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Question Paper Code : 52643

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2016

Eighth Semester

Mechanical Engineering

**GE 2025/GE 606/10177 GE 005 – PROFESSIONAL ETHICS IN
ENGINEERING/PROFESSIONAL ETHICS AND HUMAN VALUES**

**(Common to Biomedical Engineering, Computer Science and Engineering, Electronics and
Instrumentation Engineering, Instrumentation and Control Engineering, Marine
Engineering, Production Engineering, Geoinformatics Engineering, Industrial
Engineering, Industrial Engineering and Management, Information Technology and
Petroleum Engineering)**

(Regulations 2008/2010)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A (10 × 2 = 20 Marks)

1. Define Engineering ethics.
2. State the uses of ethical theories.
3. What is the need to view engineering projects as experiments ?
4. Define Research Ethics.
5. What are the factors for safety and risk ?
6. State the advantages of risk benefit analysis.

7. What is meant by Collective Bargaining ?
8. Classify Intellectual Property Rights.
9. What are the issues in Weapons Development ?
10. State the various roles of engineers ?

PART – B (5 × 16 = 80 Marks)

11. (a) (i) Briefly explain the three main levels of moral development developed by Laurence Kohlberg. (12)
- (ii) Discuss the three types of Inquiry. (4)

OR

- (b) Explain the following :
 - (i) Moral autonomy (4)
 - (ii) Consensus and controversy (4)
 - (iii) Professions and Professionalism (4)
 - (iv) Professional ideas and virtues (4)
12. (a) What are the four features of engineers as 'Responsible Experimenters' ? How do the functions of standards, regulations and laws differ from one another in their effects on engineering products and practice ? (16)

OR

- (b) Briefly discuss the Space Shuttle Challenger accident. What are the ethical problems involved in this ? (16)

13. (a) State the necessity of risk benefit analysis. Give some examples of laws with respect to safety and liability in favour of buyer and producer. (16)

OR

- (b) Discuss the reasons for Chernobyl disaster. What are the safety precautions and measures to be taken in the plant design of Nuclear power industry on public interest ? (16)

14. (a) Discuss the human rights, professional rights and employee rights in the engineering field. (16)

OR

- (b) (i) Explain about Collegiality and Loyalty. (6)
(ii) What are the main elements of IPR ? Give examples of discrimination. (10)

15. (a) Explain the following :

- (i) Business ethics (4)
(ii) Environmental ethics (4)
(iii) Computer ethics (4)
(iv) Honesty (4)

OR

- (b) Discuss the following :

- (i) Engineers as managers (4)
(ii) Engineers as advisors (4)
(iii) Engineers as expert witnesses (4)
(iv) Moral leadership (4)