

Reg. No. :

R 3392

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Fifth Semester
(Regulation 2004)
Civil Engineering

GE 1301 — PROFESSIONAL ETHICS AND HUMAN VALUES

(Common to all branches of B.E./B.Tech. except Computer Science and
Engineering, Marine Engineering and Petroleum Engineering)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the difference between sympathy and empathy?
2. What are the time wasters that should be kept out for time management?
3. What are the three main levels of moral development in individuals as proposed by Lawrence Kohlberg? Which one of these represents moral autonomy?
4. Name the three types of enquiries, which need to be made for analyzing a moral problem.
5. State any two important limitations of laws and regulations governing engineering practice.
6. Remark on how the right for 'valid consent' of the astronauts in Challenger case study were respected?
7. What is safe risk and acceptability of risk?
8. What is the purpose of 'factor of safety' used in engineering design?
9. State the most important ethical mistake made by the multinational corporation which caused Bhopal gas plant disaster.
10. What are the serious environmental problem that the computer industry can cause?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Why is it essential for engineering students to learn professional ethics? (6)
- (ii) Explain the meaning and importance of integrity and work ethics in relation to engineer's work. (10)

Or

- (b) (i) Discuss briefly on work ethics. (6)
- (ii) What are the features used to call an engineer an ethical manager. (4)
- (iii) Describe 'golden rule', a virtue applicable for most of the cultures and religions in the world. (6)
12. (a) (i) Name the four ethical theories (theories of right action) and briefly describe the most important feature of each of these theories. (10)
- (ii) Discuss on moral dilemma connected to a design engineer. Apply two of the ethical theories for analyzing the dilemma and discuss the results of analysis. (6)

Or

- (b) (i) Define 'Moral Autonomy' and explain if it is compatible with 'consensus'. (4)
- (ii) List the steps used in confronting (dealing with) moral dilemmas. (9)
- (iii) What are the three features of moral problems, which make them complex? (3)
13. (a) (i) Explain in detail why every engineering project is considered to be a social experiment? (6)
- (ii) There are four features, which make engineers as responsible experimenters. List them and explain briefly why it is difficult for the engineers to have these features under the conditions currently existing. (10)

Or

- (b) (i) What roles do the codes of ethics of the professional societies play? (6)
- (ii) Explain briefly on the challenger case. Give two points to discuss how the accident could have been avoided. (10)

14. (a) (i) Brief on safety and safety factor. (4)
- (ii) What is risk benefit analysis and what are the conceptual problems in this type of analysis. (8)
- (iii) Does increase in safety and reduction of risk in a product always mean increased cost for the manufacturer? Explain the reasons for your answer. (4)

Or

- (b) (i) List the engineers' rights, in general, and professional rights in detail. (8)
- (ii) List the responsibilities of employee engineers and describe any two of your choice in detail. (8)
15. (a) Discuss in detail the important issues connected with Computer Ethics. (16)

Or

- (b) (i) Discuss why the multinational corporations need to consider the norms, conventions and laws of the host countries in which they operate, but they should not follow them blindly. (8)
- (ii) Explain the meaning and importance appropriate technology in technology transfer. (4)
- (iii) Indicate how an engineer should behave when asked to be an 'expert witness'. (4)