

JEPPIAAR ENGINEERING COLLEGE

Jeppiaar Nagar, Rajiv Gandhi Salai – 600 119

DEPARTMENT OF MECHANICAL ENGINEERING

QUESTION BANK



V SEMESTER

GE6075 – Professional Ethics Engineering

Regulation – 2013



JEPPIAAR ENGINEERING COLLEGE

Jeppiaar Nagar, Rajiv Gandhi Salai – 600 119

DEPARTMENT OF MECHANICAL ENGINEERING

QUESTION BANK

SUBJECT : GE6075 – Professional Ethics in Engineering

YEAR /SEM : III /V

UNIT I HUMAN VALUES				
Morals, values and Ethics – Integrity – Work ethic – Service learning – Civic virtue – Respect for others – Living peacefully – Caring – Sharing – Honesty – Courage – Valuing time – Cooperation – Commitment – Empathy – Self confidence – Character – Spirituality – Introduction to Yoga and meditation for professional excellence and stress management				
PART – A				
CO Mapping : C414.1				
Q.No	Questions	BT Level	Competence	PO
1	What are the characteristics of values?	BTL-1	Remembering	PO8,PO5
2	What are the two important ways of building courage?	BTL-1	Remembering	PO8
3	Define moral values with suitable examples?	BTL-2	Understanding	PO8,PO9
4	Define the term service learning?	BTL-2	Understanding	PO8,PO9
5	What are values ?	BTL-1	Remembering	PO8,PO1
6	What is meant by self confidence ?	BTL-1	Remembering	PO8,PO2
7	Specify how the Ethics is classified?	BTL-1	Remembering	PO8,PO1
8	List some of the Personal Ethics ?	BTL-1	Remembering	PO8, ,PO3
9	Define the term Ethics ?	BTL-2	Understanding	PO8
10	Define Engineering Ethics ?	BTL-2	Understanding	PO8,PO5
11	Define Values?	BTL-1	Remembering	PO8,PO11
12	What are Personal values?	BTL-1	Remembering	PO8,PO4
13	What are ethical values?	BTL-1	Remembering	PO8,

14	List out the five core human Values	BTL-1	Remembering	PO8
15	List out the ways in which service learning is distinguished	BTL-1	Remembering	PO8
16	Define Self-Assertion	BTL-1	Remembering	PO8,PO3
17	What are the aspects of Honesty?	BTL-1	Remembering	PO8,PO1
18	Define Courage?	BTL-1	Remembering	PO8,PO4
19	List out the classification of courage	BTL-1	Remembering	PO8,PO2
20	Define co-operation	BTL-1	Remembering	PO8,PO6
21	What is Commitment?	BTL-1	Remembering	PO8
22	What do you mean by the term Virtues?	BTL-1	Remembering	PO8,PO12
23	List some of the Models of Professional Roles?	BTL-1	Remembering	PO8,PO7
24	List out the categories of Civic Virtues	BTL-1	Remembering	PO8,PO11
25	Define empathy	BTL-1	Remembering	PO8,PO2
26	List out the benefits of empathy.	BTL-1	Remembering	PO8,PO1
27	Define Compromise?	BTL-1	Remembering	PO8
28	Define Ethical Pluralism and Ethical Relativism?	BTL-2	Understanding	PO8,PO10
29	What is the main goal of Engineering Ethics?	BTL-1	Remembering	PO8,PO12
30	Distinguish self respect and self esteem?	BTL-3	Analyzing	PO8
31	What is integrity?	BTL-1	Remembering	PO8,PO4
32	Define work ethics	BTL-1	Remembering	PO8,PO5
33	What is service learning?	BTL-1	Remembering	PO8
34	Mention some civic virtues?	BTL-1	Remembering	PO8,PO3
35.	Define Caring?	BTL-1	Remembering	PO8,PO2
36.	Define Sharing?	BTL-1	Remembering	PO8,PO6
PART-B				
Q.No	Questions	BT Level	Competence	PO
1	What is service learning? why service learning is important ? Explain characteristics of service Learning?	BTL-1	Remembering	PO8,PO9
2	Define Empathy State and explain the elements benefits of Empathy and compare Empathy with Sympathy?	BTL-2	Understanding	PO8,PO9
3	Explain the scope and importance of professional ethics in engineering?	BTL-2	Understanding	PO8
4	Discuss the role of yoga for professional excellence and stress management?	BTL-2	Understanding	PO8,PO12

5	Explain character and spirituality and their importance in ethics?	BTL-2	Understanding	PO8,PO12
6	Explain the important of self confidence in ethics ?	BTL-2	Understanding	PO8,PO9
7	Explain in detail about engineering ethics and its philosophy?	BTL-2	Understanding	PO8,PO1
8	Where and how do moral problems arise in engineering? What is professional responsibility? Discuss theories about virtues.	BTL-1	Remembering	PO8,PO9
9	Discuss the scope and aims of Engineering ethics. Scope and aim of engineering ethics Professions and professionalism?	BTL-2	Understanding	PO8,PO2,PO10
10	Discuss the theories pertaining to Moral Autonomy with specific reference to consensus and controversy?	BTL-2	Understanding	PO8,PO5

UNIT II ENGINEERING ETHICS

Senses of „Engineering Ethics“ – Variety of moral issues – Types of inquiry – Moral dilemmas – Moral Autonomy – Kohlberg’s theory – Gilligan’s theory – Consensus and Controversy – Models of professional roles - Theories about right action – Self-interest – Customs and Religion – Uses of Ethical Theories

PART – A

CO Mapping : C414.2

Q.No	Questions	BT Level	Competence	PO
1	State the three types of Inquiry?	BTL-1	Remembering	PO8,PO2
2	What are the two important versions of utilitarianism?	BTL-1	Remembering	PO8,PO1
3	what is meant by engineering as experimentation ?	BTL-1	Remembering	PO8,PO3
4	state the important of ethical theories ?	BTL-1	Understanding	PO8,PO11

5	State Gilligan's theory ?	BTL-1	Remembering	PO8,PO12
6	what is meant by consensus ?	BTL-1	Remembering	PO8
7	What does Moral Autonomy mean?	BTL-1	Remembering	PO8
8	List the complexities that are involved in moral situations?	BTL-1	Remembering	PO8,PO5
9	Define professionalism	BTL-1	Remembering	PO8,PO2
10	State the use of ethical theories?	BTL-1	Remembering	PO8,PO1,PO10
11	What are the modes of professional roles?	BTL-1	Remembering	PO8,PO9
12	What do you mean by 'Profession'??	BTL-1	Remembering	PO8,PO9
13	Define the term Empathy?	BTL-1	Remembering	PO8,PO9
14	Define Ethics?	BTL-1	Remembering	PO8
15	Define Engineering Ethics?	BTL-1	Remembering	PO8
16	What is the need to study Ethics?	BTL-1	Remembering	PO8,PO4
17	Differentiate Moral and Ethics?	BTL-1	Remembering	PO8,PO11
18	What is the method used to solve an Ethical problem?	BTL-1	Remembering	PO8,PO3
19	Differentiate Micro-ethics and Macro-ethics?	BTL-4	Analyzing	PO8
20	What are the three types of Inquiry?	BTL-1	Remembering	PO8 ,PO7
21	What are the sorts of complexity and murkiness that may be involved in moral situations?	BTL-1	Remembering	PO8
22	What are the steps in confronting Moral Dilemmas?	BTL-1	Remembering	PO8
23	Define Moral Autonomy?	BTL-1	Remembering	PO8
24	State Rawl's principles??	BTL-1	Remembering	PO8,PO2
25	Give the various tests required to evaluate the Ethical Theories?	BTL-2	Understanding	PO8
26	What are the criteria required for a Profession?	BTL-2	Understanding	PO8,PO9
27	Give the general criteria to become a Professional engineer?	BTL-5	Evaluation	PO8
28	Define Integrity & Compromise?	BTL-1	Remembering	PO8,PO3
29	Give the two aspects of Honesty & two forms of Self-respect?	BTL-2	Understanding	PO8,PO5
30	What are the senses of Responsibility?	BTL-1	Remembering	PO8
31	What are the types of Theories about Morality?	BTL-1	Remembering	PO8
32	Explain Pre-Conventional Level of Kohlberg Theory?	BTL-2	Understanding	PO8
33	Explain Conventional Level of Kohlberg Theory?	BTL-2	Understanding	PO8,PO6

34	What are the limitations or difficulties of Kohlberg Theory?	BTL-1	Remembering	PO8,PO1
35	Explain Pre-Conventional Level of Gilligan Theory	BTL-2	Understanding	PO8,PO2
36	Explain Conventional Level of Gilligan Theory	BTL-2	Understanding	PO8,PO7
37	Explain Post-Conventional Level of Gilligan Theory.	BTL-2	Understanding	PO8,PO3
PART-B				
Q.No	Questions	BT Level	Competence	PO
1	What is meant by Moral Autonomy ? Discuss the factors influencing person concern and the skills required to improve more Autonomy ?	BTL-1	Remembering	PO8,PO9
2	Describe the professional roles played by an engineer?	BTL-2	Understanding	PO8,PO10
3	Describe Kohlberg and Gilligan's theories on moral autonomy?	BTL-2	Understanding	PO8,PO2
4	Name and describe the theories of right action?	BTL-2	Understanding	PO8,PO12
5	Explain the details about the senses of engineering Ethics ?	BTL-2	Understanding	PO8,PO9
6	Discuss in detail the various ethical theories and their uses ?	BTL-2	Understanding	PO8,PO1
7	Explain the levels of moral development proposed by Kohlberg and Gilligan. Also bring out the drawbacks of Kohlberg theory?	BTL-2	Understanding	PO8,PO9
8	Discuss the theories pertaining to moral autonomy with specific reference to consensus and controversy?	BTL-2	Understanding	PO8,PO6
9	Explain the types of inquiries in engineering?	BTL-2	Understanding	PO8,PO4

UNIT III ENGINEERING AS SOCIAL EXPERIMENTATION				
Engineering as Experimentation – Engineers as responsible Experimenters – Codes of Ethics – A Balanced Outlook on Law				
PART – A				
CO Mapping : C414.3				
Q.No	Questions	BT Level	Competence	PO
1	What is meant by conscientiousness?	BTL-1	Remembering	PO8,PO1
2	What are codes of Ethics referred to?	BTL-1	Remembering	PO8,PO2
3	what are the uncertainties occur in model design ?	BTL-1	Remembering	PO8,PO5

4	how does the law facilitate ethics in engineering ?	BTL-1	Understanding	PO8
5	Why engineers are industrial standards?	BTL-1	Remembering	PO8,PO1
6	List the advantages of industrial standards?	BTL-1	Remembering	PO8,PO10
7	Define Engineering Ethics ?	BTL-1	Remembering	PO8
8	What do you understand by “a balanced outlook on law”?	BTL-1	Remembering	PO8,PO11
9	What is meant by valid consent?	BTL-1	Remembering	PO8,PO7
10	What are the Senses of Engineering Ethics?	BTL-1	Remembering	PO8,PO2
11	What are the features of Engineering experimentation?	BTL-1	Remembering	PO8,
12	what are the salient features of informed consent in engineering experimentation?	BTL-1	Remembering	PO8
13	Give ant two examples in field of engineering for learning from the past?	BTL-1	Remembering	PO8
14	What are the uncertainties occur in the model designs?	BTL-1	Remembering	PO8,PO3
15	Comment on the importance of learning from the past, using the nuclear reactor accident at Three Mile Island, as an example?	BTL-1	Remembering	PO8,PO12
16	List the reason behind viewing engineering projects as experiments?	BTL-1	Remembering	PO8,PO5
17	What reasons lead to many repetitions of past mistakes?	BTL-1	Remembering	PO8,PO1
18	What are the conditions required to define a valid consent?	BTL-1	Remembering	PO8
19	What are the general features of morally responsible engineers?	BTL-1	Remembering	PO8,PO2
20	What is the purpose of various types of standards?	BTL-1	Remembering	PO8,PO10
21	Define Code?	BTL-1	Remembering	PO8,PO6
22	What are the roles of codes of ethics?	BTL-1	Remembering	PO8
23	What are the problems with the law in engineering?	BTL-1	Remembering	PO8,PO3
24	Differentiate scientific experiments and engineering projects?	BTL-4	Analyzing	PO8,PO9
25	What are the uncertainties occur in the model designs?	BTL-1	Remembering	PO8,PO7
26	What are the types of Theories about Morality?	BTL-1	Remembering	PO8,PO1
27	Differentiate Weak Preferential Treatment and Strong Preferential Treatment?	BTL-4	Analyzing	PO8,PO4
28	What are the types of Theories about Morality?	BTL-1	Remembering	PO8
29	What are the problems with the law in engineering?	BTL-1	Remembering	PO8,PO2
30	What are the two general ways to apply ethical theories to justify the basic right of professional conscience?	BTL-1	Remembering	PO8,PO12
31	Define ethical accountability?	BTL-1	Remembering	PO8,PO10
32	List the limitations of ethical codes?	BTL-1	Remembering	PO8,PO3

PART-B				
Q.No	Questions	BT Level	Competence	PO
1	What are codes of Ethics ? State and explain the function of codes of ethics and the objective to codes ?	BTL-1	Remembering	PO8
2	Discuss the problems associated with laws in engineering and Enumerate the proper role of law engineering ?	BTL-2	Understanding	PO8,PO9
3	What is the importance of codes of ethics ?explain in detail ?	BTL-1	Remembering	PO8,PO11
4	How can an engineer become a responsible experimenter? Explain in detail ?	BTL-1	Remembering	PO8,PO4
5	How can engineer become a responsible experimenter ? highlight the code of ethics for engineers ?	BTL-1	Remembering	PO8,PO2
6	Discuss on the roles played by the codes of ethics set by professional societies?	BTL-2	Understanding	PO7,PO8
7	Explain “Engineers as Responsible Experimenters”?.?	BTL-2	Understanding	PO8,PO1
8	What are the moral and ethical lessons we can be learned from space shuttle challenger tragedy and how the principal actors behave as responsible experiments?	BTL-1	Remembering	PO8,PO7
9	What are the similarities between engineering experiments and standard experiments	BTL-1	Remembering	PO8,PO2
10	What are the aspects of engineering that make it appropriate to view engineering projects as experiments.	BTL-1	Remembering	PO8,PO5

UNIT IV SAFETY, RESPONSIBILITIES AND RIGHTS				
Safety and Risk – Assessment of Safety and Risk – Risk Benefit Analysis and Reducing Risk - Respect for Authority – Collective Bargaining – Confidentiality – Conflicts of Interest – Occupational Crime – Professional Rights – Employee Rights – Intellectual Property Rights (IPR) – Discrimination				
PART – A				
CO Mapping : C414.4				
Q.No	Questions	BT Level	Competence	PO
1	What are codes of Ethics referred to?	BTL-1	Remembering	PO8,PO6
2	Define Safety?	BTL-1	Remembering	PO8,PO1

3	What is the use of risk analysis?	BTL-1	Remembering	PO8,PO12
4	Define the term collective bargaining?	BTL-1	Remembering	PO8,PO5
5	Define the term Risk?	BTL-1	Remembering	PO8,PO4
6	Define 'Risk benefit analysis'?	BTL-1	Remembering	PO8
7	Give any two examples of improved safety?	BTL-2	Understanding	PO8,PO1
8	What shall be the approach of government Regulator towards risk mitigation?	BTL-1	Remembering	PO8,PO11
9	What is meant by risk? State the causes of risks?	BTL-1	Remembering	PO8, ,PO2
10	What is safety? What does relative safety express?	BTL-1	Remembering	PO7,PO8,
11	Give the criteria which helps to ensure a safety design?	BTL-2	Understanding	PO8,PO3
12	Alternative designs that are potentially safer must be explored?	BTL-2	Understanding	PO8,PO7
13	What are the factors for safety and risk?	BTL-1	Remembering	PO8,PO4
14	What are the drawbacks in the definition of Lawrence?	BTL-1	Remembering	PO8,PO10
15	Give the categories of Risk?	BTL-2	Understanding	PO8
16	What are the factors that affect Risk Acceptability?	BTL-1	Remembering	PO8,PO9
17	What is the knowledge required to assess the risk?	BTL-1	Remembering	PO8,PO6
18	What are the analytical methods?	BTL-1	Remembering	PO8, ,PO5
19	What are the three conditions referred as safe exit?	BTL-1	Remembering	PO8,PO1
20	How will an engineer assess the safety?	BTL-1	Remembering	PO8,PO2
21	What are the reasons for Risk-Benefit Analysis?	BTL-1	Remembering	PO8
22	Are the engineers responsible to educate the public for safe operation of the equipment? How?	BTL-1	Remembering	PO8,PO4
23	Define Safety?	BTL-1	Remembering	PO8,PO11
24	What is the definition of risks?	BTL-1	Remembering	PO8,PO3
25	Define Acceptability of risks?	BTL-1	Remembering	PO8
26	What are the safety measures an engineer must know before assessing a risk of any product?	BTL-1	Remembering	PO8,PO1
27	What is the use of knowledge of risk acceptance to engineers?	BTL-1	Remembering	PO8,PO12
28	What is meant by Disaster? Give an example?	BTL-1	Remembering	PO8,PO2

29	What are the positive uncertainties in determining risks?	BTL-1	Remembering	PO8
30	What is the use of Risk-Analysis? What are the three factors involved here?	BTL-1	Remembering	PO8,PO5
31	Explain the two types of Risk?	BTL-2	Understanding	PO8,PO1
32	What does Strict Liability mean?	BTL-1	Remembering	PO8
33	What is the main barrier to educational attempts?	BTL-1	Remembering	PO8,PO11
34	What happens to the products that are not safe?	BTL-1	Remembering	PO8,PO3
35	What does Open-mindedness refer to?	BTL-1	Remembering	PO8,PO4
36	What was the problem in the Chernobyl reactor?	BTL-1	Remembering	PO8,PO6
37	What is the need for Protection to IPR?	BTL-1	Remembering	PO8,PO12
38	List the problems related to price fixing?	BTL-1	Remembering	PO8,PO7
39	What are the main features of Whistle Blowing?	BTL-1	Remembering	PO8
40	What does the term collective bargaining refer to?	BTL-1	Remembering	PO8
41	What is meant by occupational crime?	BTL-1	Remembering	PO8
42	What is the difference between bribe and gift?	BTL-1	Remembering	PO8,PO1
43	What does whistle blowing mean?	BTL-1	Remembering	PO8,PO3
44	Distinguish 'Institutional authority' and 'Expert authority'?	BTL-4	Analyzing	PO8,PO10
45	What do you understand by the term 'Kick backs'?	BTL-1	Remembering	PO8,PO5
46	Differentiate Human Rights and Professional Rights?	BTL-1	Remembering	PO8,PO2
47	Define Discrimination?	BTL-1	Remembering	PO8,PO4
48	Define Collegiality?	BTL-1	Remembering	PO8,PO11
49	What are the central elements of collegiality?	BTL-1	Remembering	PO8
50	What are the two senses of Loyalty?	BTL-1	Remembering	PO8,PO6
51	When may an Identification Loyalty be said as obligatory?	BTL-1	Remembering	PO8
52	What is the relationship between the Loyalty to the company and Professional responsibility to the public?	BTL-1	Remembering	PO8,PO12
53	What is the basic moral task of salaried engineers?	BTL-1	Remembering	PO7,PO8
54	What are the guidelines to reach an agreement?	BTL-1	Remembering	PO8,PO1

55	Define confidential information?	BTL-1	Remembering	PO8,PO7
56	What are the criteria for identifying that information is “labeled” confidential at the workplace?	BTL-1	Remembering	PO8
57	What are the terms associated with Confidentiality?	BTL-1	Remembering	PO8,PO12
58	How will you justify the obligation of confidentiality?	BTL-1	Remembering	PO8,PO2
59	Define Conflicts of Interest?	BTL-1	Remembering	PO8,PO1
60	Why does a conflict of interests arise?	BTL-1	Remembering	PO8,PO4
61	What are the types of Conflicts of interest?	BTL-1	Remembering	PO8
62	What are the forms of Conflicts of interest?	BTL-1	Remembering	PO8
63	How will you solve the Conflict problems?	BTL-1	Remembering	PO8,PO10
64	What are the essential elements of IPR?	BTL-1	Remembering	PO8,PO9
65	What are the requirements of Patents?	BTL-1	Remembering	PO8,PO2
PART-B				
Q.No	Questions	BT Level	Competence	PO
1	What is meant by conflict of interest? Distinguish between general and professional conflicts of interest and discuss the various types of conflicts of interest?	BTL-1	Remembering	PO7,PO8
2	What are intellectual property rights? Explain the elements of intellectual property rights in details and benefits of IPRS?	BTL-2	Understanding	PO8,PO1
3	Discuss in detail about the employee Rights and its role in the organizations?	BTL-2	Understanding	PO8,PO7
4	Discuss in detail about the moral and ethical issues involved in use of computers?	BTL-2	Understanding	PO8,PO9
5	What are the factors that affect risk acceptability?what is the use of knowledge of risk acceptance to engineer ?	BTL-1	Remembering	PO8,PO4
6	Discuss The significance of intellectual property rights also explain the legislation covering IPR India?	BTL-2	Understanding	PO8,PO1
7	Discuss the causes of Bhopal disasters. Explain the responsibility of engineers in the design of product in the design stage itself before the event of an accident?	BTL-2	Understanding	PO8,PO9
8	Explain how the risks are reduced & explain the concept of ‘Risk-Benefit Analysis’?	BTL-2	Understanding	PO8,PO12

UNIT V ENGINEERING AS SOCIAL EXPERIMENTATION

Multinational Corporations – Environmental Ethics – Computer Ethics – Weapons Development – Engineers as Managers – Consulting Engineers – Engineers as Expert Witnesses and Advisors – Moral Leadership – Code of Conduct – Corporate Social Responsibility

PART – A

CO Mapping : C414.5

Q.No	Questions	BT Level	Competence	PO
1	What is meant by technology transfer?	BTL-1	Remembering	PO8
2	Point out the responsibilities of consulting engineers?	BTL-1	Remembering	PO8,PO3
3	What do you mean by IPR ?	BTL-1	Remembering	PO8,PO2

4	How is corporate social responsibilities practiced?	BTL-1	Understanding	PO8
5	What is moral leadership?	BTL-1	Remembering	PO8,PO9
6	What is meant by Globalization?	BTL-1	Remembering	PO7,PO8,
7	What is the basic ethical and moral responsibility of a manager-engineer?	BTL-1	Remembering	PO8,PO3
8	What is meant by moral leadership?	BTL-1	Remembering	PO8,PO9
9	Define the term 'Appropriate technology'?	BTL-1	Remembering	PO8
10	What is the Importance of IPR?	BTL-1	Remembering	PO8,PO2
11	What is a Trade secret?	BTL-1	Remembering	PO8,PO5
12	Differentiate External Whistle Blowing and Internal Whistle Blowing?	BTL-4	Analyzing	PO8,PO10
13	Differentiate Open Whistle Blowing and Anonymous Whistle Blowing?	BTL-4	Analyzing	PO8,PO4
14	Define Employee Rights?	BTL-1	Remembering	PO8,PO9
15	When are Whistle Blowing morally permitted and morally obligated?	BTL-1	Remembering	PO8,PO12
16	What are the three versions of Relativism?	BTL-1	Remembering	PO8,PO6
17	What are the moral dimensions of an Engineer manager?	BTL-1	Remembering	PO8
18	Give any ten International rights suggested by Donaldson?	BTL-1	Remembering	PO8
19	Give some of the Environmental issues of concern to engineers?	BTL-1	Remembering	PO8,PO2
20	What are the issues in Computer ethics?	BTL-1	Remembering	PO8
21	What are the problems of Defense industry?	BTL-1	Remembering	PO8,PO3
22	What are ways to promote an Ethical climate?	BTL-1	Remembering	PO8
23	What are the important forms of Conflicts?	BTL-1	Remembering	PO8
24	What is meant by technology transfer?	BTL-1	Remembering	PO8,PO3
25	What are the normative models to be used to avoid conflicts?	BTL-2	Understanding	PO8,PO5
26	What are the characteristics of an engineer as expert advisers in public planning and policy making?	BTL-2	Understanding	PO8,PO2
27	How can Deceptive advertising be done?	BTL-1	Remembering	PO8,PO4
28	Give the usage of the code of conduct?	BTL-1	Remembering	PO8
29	Point out the responsibilities of consulting engineers?	BTL-2	Understanding	PO8
30	Enumerate the Code of Ethics by ASME?	BTL-1	Remembering	PO8,PO1

PART-B				
Q.No	Questions	BT Level	Competence	PO
1	State the types of concern for environment by the engineers discuss the Approaches to resolve environmental problems What do professional codes of Ethics say about the environment?	BTL-1	Remembering	PO8,PO6
2	What is computer Ethics? State and Explain the categories of ethical problems and the unethical acts computer as an instrument of unethical behavior What is meant by hacking?	BTL-2	Understanding	PO8,PO3
3	Discuss in detail about the moral and ethical issues involved in use of computers?	BTL-2	Understanding	PO7,PO8
4	Explain the role of engineers as consultant and expert witness?	BTL-2	Understanding	PO7,PO8,PO11
5	Describe In details about the global issues of weapon development?	BTL-2	Understanding	PO7,PO8,PO12
6	Justify engineers as expert witness and advisors with suitable examples?	BTL-5	Evaluation	PO8,PO3
7	What is environment ethics? Explain its significance. Give some of the environment issues of concern to engineers?	BTL-2	Understanding	PO8,PO10
8	Discuss the various global issues that have an impact on business.	BTL-2	Understanding	PO7,PO8,P012

UNIT I HUMAN VALUES
Morals, values and Ethics – Integrity – Work ethic – Service learning – Civic virtue – Respect for others – Living peacefully – Caring – Sharing – Honesty – Courage – Valuing time – Cooperation – Commitment – Empathy – Self confidence – Character – Spirituality – Introduction to Yoga and meditation for professional excellence and stress management
PART – A
1.What are the characteristics of values?(NOV/DEC2017) Values are bipolar with a positive and a negative pole such as pleasant,painful,easy,difficult,strong,weak,rich,poor,beautiful,ugly,true,false,good,and bad
2.What are the two important ways of building courage?(NOV/DEC2017) The two important ways of building courage are given below raise your consciousness move from fear to action even if you expected to fail

<p>3. Define moral values with suitable examples ?(APRIL MAY 2017) (NOV 2013) (MAY 2015) Moral values are understood to be those that make a person good purely and simply as a person They are not qualities or attributes of the person but outside his or her control</p>
<p>4. Define the term service learning ?(APRIL MAY 2017) Service learning is a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience teach civic responsibility and strengthen communities</p>
<p>5.what are values ?(NOV/DEC 2016) (APRIL MAY 2010)(May 2016) values are understood to be those that make a person good purely and simply as a person They are not qualities or attributes of the person but outside his or her control</p>
<p>6.what is meant by self confidence ? (May 2016) Success comes to those who dare and act it seldom comes to the timid said our former pandit Jawaharlal Nehru also we know that faith in oneself is confidence gives rise to strength and courage to the mind</p>
<p>7. Specify how the Ethics is classified? Ethics Classification are done as follows Personal , Corporate , Professional</p>
<p>8. List some of the Personal Ethics ?</p> <ul style="list-style-type: none"> • Some of the Personal Ethics are Copying of Home works and tests • Copying of video CD's • Usage of college papers for personal use • Software piracy • Income taxes
<p>9. Define the term Ethics ? (NOV 2013) Term Ethics obtained from the Greek word ethos, which means study of what is wrong and what is right (or) study of good and bad character.</p>
<p>10. Define Engineering Ethics ? (NOV 2013) Engineering Ethics is The study of the moral issues and decisions confronting individuals and organizations engaged in engineering and The study of related questions about the moral ideas, character, policies, relationship of people and corporations involved in technological activities.</p>
<p>11.Define Values. A value is defined as a principle that promotes well-being or prevents harm.</p>
<p>12.What are Personal values? Emotional beliefs in principles regarded as particularly favorable or important for the individual.</p>
<p>13.What are ethical values? Trustworthiness, respect, responsibility, fairness, caring is ethical values</p>
<p>14.List out the five core human Values. The five core human values are: (1) Right conduct, (2) Peace, (3) Truth, (4) Love, and (5) Non-violence</p>
<p>15.List out the ways in which service learning is distinguished.</p> <ul style="list-style-type: none"> • Connection to curriculum • Learner's voice • Reflection • Partners in the community
<p>16.Define Self-Assertion. Self-assertion means that citizens must be proud of their rights, and have the courage to stand up in public and defend their rights. Sometimes, a government may usurp the very rights that it was created to protect. In such cases, it is the right of the people to alter or abolish that government (e.g., voting rights, rights call back).</p>
<p>17.What are the aspects of Honesty?</p> <ul style="list-style-type: none"> • Truthfulness • Trustworthiness. <p>Truthfulness is to face the responsibilities upon telling truth. One should keep one's word or promise. But trustworthiness is maintaining integrity and taking responsibility for personal performance.</p>

<p>18. Define Courage. Courage is the tendency to accept and face risks and difficult tasks in rational ways. Self-confidence is the basic requirement to nurture courage</p>
<p>19. List out the classification of courage. Courage is classified into three types, based on the types of risks, namely</p> <ul style="list-style-type: none"> • Physical courage • Social courage • Intellectual courage.
<p>20. Define co-operation. Co-operation means extending help to others, for a good cause. Co-operation may be through an idea, a suggestion, an assistance or physical work which extends to others for common benefit</p>
<p>21. What is Commitment? Commitment means <i>alignment to goals and adherence to ethical principles during the activities</i>. First of all, one must believe in one's action performed and the expected end results (confidence). It means one should have the conviction without a bit of doubt that one will succeed.</p>
<p>22. What do you mean by the term Virtues? The moral ideals in which a profession is dedicated specify the Virtues. Virtues are the desirable features of character, which related to other individuals, group, or organizations. They have as much to do with motives, attitudes, and emotions as they do with right or wrong conduct.</p>
<p>23. List some of the Models of Professional Roles? (May 2012) Some of the Models of Professional Roles are Savior, Guardians, Bureaucratic Servant, and Social Servants, Social enabler and catalyst and Game Players.</p>
<p>24. Define empathy. Empathy means putting self in a position of someone else and thinking as the later and reasoning suitable action.</p>
<p>25. List out the benefits of empathy.</p> <ul style="list-style-type: none"> • Good customer relations (in sales and service, in partnering). • Harmonious labor relations (in manufacturing). • Good vendor-producer relationship (in partnering.)
<p>26. Define Compromise? In a negative sense it means to undetermined integrity by violating one's fundamental moral principles. In a positive sense, however, it means to settle differences by mutual concessions or to reconcile conflicts through adjustments in attitude and conduct</p>
<p>27. Define Ethical Pluralism and Ethical Relativism? (APRIL MAY 2010) (APRIL MAY 2011) Ethical Pluralism means there are many views of looking at ethical problems and it is difficult to peg down to one solution, which is acceptable to all. Ethical Relativism is an action that is moral if it is within the framework of law or custom.</p>
<p>28. What is the main goal of Engineering Ethics? They should have a clear concept on related theories and standards involved To identify and enlist the types of ethical issues that is likely to occur</p>
<p>29. Distinguish self respect and self esteem? (Nov 2012) Self respect is a moral concept whereas Self esteem is a psychological concept. Self respect refers to the virtue of properly valuing oneself whereas self esteem refers to having a positive attitude towards oneself, the attitude may be excessive or unwarranted.</p>
<p>30. List out the categories of Civic Virtues.</p> <ul style="list-style-type: none"> • Civic Knowledge • Self-Restraint • Self-Assertion • Self-Reliance
<p>31. What is integrity? Integrity is defined as the unity of thought, word and deed (honesty) and open mindedness. It includes the</p>

capacity to communicate the factual information so that others can make well-informed decisions.
<p>32. Define work ethics Work ethics is defined as <i>a set of attitudes concerned with the value of work, which forms the motivational orientation</i>. The ‘work ethics’ is aimed at ensuring the economy, productivity, safety, health and hygiene, privacy, security and pension etc.,</p>
<p>33.What is service learning? Service learning refers to learning the service policies, procedures, norms, and conditions, other than ‘the technical trade practices’. The service learning includes the characteristics of the work, basic requirements, security of the job, and awareness of the procedures, while taking decisions and actions</p>
<p>34.Mention some civic virtues?</p> <ul style="list-style-type: none"> • To pay taxes to the local government and state, in time. • To keep the surroundings clean and green. • Not to pollute the water, land, and air • To follow the road safety rules. Etc.,
<p>35.Define Caring. Caring is feeling for others. It is a process which exhibits the interest in, and support for, the welfare of others with fairness, impartiality and justice in all activities, among the employees, in the context of professional ethics.</p>
<p>36.Define Sharing. Sharing is a process that describes the transfer of knowledge (teaching, learning, and information), experience (training), commodities (material possession) and facilities with others. The transfer should be genuine, legal, positive, voluntary, and without any expectation in return</p>
PART – B & C
<p>1.What is service learning? why service learning is important ? Explain characteristics of service Learning? <i>Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:199</i></p>
<p>2.Define Empathy State and explain the elements benefits of Empathy and compare Empathy with Sympathy? <i>Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:44</i></p>
<p>3.Explain the scope and importance of professional ethics in engineering? (MAY 17) <i>Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:41</i></p>
<p>4.Discuss the role of yoga for professional excellence and stress management? (MAY 17) (NOV 16) (NOV 15) <i>Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:2</i> https://www.yogajournal.com/meditation</p>
<p>5.Explain character and spirituality and their importance in ethics? (MAY 10) (MAY 16) <i>Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:40-49,384</i></p>
<p>6.Explain the important of self confidence in ethics ? (MAY 16) <i>Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:47</i></p>
<p>7.Explain in detail about engineering ethics and its philosophy? <i>Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:41</i></p>
<p>8.Where and how do moral problems arise in engineering? What is professional responsibility? Discuss theories about</p>

virtues. **(MAY 11)**

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:55

9.Discuss the scope and aims of Engineering ethics. Scope and aim of engineering ethics Professions and professionalism?

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:3

UNIT II ENGINEERING ETHICS	
Senses of „Engineering Ethics“ – Variety of moral issues – Types of inquiry – Moral dilemmas – Moral Autonomy – Kohlberg’s theory – Gilligan’s theory – Consensus and Controversy – Models of professional roles - Theories about right action – Self-interest – Customs and Religion – Uses of Ethical Theories	
PART – A	
1. State the three types of Inquiry?(NOV/DEC2017) (Nov 2015)	
<ul style="list-style-type: none"> ○ Normal inquiries ○ Conceptual inquires ○ Factual inquires 	
2. What are the two important versions of utilitarianism?(NOV/DEC2017)	
<ul style="list-style-type: none"> ● Act utilitarianism ● Rule utilitarianism 	
3.what is meant by engineering as experimentation ?(APRIL MAY 2017)	
During the course of an engineer’s carrier he is frequently involved in research experimentation or the testing of new products especially during the design phase one needs to apply various experimental procedures which is called experimentation	
4.state the important of ethical theories ?(APRIL MAY 2017)	
Ethical theories are helpful in understanding and resolving moral dilemmas <ul style="list-style-type: none"> ● Ethical theories are useful in justifying professional obligations and ideals 	
5.State Gilligan’s theory ? (May 2016)	
Gilligan refers her context oriented emphasis on maintaining personal relationship as the ethics of care and contrasts it with Kohlberg’s ethics of rules and rights .	
6.what is meant by consensus ? (May 2016)	
Consensus means agreement when an individual exercise moral autonomy he may not be able to attain same results as other people obtain in practicing their moral autonomy	
7. What does Moral Autonomy mean? (MAY 2013)	
Moral Autonomy means the skill and habit of thinking rationally on ethical issues based on moral concern.	
8. List the complexities that are involved in moral situations. (NOV 2012)	
<ul style="list-style-type: none"> ● Some of the complexities that are involved in moral situations are ● Vagueness ● Conflicting Reasons ● Problems of Disagreement 	
9. Define professionalism. (APR/MAY 2015)	
Professionalism is often defined as the strict adherence to courtesy, honesty and responsibility when dealing with individuals or other companies in the business environment. This trait often includes a high level of excellence going above and beyond basic requirements. Work ethic is usually concerned with the personal values demonstrated by business owners or entrepreneurs and instilled in the company’s employees. The good work ethic may include completing tasks in a timely manner with the highest quality possible and taking pride in completed tasks.	
10. State the use of ethical theories. (MAY/JUNE 2014)	
<ul style="list-style-type: none"> ○ In understanding moral dilemmas ○ Justifying professional obligations and ideals ○ Relating ordinary and professional morality 	
11. What are the modes of professional roles? (NOV/DEC 14)	
Some of the Models of Professional Roles are Savior, Guardians, Bureaucratic Servant, and Social Servants, Social enabler and catalyst and Game Players.	
12. What do you mean by ‘Profession’?(MAY/JUN 12)	
Profession defines as a Declaration of belief in a course for a job.	
13. Define the term Empathy. (MAY/JUN 12) (APRIL MAY 2010)	
The term “empathy” is used to describe a wide range of experiences. Emotion researchers generally define empathy as the ability to sense other people’s emotions, coupled with the ability to imagine what someone else might be thinking or feeling	
14. Define Ethics?(NOV/DEC 13)	
<ul style="list-style-type: none"> * Study of right or wrong. * Good and evil. 	

<ul style="list-style-type: none"> * Obligations & rights. * Justice.
<p>15. Define Engineering Ethics?(MAY/JUNE 2014,APR/MAY 11) (APRIL MAY 2011)</p> <ul style="list-style-type: none"> * Study of the moral issues and decisions confronting individuals and organizations engaged in engineering / profession. * Study of related questions about the moral ideals, character, policies and relationships of people and corporations involved in technological activity.
<p>16. What is the need to study Ethics?</p> <ul style="list-style-type: none"> * To responsibly confront moral issues raised by technological activity. * To recognize and resolve moral dilemma. * To achieve moral autonomy.
<p>17. What are the different levels of moral development suggested by Kohlberg?</p> <ul style="list-style-type: none"> • The different levels of moral development suggested by Kohlberg are • Pre-conventional • Conventional • Post-conventional
<p>18. Differentiate Moral and Ethics?</p> <p>MORAL:</p> <ul style="list-style-type: none"> • Refers only to personal behavior. • Refers to any aspect of human action. • Social conventions about right or wrong conduct. <p>ETHICS:</p> <ul style="list-style-type: none"> • Involves defining, analyzing, evaluating and resolving moral problems and developing moral criteria to guide human behavior. • Critical reflection on what one does and why one does it. • Refers only to professional behavior.
<p>19. What is the method used to solve an Ethical problem?</p> <ul style="list-style-type: none"> • Recognizing a problem or its need. • Gathering information and defining the problem to be solved or goal to be achieved. • Generating alternative solutions or methods to achieve the goal. • Evaluate benefits and costs of alternate solutions. • Decision making & optimization. • Implementing the best solution.
<p>20. Differentiate Micro-ethics and Macro-ethics?</p> <p>Micro-ethics : Deals about some typical and everyday problems which play an important role in the field of engineering and in the profession of an engineer.</p> <p>Macro-ethics : Deals with all the societal problems which are unknown and suddenly burst out on a regional or national level.</p>
<p>21. What are the three types of Inquiry? (MAY 2013)</p> <ul style="list-style-type: none"> ▪ Normative Inquiry – Based on values. ▪ Conceptual Inquiry – Based on meaning. ▪ Factual Inquiry – Based in facts.
<p>22. What are the sorts of complexity and murkiness that may be involved in moralsituations?</p> <ul style="list-style-type: none"> • Vagueness • Conflicting reasons • Disagreement
<p>23. What are the steps in confronting Moral Dilemmas?(NOV/DEC 12)</p> <ul style="list-style-type: none"> • Identify the relevant moral factors and reasons. • Gather all available facts that are pertinent to the moral factors involved. • Rank the moral considerations in order of importance as they apply to the situation. • Consider alternative courses of actions as ways of resolving dilemma, tracing the full implications of each. • Get suggestions and alternative perspectives on the dilemma.
<p>24. Define Moral Autonomy? (NOV/DEC 14,MAY/JUN 12)</p> <ul style="list-style-type: none"> • Self-determining • Independent • Personal Involvement • Exercised based on the moral concern for other people and recognition of good moral reasons

25. State Rawl's principles?(APR/MAY 11)

- Each person is entitled to the most extensive amount of liberty compatible with an equal amount for others.
- Differences in social power and economic benefits are justified only when they are likely to benefit everyone, including members of the most disadvantaged groups.

26. Give the various tests required to evaluate the Ethical Theories?

- Theory must be clear, and formulated with concepts that are coherent and applicable.
- It must be internally consistent in that none of its tenets contradicts any other.
- Neither the theory nor its defense can rely upon false information.
- It must be sufficiently comprehensive to provide guidance in specific situations of interests to us.
- It must be compatible with our most carefully considered moral convictions about concrete situations.

27. What are the criteria required for a Profession?

- Knowledge
- Organization
- Public Good

28. Give the general criteria to become a Professional engineer?

Attaining standards of achievement in education, job performance or creativity in engineering that distinguish engineers from engineering technicians and technologists.

- Accepting as part of their professional obligations as least the most basic moral responsibilities to the public as well as to their employers, clients, colleagues and subordinates.

29. Define Integrity & Compromise?

- Integrity is the bridge between responsibility in private and professional life.
- In a negative sense it means to undetermined integrity by violating one's fundamental moral principles.
- In a positive sense, however, it means to settle differences by mutual concessions or to reconcile conflicts through adjustments in attitude and conduct.

30. Give the two aspects of Honesty & two forms of Self-respect? (NOV 2016)

Truthfulness – meeting responsibilities concerning truth-telling.

Trustworthiness – Meeting responsibilities concerning trust.

two forms of Self-respect

- Recognition self-respect
- Appraisal self-respect

31. Explain Post-Conventional Level of Kohlberg Theory.

In the third level, the individuals are guided by strong principles and convictions but not by selfish needs or pressures from the society. Kohlberg calls the person in this level as Autonomous.

32. What are the types of Theories about Morality?

- Virtue ethics – Virtues and vices
- Utilitarianism – Most good for the most people
- Duty ethics – Duties to respect people

33. Explain Pre-Conventional Level of Kohlberg Theory.

It is the first level, which is based upon desire to derive benefits for one. The strong driving force at this stage is the desire to avoid punishment. People at this level try to act ethically only for self benefit and to avoid caught and punished. This is the development of children and few adults never cross this stage.

34. Explain Conventional Level of Kohlberg Theory.

In this level, the moral behavior of the individual is determined by the standards of the family, community, and society. Individuals at this level are motivated by the desire to be approved by others and to meet the expectations of the social unit. Kohlberg says that many individuals do not cross this level

35. Explain Post-Conventional Level of Kohlberg Theory.

In the third level, the individuals are guided by strong principles and convictions but not by selfish needs or pressures from the society. Kohlberg calls the person in this level as Autonomous.

36. What are the limitations or difficulties of Kohlberg Theory?

Theoretically, the classification was clear but when it is practically applied, it has some drawbacks namely, How to judge the individual belongs to the first, second or the third level. What are the criteria to judge and measure the individual for each level? The theory implies that the individual moral level is pre-programmed and inborn. If at all, any level can be changed it is not clear what the factors are.

37. Explain Pre-Conventional Level of Gilligan Theory.

It is the first level, which is based upon desire to derive benefits for one. The strong driving force at this stage is the desire to avoid punishment. People at this level try to act ethically only for self benefit and to avoid caught and punished. This is the development of children and few adults never cross this stage. (Same as Kohlberg Theory for this level alone)

38. Explain Conventional Level of Gilligan Theory.

Here the basic motive is willingness to sacrifice one's own interests and a strong desire not to hurt others interests. Mostly women come in this category.

39. Explain Post-Conventional Level of Gilligan Theory.

Here the individual strikes a mature balance between the two extremes – self interest on the one hand and sacrifice on the other hand. Here they apply context oriented reasoning like examining all facts, people and circumstances involved, rather than by applying general rules.

PART-B &C

1. What is meant by Moral Autonomy? Discuss the factors influencing person concern and the skills required to improve more Autonomy? (NOV 13)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:16

2. Describe the professional roles played by an engineer? (NOV 15)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:32

3. Describe Kohlberg and Gilligan's theories on moral autonomy? (MAY 11) (MAY 12) (MAY 15) (MAY 17) (NOV 15)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:18,19

4. Name and describe the theories of right action? (MAY 10) (MAY 17) (NOV 16)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:51

5. Explain the details about the senses of engineering Ethics? (MAY 16)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:15

6. Discuss in detail the various ethical theories and their uses? (MAY 10) (MAY 16) (NOV 13)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:70

7. Explain the levels of moral development proposed by Kohlberg and Gilligan. Also bring out the drawbacks of Kohlberg theory? (MAY 10) (MAY 14) (NOV 14) (NOV 13)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:18,19

8. Discuss the theories pertaining to moral autonomy with specific reference to consensus and controversy? (MAY 14)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:22

9. Explain the types of inquiries in engineering? (MAY 12) (MAY 15) (NOV 14) (NOV 13) (NOV 11)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:9

UNIT III ENGINEERING AS SOCIAL EXPERIMENTATION
Engineering as Experimentation – Engineers as responsible Experimenters – Codes of Ethics – A Balanced Outlook on Law.
PART – A
<p>1. What is meant by conscientiousness?(NOV/DEC2017) Conscientiousness means commitment to live according to certain values it implies consciousness Engineers have to be sensitive to range of moral values and responsibilities, which are relevant in a given situation.</p>
<p>.2. What are codes of Ethics referred to?(NOV/DEC2017) The primary aspect of codes of ethics is to provide the basic framework for ethics judgment for a professional The code of ethics are referred as code of conduct express the commitment to ethical conduct shared by members of profession. In other words these code furnish common agreed upon standards for professional conduct</p>
<p>3.what are the uncertainties occur in model design ?(APRIL MAY 2017) While designing a product the designer engineer must deal with many uncertainties many of the risks can be expressed as probabilities and as educated guesses The uncertainties are in the form of application of the product materials used for producing the product changing economic conditions unfavorable environment conditions ,temperature etc</p>
<p>4.how does the law facilitate ethics in engineering ?APRIL MAY 2017) Engineers are expected to play a vital role in framing implementation and propagating the rules of engineering also they have to strictly adhere to those rules</p>
<p>5.Differentiate scientific experiments and engineering projects ?(May 2016) The engineering experiments involve human beings as experimental subjects in fact clients and customers have more control as they own the authority of that project.</p>
<p>6. Give the limitations of codes ?(May 2016) (Nov 2014) (Nov 2015) The four limitations of codes of ethics are as follows : The codes of ethics are broad guidelines restricted to general and vague wordings/phrases. Engineering codes often have internal conflicts which may result in moral dilemmas</p>
<p>7.Define Engineering Ethics (MAY 2013)(NOV 2013) Engineering ethics is the study of moral issues and decisions confronting individuals and organizations involved in engineering and the study of related questions about moral conduct, character, ideals and relationships of peoples and organizations involved in technological development</p>
<p>8. What do you understand by “a balanced outlook on law”?(MAY 2013) In order to live, work, and play together in harmony as a society, we need to carefully balance individual needs and desires against collective needs and desires. This is done to obtain ethical conduct. Ethical conduct defines a strong element of altruism, provides such a balance</p>
<p>9 . What is meant by valid consent? (NOV 2011) A consent, which has been given voluntarily, is known as valid consent. Valid consent is also defined as consent based on the information a rational person would want together with any other requested information to make a rational decision.</p>
<p>10. What are the Senses of Engineering Ethics?(NOV/DEC 14) (NOV 2013)</p> <ul style="list-style-type: none"> • An activity and area of inquiry. • Ethical problems, issues and controversies. • Particular set of beliefs, attitudes and habits. • Morally correct.
<p>11.What are the features of Engineering experimentation. (NOV/DEC 14) (MAY/JUN 12)</p> <ul style="list-style-type: none"> • Partial ignorance • Final outcome of projects • Knowledge about product
<p>12.what are the salient features of informed consent in engineering experimentation?(APR/MAY 11) (Nov 2011) (MAY 2015) (Nov 2015) Informed Consent is understood as including two main elements:</p> <ul style="list-style-type: none"> • Knowledge [Subjects should be given not only the information they request, but all the information needed to make a reasonable decision].

<ul style="list-style-type: none"> • Voluntariness [Subjects must enter into the experiment without being subjected to force, fraud, or deception].
<p>13. Give ant two examples in field of engineering for learning from the past.(NOV/DEC12) (April 2014)</p> <ul style="list-style-type: none"> • 1.Titanic disaster • 2. Nuclear reactor accident at Three Mile Island
<p>14.What are the uncertainties occur in the model designs?</p> <ul style="list-style-type: none"> • Model used for the design calculations. • Exact characteristics of the materials purchased. • Constancies of materials used for processing and fabrication. • Nature of the pressure, the finished product will encounter
<p>15. Define Engineering Ethics?(MAY/JUNE 2014,APR/MAY 11)</p> <ul style="list-style-type: none"> * Study of the moral issues and decisions confronting individuals and organizations engaged in engineering / profession. * Study of related questions about the moral ideals, character, policies and relationships of people and corporations involved in technological activity.
<p>16. List the reason behind viewing engineering projects as experiments.(MAY/JUN 12)</p> <ul style="list-style-type: none"> ▪ Any project is carried out in partial ignorance. ▪ The final outcomes of engineering projects, like those of experiments, are generally uncertain. ▪ Effective engineering relies upon knowledge gained about products before and after they leave the factory – knowledge needed for improving current products and creating better ones.
<p>17. What reasons lead to many repetitions of past mistakes?(MAY/JUN 12)</p> <p>This might be expected that engineers would learn not only from their own earlier design and operating results, but also from those of other engineers. Unfortunately, that is frequently not the case. Lack of established channels of communication, misplaced pride is not asking for information, embracement at failure or fear of litigation and plain neglect often impede flow of such information and lead to many repetitions of past mistakes.</p>
<p>18. What is the method used to solve an Ethical problem?</p> <ul style="list-style-type: none"> • Recognizing a problem or its need. • Gathering information and defining the problem to be solved or goal to be achieved. • Generating alternative solutions or methods to achieve the goal. • Evaluate benefits and costs of alternate solutions. • Decision making & optimization. • Implementing the best solution.
<p>19. What are the general features of morally responsible engineers?</p> <ul style="list-style-type: none"> • Conscientiousness. • Comprehensive perspective. • Autonomy. • Accountability.
<p>20. What is the purpose of various types of standards?</p> <ul style="list-style-type: none"> • Accuracy in measurement, interchangeability, ease of handling. • Prevention of injury, death and loss of income or property. • Fair value of price. • Competence in carrying out tasks. • Sound design, ease of communications. • Freedom from interference
<p>21. Define Code?</p> <p>Code is a set of standards and laws.</p>
<p>22. What are the roles of codes of ethics?(MAY/JUN 12/NOV /DEC2017) (NOV 2016)</p> <ul style="list-style-type: none"> • Inspiration and Guidance • Support • Deterrence and Discipline • Education and Mutual Understanding • Contributing to the Profession’s Public Image • Protecting the Status Quo • Promoting Business Interests
<p>23. What are the problems with the law in engineering?</p> <ul style="list-style-type: none"> • Minimal compliance • Many laws are without enforceable sanctions
<p>24. Differentiate scientific experiments and engineering projects?</p> <p>Scientific experiments are conducted to gain new knowledge, while “engineering projects are experiments that</p>

are not necessarily designed to produce very much knowledge”.

25. What are the uncertainties occur in the model designs?

- Model used for the design calculations.
- Exact characteristics of the materials purchased.
- Constancies of materials used for processing and fabrication.
- Nature of the pressure, the finished product will encounter.

26. What are the types of Theories about Morality?

- Virtue ethics – Virtues and vices
- Utilitarianism – Most good for the most people
- Duty ethics – Duties to respect people

27. Differentiate Weak Preferential Treatment and Strong Preferential Treatment?

- Weak preferential treatment involves giving an advantage to members of traditionally discriminated-against groups over equally qualified applicants who are members of other groups.
- Strong preferential treatment involves giving preference to minority applicants or women over better qualified applicants from other groups

28. What are the types of Theories about Morality?

- Virtue ethics – Virtues and vices
- Utilitarianism – Most good for the most people
- Duty ethics – Duties to respect people

29. What are the problems with the law in engineering?

- Minimal compliance
- Many laws are without enforceable sanctions.

30. What are the two general ways to apply ethical theories to justify the basic right of professional conscience?

- Proceed piecemeal by reiterating the justifications given for the specific professional duties.

Justify the right of professional conscience, which involves grounding it more directly in the ethical theories

31. Define ethical accountability.(APR/MAY 2011)

The people those who feel their responsibility always accepts the entire blame for their actions. In short, it is known as accountability, which means being culpable (guilty) and hold responsible for faults and respond to the assessment of others. Accountable persons will conduct themselves based on the specific circumstances.

32. List the limitations of ethical codes.(APR/MAY 2011,NOV/DEC 14,MAY/JUN 09) (Nov 2011)

- Codes are restricted to general and vague wording.
- Codes can't give a solution or method for solving the internal conflicts.
- Codes cannot serve as the final moral authority for professional conduct.
- Codes can be reproduced in a very rapid manner.

PART – B & C

1. What are codes of Ethics ? State and explain the function of codes of ethics and the objective to codes ? (NOV 11)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:105

2. Discuss the problems associated with laws in engineering and Enumerate the proper role of law engineering ? (NOV 15)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:113

3. What is the importance of codes of ethics ? explain in detail ? (MAY 17) (NOV 15)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:105

4. How can an engineer become a responsible experimenter? Explain in detail ? (MAY 17)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:89

5. How can engineer become a responsible experimenter ? highlight the code of ethics for engineers ? (MAY 16)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:105

6. Discuss on the roles played by the codes of ethics set by professional societies? **(MAY 15) (MAY 16) (NOV 14)**

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:105

7. Explain “Engineers as Responsible Experimenters”.? **(MAY 12) (NOV 16)**

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:89

8. What are the moral and ethical lessons we can be learned from space shuttle challenger tragedy and how the principal actors behave as responsible experiments? **(MAY 10) (MAY 12) (MAY 14) (NOV 15) (NOV 14) (NOV 13)**

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:81

9. What are the similarities between engineering experiments and standard experiments? **(MAY 10) (MAY 11) (NOV 14)**

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:81,89

10. What are the aspects of engineering that make it appropriate to view engineering projects as experiments.

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:81

UNIT IV SAFETY, RESPONSIBILITIES AND RIGHTS
Safety and Risk – Assessment of Safety and Risk – Risk Benefit Analysis and Reducing Risk - Respect for Authority – Collective Bargaining – Confidentiality – Conflicts of Interest – Occupational Crime – Professional Rights – Employee Rights – Intellectual Property Rights (IPR) – Discrimination
PART – A
1. What are codes of Ethics referred to?(NOV/DEC2017) The primary aspect of codes of ethics is to provide the basic framework for ethics judgment for a professional the code of ethics are referred as code of conduct express the commitment to ethical conduct shared by members of profession. In other words these code furnish common agreed upon standards for professional conduct
2 Define Safety?(NOV/DEC2017) (Nov 2011) Safety means the state of being safe means protected from danger and harm The is always difficult to describe completely what may be safe for one person may not be safe for another person \
3. What is the use of risk analysis?(APRIL MAY 2017) (May 2012) (NOV 2013) (MAY 2015) In practice all the dangerous sports such as motorcycle racing skilling hang gliding bungee jumping horseback riding boxing etc are carried out under the assumed control of the participants these are use of risk analysis
4. Define the term collective bargaining? APRIL MAY 2017) (May 2012) <ul style="list-style-type: none">• International labor organization (ILO) has defined collective bargaining as negotiation about working conditions and terms of employment between an employer and one or more representative with a view to reaching agreement
5. Differentiate between Risk analysis and Risk benefit analysis (May 2016) (Nov 2015) Risk analysis is the process that allows management to demonstrate that it has met its obligation of due diligence when making a decision about forward with a new project Risk benefit analysis is a technique similar to cost benefit analysis used to analyze risk in the project
6. what is intellectual property right?(NOV/DEC2016) (NOV 2013) Intellectual property (IP) is a property that results from mental labor The intellectual property is originating mainly from the activities of the human intellect
7. Define Engineering Ethics (MAY 2013)(NOV 2013) Engineering ethics is the study of moral issues and decisions confronting individuals and organizations involved in engineering and the study of related questions about moral conduct, character, ideals and relationships of peoples and organizations involved in technological development
8. What shall be the approach of government Regulator towards risk mitigation? (MAY 2013) <ul style="list-style-type: none">○ A number of techniques are available for reducing risk. Some of them are Application of inherent safety concepts in design. For example in the case of liquefied gas, storage system the present trend is to replace pressurized storages with cryogenic storage at atmospheric pressure. Use of diversity and redundancy principles in instrumented protection schemes. Regular inspection and testing of safety systems to ensure reliability. Training of operating personal and regular audits to ensure workability of the systems and procedures.
9. What is meant by risk? State the causes of risks (NOV 2011) (Nov 2014) (NOV 2016) A risk is the potential that some thing unwanted and harmful may occur. These days the new risks are the less obvious effects of technology are now making way to public consciousness. The mathematical form is $R = P * C$ Causes of risks are job overconfidence, technological complacency, lack of safe exists
10. What is safety? What does relative safety express? (NOV 2011) A thing is safe if its risks are justified to be acceptable. Thus, a thing is safe if the perceived risk of the person, who judges is less and it is unsafe if the perceived risk are high. Relative safety indicates the safety the product with respect to similar things.
11. Give the criteria which helps to ensure a safety design? The minimum requirement is that a design must comply with the applicable laws. An acceptable design must meet the standard of “accepted engineering practice.”
12. Alternative designs that are potentially safer must be explored. Engineer must attempt to foresee potential misuses of the product by the consumer and must design to avoid these problems. Once the product is designed, both the prototypes and finished devices must be rigorously tested.
13. What are the factors for safety and risk? <ul style="list-style-type: none">• Voluntary and Involuntary risk

<ul style="list-style-type: none"> • Short-term and Long-term risk • Expected probability • Reversible effects • Threshold levels to risk
<p>14. What are the drawbacks in the definition of Lawrence?</p> <ul style="list-style-type: none"> • Underestimation of risks • Overestimation of risks • No estimation of risks
<p>15. Give the categories of Risk?</p> <ul style="list-style-type: none"> • Low consequence, Low probability (which can be ignored) • Low consequence, High probability • High consequence, Low probability • High consequence, High probability
<p>16. What are the factors that affect Risk Acceptability?</p> <ul style="list-style-type: none"> • Voluntarism and control • Effect of information on risk assessment • Job related pressures • Magnitude and proximity of the people facing risk
<p>17. What is the knowledge required to assess the risk?</p> <ul style="list-style-type: none"> • Data in design • Uncertainties in design • Testing for safety • Analytical testing • Risk-benefit analysis
<p>18. What are the analytical methods?</p> <ul style="list-style-type: none"> • Scenario analysis • Failure modes & effect analysis • Fault tree analysis • Event tree analysis etc
<p>19. What are the three conditions referred as safe exit? (APRIL MAY 2011)</p> <ul style="list-style-type: none"> • Assure when a product fails it will fail safely. • Assure that the product can be abandoned safely. • Assure that the user can safely escape the product.
<p>20. How will an engineer assess the safety?</p> <ul style="list-style-type: none"> • The risks connected to a project or product must be identified. • The purposes of the project or product must be identified and ranked in importance. • Costs of reducing risks must be estimated. • The costs must be weighed against both organizational goals and degrees of acceptability of risks to clients and the public. • The project or product must be tested and then either carried out or manufactured.
<p>20. What is the purpose of various types of standards?</p> <ul style="list-style-type: none"> • Accuracy in measurement, interchangeability, ease of handling. • Prevention of injury, death and loss of income or property. • Fair value of price. • Competence in carrying out tasks. • Sound design, ease of communications. • Freedom from interference
<p>21. What are the reasons for Risk-Benefit Analysis?</p> <p>Risk-benefit analysis is concerned with the advisability of undertaking a project. It helps in deciding which design has greater advantages. It assists the engineers to identify a particular design scores higher with that of the another one.</p>
<p>22. Are the engineers responsible to educate the public for safe operation of the equipment? How?</p> <p>Yes, as per the engineers are concerned with they should have their duty as to protect for the safety and well being of the general public. Analyzing the risk and safety aspects of their designs can do this.</p>
<p>23. Define Safety?</p> <p>In the definition stated by William W. Lawrence safety is defined, as a thing is safe if its risks are acceptable. A</p>

thing is safe with respect to a given person or group, at a given time, if its risk is fully known, if those risks would be judged acceptable, in light of settled value principles. In the view of objective, safety is a matter of how people would find risks acceptable or unacceptable.

24. What is the definition of risks? (NOV/DEC 13)

A risk is the potential that something unwanted and harmful may occur. Risk is the possibility of suffering harm or loss. It is also defined as the probability of a specified level of hazardous consequences, being realized. Hence Risk (R) is the product of Probability (P) and consequence(C) (i.e)

$$R = P * C$$

25. Define Acceptability of risks? (NOV/DE 14)

A risk is acceptable when those affected are generally no longer apprehensive about it. Doubtfulness depends mainly on how the people take the risk or how people perceive it.

26. What are the safety measures an engineer must know before assessing a risk of any product?

The factors are:

- Does the engineer have the right data?
- Is he satisfied with the present design?
- How does he test the safety of a product?
- How does he measure and weigh the risks with benefits for a product

27. What is the use of knowledge of risk acceptance to engineers?

Though past experience and historical data give better information about safety of products designing there are still inadequate. The reasons are

- The information is not freely shared among industries
- There also new applications of old technologies that provides available data, which are less useful.
- So, in order to access the risk of a product, the engineers must share their knowledge and information with others in a free manner

28 What is meant by Disaster? Give an example. (NOV 2013)

A disaster does not take place until a seriously disruptive event coincides with a state of insufficient preparation. Example: The Titanic collision with an iceberg constituted an emergency, which turned into a disaster because there were too few lifeboats

29.What are the positive uncertainties in determining risks?

- There are three positive uncertainties. They are:
- Purpose of designing
- Application of the product
- Materials and the skill used for producing the product.

30 What is the use of Risk-Analysis? What are the three factors involved here?

Risk Analysis is used for the assessment of the hazardous associated with an industrial or commercial activity. It involves identifying the causes of unwanted hazardous events and estimating the consequences and likelihood of these events. Three factors involved in this are:

- Hazard Identification
- Consequences analysis
- Probability estimation.

31. Explain the two types of Risk?

- Personal Risk:
- An individual, who is given sufficient information, will be in a position to decide whether to take part in a risky activity or not. They are more ready to take on voluntary risks than involuntary risks.
- Public Risks:
- Risks and benefits to the public are more easily determined than to individuals, as larger number of people is taken into account. Involuntary risks are found here.

32. What does Strict Liability mean?

Strict liability means if the sold product is defective; the manufacturer concerned is liable for any harm that results to users. Negligible is not at all an issue based.

33. What is the main barrier to educational attempts?

An important barrier to educational attempt is that people belief change slow and are extraordinarily resistant to new information.

34. What happens to the products that are not safe?

Products that are not safe incur secondary costs to the manufacturer beyond the primary costs that must also be taken into account costs associated with warranty expenses, loss of customer will and even loss of customers and so.

35. What does Open-mindedness refer to?

Open-mindedness refers once again not allowing a preoccupation with rules to prevent close examination of safety problems that may not be covered by rules.

<p>36. What was the problem in the Chernobyl reactor?</p> <ul style="list-style-type: none"> • The problem was that, • The output was maintained to satisfy an unexpected demand. • The control device was not properly reprogrammed to maintain power at the required level. • Instead of leaving fifteen control rods as required, the operators raised almost all control rods because at the low power level, the fuel had become poisoned.
<p>37.. What is the need for Protection to IPR? (APR/MAY 11)</p> <ul style="list-style-type: none"> • Prevent plagiarism. • Prevent others using it. • Prevent using it for financial gain. • Fulfill as an obligation to funding agency.
<p>38. List the problems related to price fixing?(APR/MAY 11)</p> <p>The person who were participated in the price fixing game were highly reputed officials of their companies and in their communities. one of the persons was the president of the local chamber of commerce. they did not consider their activities as crime or harmful. Many of them argued that their conduct was beneficial. They also argued that fixation of price was benefit to the public by stabilizing the prices. This crime of price fixing had been spread over the industries for a long period of time.</p>
<p>39. What are the main features of Whistle Blowing? (NOV/DEC 13,(APR/MAY 15) (Nov 2015)</p> <ul style="list-style-type: none"> • Act of disclosure • Topic • Agent • Recipient
<p>40. What does the term collective bargaining refer to?(APR/MAY 15,MAY/NOV/DEC2017) (NOV 2016)</p> <p>Collective bargaining is the negotiation process that takes place between an employer and a group of employees when certain issues arise. The employees rely on a union member to represent them during the bargaining process, and the negotiations often relate to regulating such issues as working conditions, employee safety, training, wages, and layoffs. When an agreement is reached, the resulting “collective bargaining agreement,” or “CBA,” becomes the <u>contract</u> governing employment issues.</p>
<p>41 What is meant by occupational crime(MAY/JUN 14)</p> <p>Occupational crimes are illegal acts made possible through one’s lawful employment. It is the secret violation of laws regulating work activities. When committed by office workers of professionals, occupational crime is called ‘white-collar crime’</p>
<p>42. What is the difference between bribe and gift.(NOV/DEC 14)</p> <p>A Bribe is a substantial amount of money or goods offered beyond a stated business contract with the aim of winning an advantage in gaining or keeping the contract. Gifts are not bribes as long as they are small gratuities offered in the normal conduct of business.</p>
<p>43. What does whistle blowing mean?(NOV/DEC 14)</p> <p>Whistle-blowing is alerting relevant persons to some moral or legal corruption, where “relevant persons” are those in a position to act in response, if only by registering protest. i.e. the employee disclosure of an employer’s illegal or illegitimate practices to persons or organizations that may be able to take corrective actions. The conditions to be met for whistle-blowing are</p> <ul style="list-style-type: none"> • Need • Proximity • Capability • Last resort
<p>44. Distinguish ‘ Institutional authority’ and ‘Expert authority’. (NOV/DEC 12)</p> <p>Institutional Authority is acquired, exercised and defined within organizations. It may be defined as the institutional right given to a person to exercise power based on the resources of the institution. Expert authority is the possession of special knowledge, skill or competence to perform task or give sound advice.</p>
<p>45. What do you understand by the term ‘Kick backs’? (NOV/DEC 12)</p> <p>Prearranged payments made by contractors to companies or their representatives in exchange for contracts actually granted are called kickbacks</p>
<p>46. Differentiate Human Rights and Professional Rights? (MAY/JUN 12)</p> <p>Human Rights – Possessed by virtue of being people or moral agents. Professional Rights – Possessed by virtue of being professional having special moral responsibilities.</p>
<p>47. Define Discrimination? (MAY/JUN 12)</p> <p>Discrimination means morally unjustified treatment of people on arbitrary or irrelevant grounds.</p>
<p>48. Define Collegiality?(NOV/DEC 13) (APRIL MAY 2010) (MAY 2015)</p> <p>Collegiality is a kind of connectedness grounded in respect for professional expertise and in a commitment to the</p>

goals and values of the profession and collegiality includes a disposition to support and cooperate with one's colleagues.
<p>49. What are the central elements of collegiality? (NOV/DEC 13)</p> <ul style="list-style-type: none"> • Respect • Commitment • Connectedness • Cooperation
<p>50. What are the two senses of Loyalty? (APRIL MAY 2011) (2013) (April 2014)</p> <p>Agency Loyalty – Acting to fulfill one's contractual duties to an employer. It's a matter of actions, whatever its motives.</p> <p>Identification Loyalty – Has as much to do with attitudes, emotions, and a sense of personal identity as it does with actions.</p>
<p>51. When may an Identification Loyalty be said as obligatory?</p> <p>Employees must see some of their own important goals as met by and through a group in which they participate. Employees must be treated fairly, each receiving his or her share of benefits and burdens</p>
<p>52. What is the relationship between the Loyalty to the company and Professional responsibility to the public?</p> <ul style="list-style-type: none"> • Acting on professional commitments to the public can be a more effective way to serve a company than a mere willingness to follow company orders. • Loyalty to companies or their current owners should not be equated with merely obeying one's immediate supervisor. An engineer might have professional obligations to both an employer and to the public that reinforce rather than contradict each other
<p>53. What is the basic moral task of salaried engineers?</p> <p>The basic moral task of salaried engineers is to be aware of their obligations to obey employers on one hand and to protect and serve the public and clients of the other.</p>
<p>54. What are the guidelines to reach an agreement?</p> <ul style="list-style-type: none"> • Attack problem and not people. Build trust. Start with a discussion and analysis of interests, concerns, needs. It begin with interests, not positions or solutions. Listen. Brainstorm; suggesting an idea does not mean one aggress with it. Develop multiple options. Use objective criteria whenever possible. Agree on how something will be measured
<p>55. Define confidential information?</p> <p>Confidential information is information deemed desirable to keep secret.</p>
<p>56. What are the criteria for identifying that information is "labeled" confidential at the workplace?</p> <ul style="list-style-type: none"> • Engineers shall treat information coming to them in the course of their as confidential. <p>Identify any information which if it became known would cause harm to the corporation or client</p>
<p>59. Define Conflicts of Interest?(MAY/JUN 12) (Nov 2011)</p> <p>Conflict of interests is a situation in which two or more interests are not simultaneously realizable. It is the disagreement between public obligation and self-interest of an official</p>
<p>60. Why does a conflict of interests arise?</p> <ul style="list-style-type: none"> • Financial Investments • Insider Trading • Bribe • Gifts • Kickbacks
<p>61. What are the types of Conflicts of interest?</p> <ul style="list-style-type: none"> • Actual conflict of interest • Potential conflict of interest • Apparent conflict of interest
<p>62. What are the forms of Conflicts of interest?</p> <ul style="list-style-type: none"> • Interest in other companies • Moonlighting • Insider information
<p>63. How will you solve the Conflict problems?</p> <ul style="list-style-type: none"> • Finding the creative middle way. • Employing Lower-level considerations. • Making the hard choice.
<p>64. What are the essential elements of IPR?</p> <ul style="list-style-type: none"> • Patents • Copyrights • Trademarks
<p>65. What are the requirements of Patents?</p>

- Problem of invention
- Current report of the problems to address
- Solution or procedure to the problem
- Extent of novelty or inventive
- Application or uses
- Details of the inventor

66. What are the types of Patents?

- Utility patents
- Design patents

PART-B & C

1.What is meant by conflict of interest? Distinguish between general and professional conflicts of interest and discuss the various types of conflicts of interest?

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:216

2.What are intellectual property rights? Explain the elements of intellectual property rights in details and benefits of IPRS? (NOV 15) (NOV 14)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:242

3.Discuss in detail about the employee Rights and its role in the organizations? (MAY 15) (MAY 17)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No: 264

4.What are the factors that affect risk acceptability? what is the use of knowledge of risk acceptance to engineer ? (MAY 14)(MAY 16)(NOV 15)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:141

5.Discuss The significance of intellectual property rights also explain the legislation covering IPR India? (MAY 16)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:242

6.Discuss the causes of Bhopal disasters. Explain the responsibility of engineers in the design of product in the design stage itself before the event of an accident? (MAY 11)(MAY 14)(NOV 13) (NOV 11)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:

7.Explain how the risks are reduced & explain the concept of 'Risk-Benefit Analysis'? (MAY 12)(MAY 14)(MAY 15) (MAY 17) (NOV 11) (NOV 13) (NOV 14)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:153

8.Write Short notes on Occupational crime , Whistle Blowing ,IPR, Discrimination? (MAY 10)(MAY 11)(MAY 15)(NOV 15) (NOV 13)

Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:242,274

UNIT V GLOBAL ISSUES

Multinational Corporations – Environmental Ethics – Computer Ethics – Weapons Development – Engineers as Managers – Consulting Engineers – Engineers as Expert Witnesses and Advisors – Moral Leadership – Code of Conduct – Corporate Social Responsibility

PART – A

1 . What is meant by technology transfer?(NOV /DEC2017) (APRIL MAY 2010)?

Technology transfer is the process of moving technology to a quite new set of conditions and implementing it there. The transfer of technology may be conducted by a variety of agents such as governments, volunteer service organizations, consulting companies and MNC.

2. Point out the responsibilities of consulting engineers?(NOV.DEC2017)

Consulting engineers generally exercise their consulting activities as independent; they are paid for their services by fees, not by salaries.

3.what do you mean by IPR ?(APRIL MAY 2017)(April 2014) (May 2016)

Intellectual property (IP) is a property that results from mental labor. The intellectual property is originating mainly from the activities of the human intellect.

4. How is corporate social responsibilities practiced ? (APRIL MAY 2017)

The MNC's and their employers have to obey the above human rights while exercise their business without fail.

5.what is moral leadership ?(NOV/DEC 2016) (APRIL MAY 2010) (NOV 2013) (MAY 2015) (Nov 2015)

When the leader's goals are not only permissible but also morally valuable then it's known as Moral leadership.

6.what is meant by Globalization ?(May 2016)

Our lives are increasingly dependent upon the goods/services provided over the world and are influenced by the business from around all the corners of the world. In general, the world has become a global village and has a good economy. This is the concept of globalization.

7.What is the basic ethical and moral responsibility of a manager-engineer?

Ethical responsibility:

The basic ethical responsibilities of managers are to produce a good product or valuable service, only after taking into consideration maintaining respect for human beings, which includes customers, employees and the general public.

Moral responsibility:

As managers, an engineer's moral responsibility is to produce safe and useful products that are also profitable.

8.What is meant by moral leadership ?(NOV/DEC 13)

- A leader, by definition, is one who guides, who shows the way by example. A leader, if he is to be effective, must have the ability to persuade others. If there is no persuasion, there simply is no leadership.
- In order to be able to persuade others to follow a course of action, a leader must have personal integrity. If a man cannot be trusted, he cannot lead, for the populous will not be guided by someone in whom they have no confidence.

9.Define the term ‘ Appropriate technology’.(NOV/DEC 12)

Appropriate technology means identification, transformation and implementation of the most suitable technology for a new set of conditions. These conditions include social factors which are apart from economic and technical engineering constraints. Identification can be done on the basis of human values and needs.

10.What is the Importance of IPR?

Give the inventors exclusive rights of dealing

- Permit avoiding of competitors and raise entry barriers.
- Permit entry to a technical market.

Generate steady income by issuing license

11.What is a Trade secret?

A trade secret is a secret formula, pattern, or device that is used in a business and provides a commercial advantage.

12.Differentiate External Whistle Blowing and Internal Whistle Blowing?

External Whistle Blowing – Information is passed outside the organization.

Internal Whistle Blowing – Information is conveyed to someone within the organization.

<p>13. Differentiate Open Whistle Blowing and Anonymous Whistle Blowing? Open Whistle Blowing – Individuals openly reveal their identity as they convey the information Anonymous Whistle Blowing – Involves concealing one’s identity</p>
<p>14. Define Employee Rights? Employee rights are rights, moral or legal, that involve the status of being an employee. They include some professional rights that apply to the employer-employee relationship</p>
<p>15. When are Whistle Blowing morally permitted and morally obligated</p> <ul style="list-style-type: none"> • Whistle blowing is morally permitted when • If the harm that will be done by the product to the public is serious and considerable. • If they make their concerns known to their superiors
<p>16. What are the three versions of Relativism?</p> <ul style="list-style-type: none"> ▪ Ethical Relativism ▪ Descriptive Relativism ▪ Moral Relativism
<p>17. What are the moral dimensions of an Engineer manager?</p> <ul style="list-style-type: none"> ○ Information rights and obligation ○ Property rights ○ Accountability and control ○ System quality
<p>18. Give any ten International rights suggested by Donaldson? (NOV/DEC 14)</p> <ul style="list-style-type: none"> • The right to freedom of physical movement. • The right to ownership of property. • The right to freedom from torture. • The right to a fair trial. • The right to nondiscriminatory treatment. • The right to physical security.
<p>19. Give some of the Environmental issues of concern to engineers?</p> <ul style="list-style-type: none"> ○ Releasing harmful substance into air and water. ○ Using toxic substance in food processing. ○ Disturbing land and water balances
<p>20. What are the issues in Computer ethics? (Nov 2011) (NOV 2016) Power Relationship Job Elimination Customer Relations Biased Software Stock Trading Unrealistic Expectations Political Power Military Weapons</p>
<p>21. What are the problems of Defense industry?</p> <ul style="list-style-type: none"> • Problem of waste and huge cost in implementing and maintaining a weapons system. • Problem of Technology creep. • Problems in maintaining secrecy. • Every country allocates large amount of its resources to defense sector [India spent ¼ of its resource for defense]
<p>22. What are ways to promote an Ethical climate?</p> <ul style="list-style-type: none"> • Ethical values in their full complexity are widely acknowledged and appreciated by managers and employees alike. • The sincere use of ethical language has to be recognized as a legitimate part of corporate dialogue. • The top level management must establish a moral tone in words, in policies, by personal example etc. • The management has to establish some procedures for resolving conflicts.
<p>23. What are the important forms of Conflicts?</p> <ul style="list-style-type: none"> • Conflicts based on schedules • Conflicts which arises in evolving the importance of projects and the department.

- Conflicts based on the availability of personal for a project.
- Conflicts over technical

24. What is meant by technology transfer? (APRIL MAY 2010) (Nov 2015)

- Separate people from the problem.
- Focus on interest and not on positions.
- Generate a variety of possibilities before deciding what to do.
- Insist that the result be based on some objective standard.

25. What are the normative models to be used to avoid conflicts?

- Hired Guns
- Value-neutral Analyst

26. What are the characteristics of an engineer as expert advisers in public planning and policy making?

- Honesty
- Competence
- Diligence
- Loyalty

27. How can Deceptive advertising be done?

- By outright lies.
- By half-truths.
- Through exaggeration.
- By making false innuendos, suggestions or implications.
- Through obfuscation created by ambiguity, vagueness or incoherence.
- Through subliminal manipulation of the unconscious.

28. Give the usage of the code of conduct? (NOV 2016)

The code of conduct will help the engineers to have a set of standards of behavior. They act as guidelines for their behavior. It helps to create workplaces where employees are encouraged to make ethical implications.

29. Point out the responsibilities of consulting engineers?(NOV /DEC 2017)

- Engineers shall hold paramount the safety, health and welfare of the public in the performance of their professional duties.
- Engineers shall perform services only in the areas of their competence.
- Engineers shall issue public statements only in an objective and truthful manner.
- Engineers shall act in professional matters for each employer or client as faithful agents or trustees, and shall avoid conflicts of interest.
- Engineers shall build their professional reputation on the merit of their services and shall not compete unfairly with others.
- Engineers shall act in such a manner as to uphold and enhance the honor, integrity and dignity of the profession.
- Engineers shall continue their professional development throughout their careers and shall provide opportunities for the professional development of those engineers under their supervision.

30. Enumerate the Code of Ethics by ASME? (May 2012)

Engineers uphold and advance the integrity, honor and dignity of the engineering profession by:

- I. using their knowledge and skill for the enhancement of human welfare;
 - II. being honest and impartial, and serving with fidelity their clients (including their employers) and the public; and
 - III. striving to increase the competence and prestige of the engineering profession.
1. Engineers shall hold paramount the safety, health and welfare of the public in the performance of their professional duties.
 2. Engineers shall perform services only in the areas of their competence; they shall build their professional reputation on the merit of their services and shall not compete Unfairly with others.

PART – B & C

- 1.State the types of concern for environment by the engineers discuss the Approaches to resolve environmental problems
What do professional codes of Ethics say about the environment?

<p><i>Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:377</i></p>
<p>2.What is computer Ethics? State and Explain the categories of ethical problems and the unethical acts computer as an instrument of unethical behavior What is meant by hacking? (MAY 07)(NOV 15) (NOV 14) (NOV 13) (NOV 11)</p> <p><i>Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:319</i></p>
<p>3.Discuss in detail about the moral and ethical issues involved in use of computers? (MAY 17)</p> <p><i>Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:375</i></p>
<p>4.Explain the role of engineers as consultant and expert witness? (MAY 14)(MAY 17)(NOV 15)</p> <p><i>Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:367</i></p>
<p>5.Describe In details about the global issues of weapon development? (MAY 10)(MAY 16)(NOV 11)</p> <p><i>Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:332</i></p>
<p>6.Justify engineers as expert witness and advisors with suitable examples? (MAY 10)(MAY 11)(MAY 16)(NOV 15) (NOV 14)</p> <p><i>Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:367</i></p>
<p>7.What is environment ethics? Explain its significance. Give some of the environment issues of concern to engineers? (MAY 10)(MAY 11)(MAY 15)(NOV 14)</p> <p><i>Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:302</i></p>
<p>8.Discuss the various global issues that have an impact on business. (MAY 15)</p> <p><i>Ref: Ethics in Engineering by Mike W. Martin and Roland Schinzinger, Pg.No:332</i></p>

