PROFESSIONAL ETHICS AND HUMAN VALUES

Lectures : 3 Periods/Week Semester End Exam. : 3 Hours

Sessional marks : 40 Semester End Exam. marks : 60 Credits : 3

Course Objectives:

- Creating awareness to deal their own inner nature for staying peacefully, utilizing energies in balanced manner, dealing activities in ethical manner and giving respect to their neighbours for making peaceful, prosperous and happier surroundings.
- Giving subject information such a way that students can be able to discriminate what is moral and what is immoral in engineering aspects. Through that students can be able to perform their knowledge time and energies for well being of people.
- Giving information regarding safety and risk and their consequences in industry and day to day life.
- Creating awareness regarding environmental loss, standards and codes fixed by professionals for smooth running of industries and meeting national and international interests.

Course outcomes:

At the end of the course students will be able to

- Understand how to prospective engineer should behave in his field, society etc.
- Differentiate how an engineer should live in moral and immoral in his/her profession.
- Deal product design processes and services by incorporating safety/risk aspects.
- Know regarding various aspects of environmental standard codes.

UNIT – I

Human Values

Morals, Values And Ethics – Integrity – Work Ethics – Service Learning – Civic Virtue-Respect For Others – Living Peacefully – Caring – Sharing – Honesty – Courage – Valuing Time – Co-Operation – Commitment – Empathy – Self-Confidence – Character - Spirituality.

$\mathbf{UNIT}-\mathbf{II}$

Engineering Ethics

Senses Of Engineering Ethics – Variety Of Moral Issued – Types Of Inquiry – Moral Dilemmas – Moral Autonomy – Kohlberg's Theory – Gillian's Theory – Consensus And Controversy – Professions And Professionalism- Professional Ideals And Virtues - Theories About Right Action – Self-Interest – Customs And Religion – Uses Of Ethical Theories.

UNIT – III

Engineering As Social Experimentation

Engineering As Experimentation – Engineers As Responsible Experimenters – Codes Of Ethics – Balanced Outlook On Law .

Safety, Responsibilities And Rights

Safety And Risk – Assessment Of Safety And Risk – Risk Benefit Analysis And Reducing Risk. Collegiality And Loyalty – Respect For Authority – Collective Bargaining – Confidentiality – Conflicts Of Interest – Occupational Crime – Professional Rights – Employee Rights – Intellectual Property Rights (IPR) – Discrimination.

UNIT – IV

Global Issues

Multinational Corporations - Environmental Ethics - Computer Ethics - Weapons Development

– Engineers As Managers – Consulting Engineers – Engineers As Expert Witnesses And Advisors – Moral Leadership Sample Code Of Ethics Like ASME, ASCE, IEEE, Institution Of Engineers (India), Indian Institute Of Materials Management, Institution Of Electronics And Telecommunication Engineers (IETE), India Etc.,

NOTE

Two questions of 12 marks each will be given from each unit out of which one is to be answered. Twelve questions of one mark each will be given from entire syllabus which is a compulsory question.

TEXT BOOK

- 1. Mike martin and Ronald Schinzinger, "Ethics in Engineering" McGraw-Hill, New York 1996
- 2. Govindarajan M, Natarajan S, Senthil Kumar V.S., "Engineering Ethics", PHI, New Delhi, 2004

REFERENCE BOOKS

- 1. Charles D,Fleddermann, "Engineering Ethics", Pearson / PHI, New Jersey 2004 (Indian Reprint)
- 2. Charles E Harris, Michael S.Protchard and Michael J Rabins, "Engineering Ethics Concepts and Cases" Wadsworth Thompson Learning, United States, 2000 (Indian Reprint now available)
- 3. John R Boatright, "Ethics and the conduct of business" Pearson, New Delhi, 2003.
- 4. Edmund G.Seebauer and Robert L Barry, "Fundamentals of Ethics for Scientists and Engineers" Oxford University Press, Oxford, 2001.