.
- Use of programming language for solving static type problem
- Use of programming language for solving dynamic type problem

Text Books:

1. Engineering Mechanics - K. L. Kumar
2. Engineering Mechanics Statics - J.L.Meriam & L.G.Kraige
3. Engineering Mechanics Dynamics - J.L.Meriam & L.G.Kraige
4. Engineering Mechanics - S.Timoshenko and D.H.Young

Reference Books:

1. Vector Mechanics for Engineers Statics - F. P. Beer & E. R. Johnston
2. Vector Mechanics for Engineers Dynamics - F. P. Beer & E. R. Johnston
3. Engineering Mechanics Statics - R.C. Hibbeler

NATIONAL INSTITUTE OF TECHNOLOGY–MIZORAM
DEPARTMENT OF MECHANICAL ENGINEERING
1st Semester B.Tech

MEP-1202 MECHANICAL WORKSHOP

L-T-P: 0-0-2

Credits: 2

1. General safety precautions in workshop and introduction. **Lectures 01**

2. **Carpentry Shop: -** **Lectures 08**

Safety precaution, Kinds of wood and timber, Application of timber as per their classification, Carpentry hand tools and machines, Demonstration of wood working machine like, band saw, circular saw, thickness planner, wood working lathe, surface planners etc.

Exercise: Different types of carpentry joint.

3. **Welding Shop: -** **Lectures 06**

Introduction study and use of welding tools and devices. Study of electric arc welding/gas welding machine job making (i) Lap Joint (ii) Other joints

Exercise: A simple job on gas/arc welding.

4. **Fitting Shop: -** **Lectures 06**

Safety precaution, Introduction to fitting shop tools, equipment, Operation and their uses, Marking and measuring practice.

Exercise: A simple job using fitting tools and equipment.

5. **Turning and Machine Shop: -** **Lectures 06**

Safety precautions, Demonstration and working principles of some of the general machines, like lathe, shaper, milling, drilling, grinding, slotting etc. General idea of cutting tools of the machines.

Exercise: A simple job on lathe/ shaper.

6. **Sheet Metal Shop: -** **Lectures 05**

Introduction, study and use of various tools, soldering and brazing job making- conical funnel.

Text Book:

1. Workshop Technology - Hazra Chaudhary
2. Workshop Technology - Raghubansi
3. Manual on Workshop Practice - Kannaiah
4. Workshop manual -Kannaiah

NATIONAL INSTITUTE OF TECHNOLOGY–MIZORAM
DEPARTMENT OF MECHANICAL ENGINEERING
2st Semester B.Tech

MEL-1202 ENGINEERING DRAWING

L-T-P: 2-0-4

Credits: 8

1. Introduction

(lecture-2)

- Introduction to engineering drawing
- General instruction
- Lines
- Lettering
- Dimensioning and freehand sketch.

2. Geometrical construction

(lecture-2)

- Bisecting a line, arc and angle
- Dividing straight line in to equal number of parts
- Tangents to lines and arcs
- Construction of pentagon, hexagon and octagon
- Inscribing circles inside regular polygons, etc.

3. Scale

(lecture-2)

- Plane and Diagonal

4. Conic Sections

(Lecture-4)

- Type of conic surface.
- Method of construction of ellipse.
- Method of construction of parabola
- Method of construction of hyperbola.

5. Engineering curve

(lecture-4)

- Cycloidal cycle
- Cycloid
- Epicycloid
- Involute

- Logarithmic Spiral
- 6. Projection of point** **(lecture-3)**
- Points in 1st, 2nd, 3rd and 4th quadrants.
- 7. Projection of straight line** **(lecture-4)**
- Line parallel to both the reference planes.
 - Line perpendicular to one reference plane and parallel to the other.
 - Line inclined to one reference plane and parallel to the other.
 - Line inclined to both the reference planes.
 - True length and inclination.
 - Traces of lines.
- 8. Projection of plane** **(lecture-6)**
- Plane perpendicular to both the reference planes.
 - Plane perpendicular to one reference plane and parallel to the other.
 - Plane inclined to one reference plane and perpendicular to the other.
 - Plane inclined to both the reference plane.
- 9. Projection of solids** **(lecture-6)**
- Axis of solid parallel to both the reference planes.
 - Axis of solid perpendicular to one reference plane and parallel to the other.
 - Axis of solid inclined to both the reference planes.
- 10. Sections of solids** **(lecture-5)**
- Section of solids with axis of the solids perpendicular to one reference plane and parallel to the other and the plane sectioning the solid is perpendicular to one reference plane and parallel to the other.
 - Section of solids (true and apparent shape of section) with axis of the solids inclined to one reference plane and perpendicular to the other and the plane sectioning the solid is perpendicular to one reference plane and parallel to the other.
 - Section of solids (true and apparent shape of section) with axis of the solids inclined to one reference plane and perpendicular to the other and the plane sectioning the solid is inclined to one reference plane and perpendicular to the other.
- 11. Development of surface** **(lecture-3)**
- The principle of development of surfaces.
 - Methods for drawing the development of surfaces.
- 12. Orthographic projection** **(lecture-5)**
- Orthographic projection of different types of simple objects.
 - Sectional view of different types of simple objects
- 13. Isometric projection** **(lecture-3)**

- Principle of isometric projection
- Isometric scale
- Produce for drawing isometric projection.
- Isometric projection and isometric view

14. Introduction to computer aided drawing

(lecture-2)

Total Lecture: 51 hrs

Text Book

- | | |
|-------------------------|-------------|
| 1. Engineering Drawing- | ND Bhatt |
| 1. Engineering Drawing- | A.G Agarwal |
| 2. Engineering Drawing- | R.B Gupta |

MATHS :-

FUNCTION (MAPPING)

1.Differential calculus

Function of simple variable ;limits,continuity and differentiability ,mean value theorem;rolle"s theorem,Lagrenge"s theorem, candey"s taylor"s theorem with remainder, indeterminate forms ,curvature, curve tracing.

2.INTEGRAL CALCULUS

fundamental theorem of intergal calculus.

Mean value theorems, evaluation of definite integrals. Application in area length ,volume and surface

of solids of revolation .Improper integrals, beta and gamma function,differentiation under integral signs.

N.I.T. Mizoram
Department of Chemistry

Subject: Chemistry
Code: CHL 1201

(L-T-P: 3-0-0)
Credit: 6

UNIT - I

Chemical Thermodynamics: Second law of thermodynamics, entropy and its physical significance, entropy change of ideal gases, free energy (Gibbs and Helmholtz), thermodynamic properties for reversible and irreversible processes, equilibrium constant from thermodynamic considerations, Maxwell's relationships, Gibbs-Helmholtz equation, Clapeyron-Clausius equation, concept of chemical potential with examples, Van't Hoff reaction isotherm, third law of thermodynamics and its applications.

Fundamentals of Instrumental analysis: UV-VIS, IR, NMR, Mass and Fluorescence spectrophotometry.

UNIT - II

Electrochemistry: Behavior of strong electrolytes with concentration, electrochemical cells, EMF and applications of EMF measurements, commercially important cells and corrosion (its chemistry and remedial methods).

Chemical Kinetics: General discussion on the reactions of different orders including their rate laws with examples, problems based on first and second order reactions, pseudo-unimolecular reactions, theories of reaction rates (collision and transition state theories), activation energy and catalytic reactions. Lasers in chemistry and its applications.

UNIT - III

Coordination Chemistry: Structure of coordination compounds corresponding to coordination no. up to 6, types of ligands, EAN, isomerisms, bonding in coordination compounds (VBT and MOT), Application of organometallic chemistry and coordination compounds in biology (Vitamin B12 and Hemoglobin).

Chemistry of materials: Preparation, properties and applications.

UNIT - IV

Organic Chemistry: Stereochemistry of carbon compounds, *E-Z* and *R-S* systems of nomenclature of organic molecules, conformation analysis for certain organic systems, pericyclic reactions, organic photochemistry, structures and functions of biologically important molecules (carbohydrates, amino acids, proteins and nucleic acids).

Polymers: Classification and structures of polymers, commercially important polymers: natural and synthetic rubber, biodegradable polymers and composite polymeric materials.

Text Books:

1. Engineering Chemistry by B. Sivasankar, Tata Mcgraw Hill
2. Engineering Chemistry by A. Mallick, Viva Books, 2008.
3. Organic Chemistry by J. Clayden, Nick Greeves, S. Warren, Oxford Press 2012.
4. Levine, *Physical Chemistry*, 5/e (7th reprint), Tata McGraw Hill, 2006.
5. Inorganic Chemistry, Principle, structure and reactivity, J.E. Huheey, E.A. Keitler, R.L. Keita, O.K. Medhi, Pearson Education, 4th Ed.
6. Chemistry, J.E. McMurry and R.C. Fay, 5th Ed., Pearson Education, 2008

Reference Books:

1. Shriver, Atkins and Langford, *Inorganic Chemistry*, 2/e, ELBS, 1994.
2. S.H. Pine, *Organic Chemistry*, 5/e (special Indian ed.), TMH, 2007.
3. Banwell and McCash, *Fundamentals of Molecular Spectroscopy*, 4/e, Tata Mc-Graw Hill, 1962.
4. Cotton, Wilkinson and Gaus, *Basic Inorganic Chemistry*, 3/e, John Wiley & Sons, Inc., 1996.
5. I. L. Finar, *A Textbook of Organic Chemistry*, 6/e, Vol. I & II, ELBS, 2006
6. Text Book of Polymer Science, F.W. Billmeyer, Wiley-India Publications

N.I.T. Mizoram
Department of Chemistry

Subject: Chemistry Laboratory
Code: CHP 1201

(L-T-P: 0-0-2)
Credit: 2

- Exp. No. 1: Determination of viscosity by Redwood viscometer.
Exp. No. 2: Determination of critical micelle concentration (cmc) of commercial soaps by surface tension/conductance method.
Exp. No. 3: Verification of Beer-Lambert's law and determination of concentration of unknown solution by spectrophotometer.
Exp. No. 4: To study the adsorption of acetic acid on activated charcoal.
Exp. No. 5: Determination of dissociation constant of weak acid using a pH meter.
Exp. No. 6: Determination of cloud point of polymers and the effect of additives.
Exp. No. 7: To determine the rate constant of acid catalyzed hydrolysis of methyl acetate conductometrically.
Exp. No. 8: To find the strength of unknown supplied acid by conductometric titration (strong acid vs. strong base).
Exp. No. 9: Estimation of hardness of water by complexometry.
Exp. No. 10: Synthesis and characterization of metal(acetylacetonate): Mn (III)/Fe (III).
Exp. No. 11: Estimation of Fe^{2+} by permanganometry.
Exp. No. 12: Preparation of drug molecule: Paracetamol/Aspirin.
Exp. No. 13: Isolation of natural products like Caffeine/Lactose.
Exp. No. 14: Preparation of nylon 6,6.
Exp. No. 15: Find out number of components in organic mixture and determination of R_f of each component using thin layer chromatography.
Exp. No. 16: Find out the m.p. of a binary mixture of organic compounds by varying the composition and determine the composition of the unknown mixture.

NOTE: Any ten experiments from the above shall be performed

Text/Reference Books:

1. Practicals in Physical Chemistry, P.S. Sindhu, Macmillian 2006.
2. Vogel's textbook of quantitative inorganic analysis, including elementary instrumental analysis, A.I. Vogel, 5th Edition, Addison-Wesley Longman, Incorporated, 1989.
3. Comprehensive Practical Organic Chemistry Preparation and quantitative Analysis, V.K. Ahluwalia, Renu Aggarwal, University Press India LTD, 2000.
4. J.R. Mohrig, T.C. Morrill, C.N. Hammond and D.C. Neckers, Experimental organic chemistry, W.H. Freeman and Co., 1998.
5. N.K. Vishnoi, Advanced Practical organic chemistry, Vikash publishing housing Pvt. LTD., 1996.
6. B.S. Furniss, A.J. Hannaford, P.W.G. Smith, and A.R. Tatchell, Vogel's textbooks of practical organic chemistry, 5th Ed., ELBS longman, 1994.

BASIC ENGLISH
HUMANITIES AND SOCIAL SCIENCES (HUL 1101)
1st Semester (All Branches)
NIT Mizoram

L-T-P:
2-0-2: 06

Language: Organs of Speech, Sounds, Pronunciation, Consonants, Long Vowels, Short Vowels, Syllable, Diphthongs.

Grammar: Tenses, Articles, Prepositions, Correction of Sentences, Degrees of Comparison, Kernel Sentences.

Vocabulary: Antonyms, Homonyms, Sentence building.

Comprehension: Reading and writing, Précis, Essay & Paragraph writing.

Communication Skills – Tips for Conversation, Reading, Developing Reading Skills, Objectives of Communication, Group Discussion, Soft Skills, Channels of Communication, Barriers of Communication, Business Correspondence, Applying for a job, Resume, Report writing, Letter Writing, Email & E Correspondence, Public Speaking.

Designing a Curriculum Vitae & Covering Letter.

Literature: Selected Readings

1. *English for Engineers and Technologists: A Skills Approach*. Book 1
by Rod Ellis
2. *Science Fiction: A Very Short Introduction* by David Seed
3. *Frankenstein* by Mary Shelley
4. *Journey to the Center of the Earth* by Jules Verne
5. *Never Let Me Go* by Kazuo Ishiguro
6. *The Handmaid's Tale* by Margaret Atwood
7. *The Time Machine* by H. G. Wells

Total number of lectures: 42 lectures

Name of the Course: MANAGERIAL ECONOMICS

Course Code: HUL 1301

Introduction to Economics: Definition, Economic Problems, Production Possibility Frontier, Microeconomics and Macroeconomics;

Demand: Definition, Law of Demand, Demand Function, Demand Curve, Change in Demand, Shift in Demand;

Supply: Law of Supply, Supply function, Supply Curve, Change in Supply, Shift in Supply, Market Equilibrium, Consumer and producer Surplus, Government intervention, Deadweight Loss;

Indifference Curve Analysis, Budget Line, Equilibrium of the Consumer, Substitution Effect, Income Effect;

Elasticity: Definition, Types of Elasticity, Methods for measuring Elasticity, Relationship between Price, Revenue and Elasticity; Pragmatic approach to Demand, Analysis of Demand pattern – demand forecasting;

Production: Production Function, Isoquant, Types of Isoquant, Isocost line, Returns to Scale, Law of Variable Proportions/ Diminishing Returns, Expansion path;

Introduction to Costs: Types of Costs – fixed, sunk, variable, Short-run and Long-run Costs, Opportunity cost, Total revenue, average revenue, marginal revenue, Break-even analysis, Economies of Scale and Scope, Engineering cost curves;

Introduction to Market: Market Structure, Perfect Competition: Short-run and Long-run Equilibrium, Monopoly: Short-run and Long-run Equilibrium, Price Discrimination, Monopolistic Competition: Short-run and Long-run Equilibrium;

Managerial Theories of Firm: Baumol, Marris and O Williamson

Text:

1. Robert S. Pindyck, D Rubinfeld & P. L. Mehta, *Microeconomics*, 2009 edition, Prentice Hall.
2. A. Koutsoyiannis, *Modern Microeconomics*, 2nd edition, Macmillan.
3. Varian, Hal, *Intermediate Microeconomics: A Modern Approach*, Fifth Edition, New York: Norton.

References:

1. Samuelson, Paul A and William D Nordhaus, *Economics*, 19th Edition, 2010, Indian Adaptation by Sudip Chaudhuri and Anindya Sen, Tata McGraw Hill.
2. Lipsey and Chrystal, *Economics*, 11th Edition, 2008, Oxford University Press, New Delhi.
3. Salvatore, Dominick, *Principles of Microeconomics*, 5th Edition, 2009, Oxford International Student Edition.

DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

Name of the Course: MACROECONOMICS & BUSINEES ENVIRONMENT

Course Code: HUL 1601

The meaning of Macroeconomics, Objectives of Macroeconomic Policy and Instruments, Importance of Macroeconomics, Circular Flow of Income;

Concepts of National income, Methods of Measuring GDP, Real GDP Vs Nominal GDP, Difficulties and Importance of Measuring National Income;

Classical theory of Output and Employment: Say's Law, Keynesian theory of Output and Employment: Consumption Function, Saving Function, Investment Function, Multiplier, Accelerator, Business Cycle;

Aggregate Demand and Aggregate Supply, Shift in AD and AS: 2-sector, 3-sector and 4-sector model;

Functions of Money, Demand for and Supply of Money, Determination of Interest rate, Hicks-Hansen Analysis: IS-LM model;

Unemployment: Definition, Types, Measures of Unemployment, Okun's Law;

Inflation: Definition, Measures of Inflation, Types of Inflation, Effects of Inflation;

Monetary and Fiscal Policy;

Open economy framework: Basics of Exchange rate, IS-LM in open economy, Balance of Trade Vs Balance of Payments, International Trade theories – Comparative Advantage and H-O theorem

Text:

1. Dornbusch, Rudiger, Stanley Fischer and Richard Startz, *Macroeconomics*, 9th ed., Tata McGraw Hill.
2. Bernanke, Ben S, Andrew B Abel and Dean Croushore, *Macroeconomics*, Pearson.

References:

1. Samuelson, Paul A and William D Nordhaus, *Economics*, 19th Edition, 2010, Indian Adaptation by Sudip Chaudhuri and Anindya Sen, Tata McGraw Hill.
2. Krugman, Paul R, *International Economics*, Pearson.
3. Froyen, Richard T, *Macroeconomics: Theory and Policy*, Pearson.

DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

Name of the Course: GLOBALIZATION, INTERNATIONAL FINANCE AND
MONETARY SYSTEM AND INDIAN ECONOMY

Course Code: HUL 1801

Globalisation: Introduction, Meaning and Nature, Globalization and Technology Intermediation, Development of Competitive capabilities: Role of Technology and Skills, FDI and Technology Transfer;

Exchange rate as an instrument of adjustment, Basic exchange rate concepts: spot, forward, real, nominal, fixed, flexible, etc. Models of exchange rate determination, current account and capital account models;

A historic perspective of International Monetary systems of the post-world war era, Bretton Woods system and the Managed Floating regime, Relative roles of gold; Provision of short run and long run (development) finance by international agencies, Role of International Monetary Fund (IMF), and World Bank and DFIs in providing financial assistance to LDCs;

Growth perspective of the Indian Economy since Independence, Crisis of Indian economy in 1990s and initiation of economic reforms; Monetary and fiscal policies, Industrial policy, Foreign trade and exchange rate policies, Price and wage policies, Financial reforms since 1991;

A critique of Indian planning and policies in the light of select macroeconomic indicators such as: Growth rate(s), Inflation rate(s), Unemployment levels, Incidence of poverty and External payments position

Text:

1. P. Hallwood, and R. MacDonald, *International Money: Theory, Evidence and Institutions*, Basil Blackwell, 1986
2. F.L. Rivera-Batiz and L. Rivera-Batiz, *International Finance and Open Economy Macroeconomics*, Macmillan Pub. Co., 1985.
3. Joshi, V., & Little, I.M.D., *India: Macroeconomics and Political Economy*, 1964-1991, Oxford University Press, Delhi, 1994.

Reference:

1. P. Stoneman, *The Economic Analysis of Technological Change*, Oxford University Press, 1983
2. Isher Judge Ahluwalia and I.M.D. Little (eds.), *India's Economic Reforms and Development*, Oxford University Press, Delhi, 1998.
3. Jeffrey D. Sachs, A. Varshney, and N. Bajpai (eds.), *India in the Era of Economic Reforms*, Oxford University Press, Delhi, 1999.
4. Chakravarty, S., *Development Planning: The Indian Experience*, Oxford, 1987.
5. Lucas, R.E.B., and Papanek, G.F. (eds.), *The Indian Economy: Recent Developments and Future Prospects*, Oxford University Press, Delhi, 1988.
6. M. Levi, *International Finance*, 2nd Edition, Tata McGraw-Hill, 1990.