

Reg. No. :

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

**Question Paper Code : 90696**

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2022.

Sixth/Seventh/Eighth Semester

Aeronautical Engineering

GE 8076 – PROFESSIONAL ETHICS IN ENGINEERING

(Common to : Aerospace Engineering/Agriculture Engineering/Automobile Engineering/Biomedical Engineering/Civil Engineering/Computer Science and Engineering/Computer and Communication Engineering/Electrical and Electronics Engineering/Electronics and Communication Engineering/Electronics and Instrumentation Engineering/Electronics and Telecommunication Engineering/Environmental Engineering/Geoinformatics Engineering/Industrial Engineering/Industrial Engineering and Management/Instrumentation and Control Engineering/Manufacturing Engineering/Marine Engineering/Material Science and Engineering/Mechanical Engineering/Mechanical Engineering (Sandwich)/Mechanical and Automation Engineering/Mechatronics Engineering/Medical Electronics/Petrochemical Engineering/Production Engineering/Robotics and Automation/Bio Technology/Chemical Engineering/Chemical and Electrochemical Engineering/Fashion Technology/Food Technology/Handloom and Textile Technology/Information Technology/Petrochemical Technology/Petroleum Engineering/Plastic Technology/Polymer Technology/Textile Chemistry/Textile Technology)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Name the three basic needs according to ERG theory.
2. List the entities that belong to the "Seven Rules of Life".
3. Pick the correction Option: Role of ethical theories is to \_\_\_\_\_.
  - (a) Balance consensus and controversy
  - (b) Increase performance of the organization
  - (c) Enhance the professional values
  - (d) Resolve moral dilemmas

4. Mention any four models of professional roles.
5. Choose the correct option: Identify which does not define term "code of ethics".
  - (a) Set of law and standards
  - (b) Set of Roles and responsibilities
  - (c) Achieving quality control through set of laws
  - (d) Understanding the 'right' and the 'wrong'.
6. What is "Experimentation" in context with "Engineering as Experimentation"?
7. Mathematical formula of risk is \_\_\_\_\_.
8. What is termed as occupational crime?
9. What is "Biocentrism: in context of Environmental ethics?
10. Expand the term "CSR".

PART B — (5 × 13 = 65 marks)

11. (a) (i) List any four difference between Morality and Ethics (4)  
 (ii) List different types of Work Ethics. Mention benefits of service Learning. (4)  
 (iii) Define the variety of Moral issues. List the different moral issues related to Engineering. (5)
- Or
- (b) (i) List any four difference between Descriptive and Normative ethics. (4)  
 (ii) Explain the meaning of integrity and its importance. Mention different types of integrity. (4)  
 (iii) What are Civic Virtues and List them. Among them, list out different types of Courage and Commitment. (5)
12. (a) (i) List the difference between Normative enquiry and Factual enquiry. (4)  
 (ii) List the various levels of Kohlberg's theory. List the stages under Level I and Level II. (4)  
 (iii) Define the terms (1) Ethical egoism (2) Moral relativism (3) Moral pluralism (4) Moral absolutism and (5) Moral Dilemma (5)

Or

- (b) (i) List the difference between (1) Consensus and Controversy (2) Moral autonomy and Moral Dilemma (4)
- (ii) Mention the salient features of Gilligan's Theory. Mention the three stages involved in it. (4)
- (iii) Define the terms (1) Accountability (2) Social Responsibility (3) Bribe (4) Professional role and (5) Self Interest (5)

13. (a) (i) What are the several responsibilities of an engineer as an experimenter? (4)
- (ii) Explain the limitations of code of ethics. (4)
- (iii) List down different categories of standards. (5)

Or

- (b) (i) Compare engineering projects and standard experiments. (4)
- (ii) List any four essential roles 'Codes of Ethics'. (4)
- (iii) What are Industrial Standards? List the purpose of industrial standards? (5)

14. (a) (i) Summarize the features of event tree analysis. (4)
- (ii) List the 4 Types of Intellectual Property Rights and mention one salient feature for each(1 or 2 lines). (4)
- (iii) Write a short note on Conflict of interest. (Define types. reasons and how to solve). (5)

Or

- (b) (i) Summarize any four features of fault tree analysis. (4)
- (ii) Explain the terms Collegiality and Loyalty. (4)
- (iii) Mention Salient features (1 or 2 lines) for the following: (1) Safety (2) Professional Rights (3) Discrimination (4) Privacy rights and (5) Whistle – Blowing. (5)

15. (a) (i) List down the four international rights. (4)
- (ii) What is Computer Ethics? Mention any two ethical features. Categorize computer ethics problems (4)
- (iii) Explain the terms (in 1 to 2 lines) (1) Contingency fee (2) Technology Transfer (3) Multinational cooperation and (4) Consulting Engineer and (5) code of conduct (5)

Or

- (b) (i) List any four professional obligation of Engineers. (4)
- (ii) Mention any four characteristic features of Engineers as managers? (4)
- (iii) List and define 3 types of Environmental Ethics. (3)
- (iv) What is meant by 'Moral Leadership'? (2)

PART C — (1 × 15 = 15 marks)

16. (a) (i) Explain Various issues and requirements for engineers who act as advisors. (5)
- (ii) Explain how moral issues are related with (1) Organization (2) Environment and (3) Society. (3)
- (iii) Analyze the Bhopal Gas Tragedy using ethical codes. (7)

Or

- (b) (i) Differentiate between Act-Utilitarianism and Rule-Utilitarianism. (4)
- (ii) Mention the various tests required to evaluate the Ethical Theories. (4)
- (iii) An engineer has given a promise to his employer and another one to a colleague. If it is difficult to fulfill both the promises, he can drop off one promise which is of least importance. If he explains the situations to his colleagues, it can be understood. Name the above situation according to Professional ethics. Indicate general steps to resolve such issue. (7)