

GE 2025 – Professional Ethics in engineering

QUESTION BANK

UNIT I

ENGINEERING ETHICS

PART – A

1. Define Ethics?
2. Define Engineering Ethics?
3. What is the need to study Ethics?
4. Differentiate Moral and Ethics?
5. What is the method used to solve an Ethical problem?
6. What are the Senses of Engineering Ethics?
7. Differentiate Micro-ethics and Macro-ethics?
8. What are the three types of Inquiry?
9. What are the sorts of complexity and murkiness that may be involved in moral situations?
10. What are the steps in confronting Moral Dilemmas?
11. Define Moral Autonomy?
12. Give the importance of Lawrence Kohlberg" s and Carol Gilligan" s theory?
13. Give the need for Authority?
14. What are the criteria required for a Profession?
15. Give the general criteria to become a Professional engineer?
16. Define Integrity?
17. Define Compromise?
18. Give the two aspects of Honesty?
19. Differentiate Self-respect and Self-esteem?

20. What are the two forms of Self-respect?
21. What are the senses of Responsibility?
22. When will you tell an Act as an involuntary one?
23. What are the types of Theories about Morality?
24. Differentiate Hypothetical imperatives and Moral imperatives?
25. State Rawls' s principles?
26. Give the various tests required to evaluate the Ethical Theories?
27. Give the drawbacks of Utilitarianism?
28. Give the drawback of Duty Ethics?
29. Differentiate Ethical Relativism and Ethical Egoism?
30. Define Ethical Pluralism?
31. Define Religion?
32. Give the uses of Ethical Theories?
33. What are personal ethics and business ethics?
34. What do you mean by normative ethics?
35. What is descriptive ethics or non-normative ethics?

PART-B

1. Explain the scope of Engineering Ethics (16).
2. Explain Gilligan' s Theory of moral development (16).
3. Explain Kohlberg' s model of moral development (16).
4. a) Give the steps in confronting moral dilemmas (4).
 b) Explain the skills needed to handle problems about moral issues in engineering ethics (6).
 c) Discuss the different models of professional roles (6).
5. Explain how Gilligan view the three levels of moral development initiated by

Kholberg. What is moral autonomy? (16).

6. What are different ethical theory available for right action, self-interest, duty ethics? (16).

7. Explain the skills needed to handle problems about moral issues in engineering ethics (16).

8. Discuss the different models of professional roles (16).

9. Discuss briefly on ethical theories of Right Action. Differentiate Act Utilitarian and Rule Utilitarian (16).

10. Discuss the importance of Duty ethics and virtues in engineering profession (16).

11. Describe the role of Kholberg theory in ethical judgement (16).

12. Highlight the importance of Engineering ethics (16).

UNIT - II

ENGINEERING AS SOCIAL EXPERIMENTATION

PART-A

1. What are the conditions required to define a valid consent?
2. What are the two main elements which are included to understand informed consent?
3. What are the general features of morally responsible engineers?
4. What is the purpose of various types of standards?
5. Define Code?
6. Enumerate the roles of codes?
7. Give the limitations of codes?
8. What are the problems with the law in engineering?
9. What is the need to view engineering projects as experiments?
10. Differentiate scientific experiments and engineering projects?

11. What are the uncertainties occur in the model designs?
12. Comment on the importance of learning from the past, using Titanic disaster, as an example?
13. Comment on the importance of learning from the past, using the nuclear reactor accident at Three Mile Island, as an example?
14. Give any two prominent features of contemporary engineering practice that differentiate casual influence and moral accountability in engineering?
15. Define Ethical Conventionalism?
16. State Babylon" s Building Code?

PART-B

1. What is meant by professional responsibility and discuss the theories about virtues? (16).
2. Explain Moral disagreement, moral absolutism, moral relativism and moral pluralism (16).
3. Discuss the theories pertaining to Moral Autonomy with specific reference to consensus and controversy (16).
4. Where and how do moral problems arise in engineering? (16).
5. Discuss on the different roles played by the code of ethics set by professional societies (16).
6. Give the code of ethics promulgated by Institute of Electrical and Electronics Engineers and discus (16).
7. What is the importance of code of ethics? (6) Give a brief account on four canons of code of ethics given by an international standard or associates (10).
8. Give justifications on how the challenger disaster could have been avoided by engineers (16).
9. State the similarities to view engineering projects as experiments (16).
10. How Engineering project differ from standard experimentation? (16).
11. Discuss on the roles played by the code of ethics set by professional societies (16).

12. How do you call an Engineer as a responsible Experimenter (16).
13. Write short notes on a) Ethical relativism (8), b) Abuse of codes of ethics (8).

UNIT – III

ENGINEER'S RESPONSIBILITY FOR SAFETY

PART-A

1. Define Risk?
2. Define a Disaster?
3. Give the criteria which helps to ensure a safety design?
4. What are the factors for safety and risk?
5. What are the drawbacks in the definition of Lawrence?
6. Give the categories of Risk?
7. What is the knowledge required to assess the risk?
8. What are the analytical methods?
9. What are the three conditions referred as safe exit?
10. How will an engineer assess the safety?
11. What are the reasons for Risk-Benefit Analysis?
12. Are the engineers responsible to educate the public for safe operation of the equipment? How?
13. Define Safety?
14. What is the definition of risks?
15. Define Acceptability of risks?
16. What are the safety measures an engineer must know before assessing a risk of any product?
17. What is the use of knowledge of risk acceptance to engineers?
18. What is meant by Disaster? Give an example.

19. What are the positive uncertainties in determining risks?
20. What is the use of Risk-Analysis? What are the three factors involved here?
21. Define Risk-Benefit Analysis?
22. Explain the two types of Risk?
23. Give the reasons for the Three Mile Island disaster?
24. What is the main barrier to educational attempts?
25. What was the problem in the Chernobyl reactor?

PART-B

1. What are the aspects of engineering that make it appropriate to view engineering projects as experiments? (16).
2. Describe in detail the concept of „Risk-Benefit Analysis“ (16).
3. Compare and contrast engineering experiments with standard experiments (16).
4. Explain with the help of examples that engineers would learn not only from their earlier design and operating results, but also from those of other engineers (16).
5. Give detailed discussion on safety and risk (16).
6. a) Give in detail the effect of information on risk assessment (8).
b) Write notes on „personal risk and public risk“ (8).
7. Discuss on safety. Explain what safety measures are to be taken to establish a nuclear power plant in a country (16).
8. Explain in detail about the effect of information on risk assessments and give four examples of improved safety and explain (16).
9. „Learning from the past“ . Explain the phrase with respect to the Chernobyl case disaster, explaining on how ethical errors of engineers caused the damage (16).
10. Explain various measures for assessing and reducing risks (16).
11. Discuss the concept of safety exist in the Chernobyl case studies (16).

UNIT-IV

RESPONSIBILITIES AND RIGHTS

PART-A

1. Define Collegiality?
2. What are the central elements of collegiality?
3. What are the two senses of Loyalty?
4. When may an Identification Loyalty be said as obligatory?
5. What is the relationship between the Loyalty to the company and Professional responsibility to the public?
6. Define Institutional Authority?
7. Define Expert Authority?
8. What is the basic moral task of salaried engineers?
9. What are the guidelines to reach an agreement?
10. Define confidential information?
11. What are the criteria for identifying that information is “labelled” confidential at the workplace?
12. What are the terms associated with Confidentiality?
13. How will you justify the obligation of confidentiality?
14. Define Conflicts of Interest?
15. Why does a conflict of interests arise?
16. What is a Bribe?
17. What is a Gift?
18. What is called Kickbacks?
19. What are the types of Conflicts of interest?
20. What are the forms of Conflicts of interest?

21 What are the essential elements of IPR?

PART-B

1. What is the importance of loyalty and collegiality in teamwork? (16).
2. Discuss the ways and means of reducing occupational crime in industries (16).
3. How account publicly for benefits and risks? (16).
4. Discuss the concept of confidentiality with respect to professional ethics (16).
5. a) List and explain the features of whistle-blowing that characterize the cases with example (8).

b) Write short note on professional rights (8).
6. a) What is meant by professional conscience and right of conscientious refusal? (8).

b) Explain the expected confidentiality to be maintained by the engineer while he shifts to another organization similar in services as the previous one (8).
7. a) Explain the concept of collegiality and loyalty (8).

b) short notes on „Professional rights and Employee rights for privacy and choice of outside activities (8).
8. Write briefly on:
 - a) Employee rights (4)
 - b) The challenger case study (6)
 - c) Professional obligation of engineers (6).
9. Explain the expected confidentiality to be maintained by a computer engineer while he shifts his job on career advancement (16).
10. Define Collective Bargaining. Explain the role of collective bargaining in workplace rights and responsibilities (16).
11. How will you apply confidentiality for avoiding harmful conflicts of interest in workplace (16).

UNIT – V

GLOBAL ISSUES

PART-A

1. What is meant by moral leadership?
2. What are the questions that arise while considering the voluntary service in the field of Engineering?
3. What is code of ethics?
4. What are the common features involved in the code of ethics for Engineers?
5. Differentiate eyewitness and expert witness?
6. What is the need for Honesty?
7. What is meant by Competence?
8. What does Diligence mean?
9. Define Loyalty?
10. What is the basic ethical and moral responsibility of a manager-engineer?
11. .What is the different ways to create an ethical climate?
12. What are the important forms of conflicts that may arise for an engineering project manager?
13. What are the principles for conflict resolution?
14. Who are referred as consulting engineers?
15. What are the rules framed by NSPE in case of professional advertisements?
16. What do you mean by appropriate technology?
17. What are the ill effects of acid rain?
18. What do you mean by technology transfer?
19. What are the ethical issues or questions that arise in environmental protection?
20. Quote some examples of pollution that spoiled the environment?

21. What is computer ethics?
22. Give any ten commandments of computer ethics?
23. What is hacking?
24. What is autonomous computer?
25. What are the three versions of Relativism?
26. What are the moral dimensions of an Engineer-manager?
27. Give any ten International rights suggested by Donaldson?
28. What are the reasons for the disaster at Bhopal?
29. Give some of the Environmental issues of concern to engineers?
30. What are the issues in Computer ethics?
31. What are the problems of Defence industry?
32. What are ways to promote an Ethical climate?
33. What are the important forms of Conflicts?
34. What are the Principles of Conflicts of interest?
35. What are the characteristics of an engineer as expert advisers in public planning and
36. Give the usage of the code of conduct?
37. What are professional issues of using computers?
38. What are the requirements of Patents?
39. What are the types of Patents?
40. What is the need for Protection to IPR?
41. What is the Importance of IPR?
42. What is a Trade secret?
43. Define Whistle Blowing?
44. What are the main features of Whistle Blowing?



45. Differentiate External Whistle Blowing and Internal Whistle Blowing?
46. Differentiate Open Whistle Blowing and Anonymous Whistle Blowing?
47. When Whistle Blowing is morally permitted and morally obligated?
48. What are the two general ways to apply ethical theories to justify the basic right of Professional conscience?
49. Define Employee Rights?
50. Define Discrimination?

PART-B

1. What is mean by computer ethics? (16).
 2. Discuss an engineer" s involvement in weapons work (16).
 3. Discuss in detail about the „employee rights" (16).
 4. Explain the meaning of environmental ethics (16).
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5. a) Discuss on three senses of „relative" values (8).
b) Describe the moral threats posed by the revolutionized communication using computers to the right to privacy (8).
 6. a) Give the philosophical views of nature and discuss them (8).
b) Describe the concept of environmental ethics with a case study (8).
 7. a) What is the importance of computer ethics? (6).
b) Discuss the functioning of anonymity and privacy as a) helpful b) undesirable in computer-aided activities with suitable examples (10).
 8. Describe the moral threats posed by the revolutionized communication using computer to the right to privacy (16).
 9. Write briefly on:
 - a) Engineer as expert witness (6).
 - b) Engineer as good managers (6).

c) Consulting Engineers (4).

10. Is there any relationship among Engineering, Ecology and Economics? (16).

11. Explain the issues related to computer ethics an interest with your personal Experience (16).

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