



**PUNYASHLOK AHILADEVI HOLKAR
SOLAPUR UNIVERSITY, SOLAPUR**

FACULTY OF ENGINEERING & TECHNOLOGY

Syllabus for

**T.Y. B. Tech. Semester I Self Learning Module I – SLH31
Humanities and Social Sciences**

**Common for All Under Graduate Engineering Programs
w.e.f. Academic Year 2020-21**

Choice Based Credit System

V0.1

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T.Y. B. Tech. Sem. I

Self Learning Module I (HSS)

SLH31.1 ECONOMICS

Teaching Scheme

Examination Scheme

Credits :- 2 Credits

ESE: 50 Marks

• **Course Objectives:**

1. To explain to students various theories of economics such as demand supply, production and cost
2. To acquaint students with fundamentals of microeconomics
3. To introduce to students concept of inflation with their causes, consequence and remedies
4. To acquaint students with basics of international trade, foreign exchange

• **Course Outcomes:**

Upon completion of this course, student will be able to -

1. Identify the basic economic problems, resource constraints
2. Apply various theories of economics for explaining economic growth
3. Identify causes of inflation, consequence and can explain remedies
4. To assess the impact of international trade and foreign exchange on Indian economy

Unit 1: Introduction

History of Economic thought, Basic Economic problems, Resource Constraints and Welfare maximization,

Nature of Economics: Positive and Normative Economics, Micro and Macro Economics, Basic concepts in Economics, The role of State in economic activity, Market and Government failures, New economic Policy in India.

Unit 2: Theories of Economics

Theory of utility and consumer's choice, Theories of Demand, supply and market equilibrium, Theories of firm, production and costs, Market structures, Perfect and imperfect competitions, oligopoly, monopoly.

Unit 3: Macroeconomics

An overview of Macroeconomics, measurement and determination of national income, Consumption, saving and investment

Unit 4: Banking & Inflation.

Commercial and Central Banking, Relationship between money, output and prices, Inflation causes, consequences and remedies

Unit 5: International Influences on Economics

International Trade, foreign exchange and balance payments, stabilization policies, Monetary, Fiscal and exchange rate policies

• Text Books

1. Economics: P.A. Samuelson & W.D Nordhaus, McGraw Hill, New York, 1995
2. Modern Microeconomics : A. Koutsoyiannis, Macmillan,1975

• Reference Books

1. Microeconomics: R. Pindyck and D.L. Rubinfeld, Macmillan New York, 1989
 2. Microeconomics: Gordon, 4th edition, Little Brown & Co., Boston,1987
 3. The Organization of Industry: William F. Shughart II, Richard D. Irwin, Illinois, 1990
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T.Y. B. Tech. Sem. I

Self Learning Module I (HSS)

**SLH31.2 INTELLECTUAL PROPERTY RIGHTS FOR
TECHNOLOGY DEVELOPMENT AND MANAGEMENT**

Teaching Scheme
Credits :- 2 Credits

Examination Scheme
ESE: 50 Marks

• **Course Objectives :**

1. To introduce to student the legal and ethical importance of intellectual property rights associated with research and intellectual works
2. To make student understand the overview of the process of acquiring the patents and copyrights for the innovative works.
3. To make student aware of Indian IPR system and role of WTO in protecting Intellectual Property Rights
4. To make student aware about the plagiarism in the thesis, research papers etc.

• **Course Outcomes:**

Upon completion of this course, student will be able to -

1. Explain importance of the intellectual property rights associated with research and intellectual works
2. Explain the overview of process of acquiring the patents and copyrights for the innovative works.
3. Elaborate the role of Indian IPR system and role of WTO in protecting Intellectual Property Rights
4. Explain how to avoid the plagiarism in the thesis, research papers etc.

Unit 1: Introduction to IPR

Dynamics of Knowledge evolution, creation of ownership domains in the knowledge space using various instruments of IPR

Unit 2: IPR for Engineers and Managers

Outlines concepts of confidentiality and information security, explores their role in technology development and transfer integrating Intellectual Property in project planning, execution & commercialization,

Unit 3: IPR and R&D

Discussion on the shifting paradigms of R&D and their linkage to IPR, Introduction to concepts of Valuation of IP & Value Realization,

Unit 4: IPR for India

Comparison the Indian IPR system with international IPR frameworks especially in the context of WTO, followed by a few sessions on IPR litigations both for the enforcement of rights and business strategy

Unit 5: IPR and Contemporary Issues

Discussion on contentious issues of current interest such as Biotechnology and Intellectual Property, Protection of Traditional Knowledge, IPR and Electronic Commerce, TRIPS and Access to Medicines, Copyright issues in creative works, etc

• Text Books

1. Prabuddha Ganguli: Intellectual Property Rights Unleashing the Knowledge Economy. Tata McGraw Hill, New Delhi, 2001
2. Prabuddha Ganguli: Gearing Up for Patents The Indian Scenario. Universities Press India Ltd., Hyderabad, 1998
3. P. Narayan: Patent Law. Eastern Law Co., Calcutta

• Reference Books

1. Global Dimensions of Intellectual Property Rights in Science and Technology, Author: National Research Council , National Academies Press, 1993.
2. Technology Transfer: Intellectual Property Rights, C Sri Krishna, ICFAI University press (2008)

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T.Y. B. Tech. Sem. I

Self Learning Module I (HSS)

SLH31.3 INTRODUCTION TO SOCIOLOGY

Teaching Scheme

Examination Scheme

Credits :- 2 Credits

ESE: 50 Marks

• **Course Objectives :**

1. To introduce to student various social phenomena
2. To make student aware of effect of urbanization on society
3. To instill social intuition for better society among student
4. To make student conscious about impact of modernization on society

• **Course Outcomes:**

Upon completion of this course, student will be able to-

1. Interpret the effect of various social phenomena on sociology
2. Elaborate the role of urbanization on the society
3. Evaluate the need of social intuition for better society
4. Evaluate the role of modernization, industrialization, environmental/ecological changes in the development of society.

Unit 1: Introduction to Sociology

What is sociology, some sociological concepts: social structure, status, role, norms, values etc., Socialization, and culture and change

Social stratification - various approaches and concept of social mobility

Unit 2: Population and Sociology

Population and society - Trends of demographic change in India and the world, Human Ecology, Trends of Urbanization in the developing countries and the world.

Unit 3: Social Institutions

Major social institutions - Family and marriage, caste and tribe and organizations:

- i. Formal organization (bureaucracy)
- ii. Informal Organization

Unit 4: Social Changes

Processes of social change- Modernization (including Sanskritization), industrialization, environmental/ecological changes and development

Unit 5: Social Movements

Social movements - protest movements, reformist movement and radical movements in India

• Text Books:

1. Sociology, L. Broom, P. Selznick and D. Dorrock, 11th Edn. 1990 (Harper International).
2. Sociology: Themes and Perspectives, M. Haralambos, Oxford University Press, 1980.
3. General Introduction to Sociology, Guy Rocher, A, MacMillan, 1982.

• Reference Books:

1. Social movements in India, vols. 1-2, 1984, M.S.A. Rao, Manohar Publications.
 2. Society in India, David Mandelbaum, 1990, Popular Publications.
 3. Social change in modern India, M.N. Srinivas, 1991, Orient Longman Publications.
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T.Y. B. Tech. Sem. I

Self Learning Module I (HSS)

SLH31.4 STRESS AND COPING

Teaching Scheme

Credits :- 2 Credits

Examination Scheme

ESE: 50 Marks

• **Course Objectives**

1. To make student aware about nature of stress and its various sources
2. To make student attentive to effect of various stress
3. To introduce to student about various means to cope up with stress
4. To introduce to students basic stress management techniques

• **Course Outcomes:**

Upon completion of this course, student will be able to -

1. Explain nature of stress and identify various sources of stress
2. Elaborate the effects of medical, psychological and behavioral stress
3. Explain how social support can mitigate the stress.
4. Explain various stress management techniques

Unit 1: Introduction to Stress

Concept of stress-current and historical status, the nature of the stress response

Unit 2: Sources of Stress

Common sources of stress biological, personality and environmental

Unit 3: Coping with Stress

Coping styles defensive behaviors and problem-solving. Consequences of stress - medical, psychological and behavioral

Unit 4: Social Support

The role of social support in mitigating stress

Unit 5: Introduction to Stress Management

Stress management techniques-relaxation, meditation, cognitive restructuring, self-control, bio-feedback and time management, Preparing stress profile of a student

- Text Books:

1. Walt, S. "Stress Management for Wellness". Harcourt Brace & Jovanovich, N.York, 1994.
 2. D. Girdano and G. Everly., "Controlling Stress and Tension", Prentice-Hall, 1986.
 3. Monat and R. Lazarus, "Stress and Coping: An Anthology", Columbia Univ. Press, 1985.
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- Reference Books:

1. Weisman, "The Coping Capacity", Human Services Press, 1984.
 2. Stress and Coping: The Indian Experience, D.M. Pestonjee, SAGE India; Second edition, 1998
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T.Y. B. Tech. Sem. I

Self Learning Module I (HSS)

SLH31.5 PROFESSIONAL ETHICS & HUMAN VALUES

Teaching Scheme

Examination Scheme

Credits :- 2 Credits

ESE: 50 Marks

• **Course Objectives:**

1. To emphasize importance of human values among student
2. To introduce to student engineering ethics for professional practice
3. To make student aware about safety, responsibility and professional rights in professional practice
4. To make student attentive to code of ethics of global professional organizations such as ASME, ASCE, and IEEE

• **Course Outcomes:**

Upon completion of this course, student will be able to-

1. Explain importance of human values in modern society
2. Explain how to integrate engineering ethics in their professional practice
3. Explain about safety measures, responsibility and professional rights in professional practice
4. Explain the code of ethics of Global organizations such as ASME, ASCE, and IEEE

Unit 1: Human Values

Morals, Values and Ethics, Integrity, Work Ethics, Service Learning, Civic Virtue, Respect for others, Living Peacefully, Caring, sharing, Honesty, Courage, Valuing Time, Cooperation, Commitment, Empathy, Self-Confidence, Character, spirituality

Unit 2: Engineering Ethics

Senses of engineering ethics, Variety of Moral Issues, Types of inquiry, Moral Dilemmas Moral Autonomy, Kohlberg's Theory, Gilligan's Theory, Consensus and Controversy, Models of Professional Roles, Theories about Right Action, Self Interest, Customs and Religion.

Unit 3: Safety, Responsibilities and Rights

Safety and Risk, Assessment of safety and Risk, Risk Benefit Analysis and Reducing Risk, The Three Mile Island and Chernobyl Case Studies.

Collegiality and Loyalty, Respect for Authority, Collective Bargaining, Confidentiality, Conflicts of Interest, Occupational Crime, Whistle Blowing, Professional Rights – Employee Rights, Intellectual Property Rights (IPR) – Discrimination

Unit 4: Global Issues

Multinational Corporations, Environmental Ethics, Computer Ethics, Weapons Development, Engineers as Managers, Consulting Engineers, Engineers as Expert Witnesses and Advisors, Sample Code of Ethics of ASME, ASCE, IEEE, Institution of Engineers (India), etc.

• Text Books:

1. Bayles, M.D.: Professional Ethics, California: Wadsworth Publishing Company, 1981.
2. Koehn, D.: The Ground of Professional Ethics, Routledge, 1995.
3. R.S. Naagarazan, A Text Book of Professional Ethics & Human Values, New Age International, 2006

• Reference Books:

1. Camenisch, P.F.: Grounding Professional Ethics in a Pluralistic Society, N.Y.: Haven Publications, 1983.
2. Wuest, D.E.: Professional Ethics and Social Responsibility, Rowman & Littlefield, 1994

