

AMCT20 ENGINEERING ETHICS AND HUMAN VALUES

UNIT-1 HUMAN VALUES

- 1.1 Morals, values and Ethics
- 1.2 Integrity- Work ethic- Service learning-
- 1.3 Civic virtue- Respect for others- Living peacefully
- 1.4 Caring- Sharing- Honesty- Courage- Valuing time
- 1.5 Cooperation- Commitment- Empathy
- 1.6 Self-confidence- Character- Spirituality.

UNIT-2 ENGINEERING ETHICS

- 2.1 Senses of 'Engineering Ethics'
- 2.2 Variety of moral issues- Types of inquiry- Moral dilemmas
- 2.3 Moral Autonomy- Kohlberg's theory- Gilligan's theory- Consensus and Controversy
- 2.4 Models of professional roles- Theories about right action
- 2.5 Self-interest- Customs and Religion- Uses of Ethical Theories

UNIT-3 ENGINEERING AS SOCIAL EXPERIMENTATION

- 3.1 Engineering as Experimentation-
- 3.2 Engineers as responsible Experimenters- Codes of Ethics
- 3.3 A Balanced Outlook on Law- The Challenger Case Study

UNIT-4 SAFETY, RESPONSIBILITIES AND RIGHTS

- 4.1 Safety and Risk- Assessment of Safety and Risk
- 4.2 Risk Benefit Analysis and Reducing Risk
- 4.3 The Three Mile Island and Chernobyl Case Studies
- 4.4 Collegiality and Loyalty
- 4.5 Respect for Authority- Collective Bargaining-
- 4.6 Confidentiality- Conflicts of Interest- Occupational Crime
- 4.7 Professional Rights- Employee Rights
- 4.8 Intellectual Property Rights (IPR)- Discrimination

UNIT-5 GLOBAL ISSUES

- 5.1 Multinational Corporations
- 5.2 Environmental Ethics- Computer Ethics
- 5.3 Weapons Development- Engineers as Managers- Consulting Engineers
- 5.4 Engineers as Expert Witnesses and Advisors- Moral Leadership- Sample Code of Conduct

References Books:

1. Charles B. Fleddermann, "Engineering Ethics", Pearson Prentice Hall, New Jersey, 2004.
2. Charles E. Harris, Michael S. Pritchard and Michael J. Rabins, "Engineering Ethics- Concepts and Cases", Thompson Wadsworth, A Division of Thomson Learning Inc., US, 2000
3. John R Boatright, "Ethics and the Conduct of Business", Pearson Education, New Delhi, 2003