GE1301- PROFESSIONAL ETHICS & HUMAN VALUES

Question Bank

Unit – III

1. What are the conditions required to define a valid consent?

The consent was given voluntarily.

The consent was based on the information that rational person would want, together with any other information requested, presented to them in understandable form.

The consenter was competent to process the information and make rational decisions.

2. What are the two main elements which are included to understand informed consent?

Informed Consent is understood as including two main elements:

i. Knowledge [Subjects should be given not only the information they request, but all the information needed to make a reasonable decision].

ii. Voluntariness [Subjects must enter into the experiment without being subjected to force, fraud, or deception].

3. What are the general features of morally responsible engineers?

a. Conscientiousness.

b. Comprehensive perspective.

c. Autonomy.

d. Accountability.

4. What is the purpose of various types of standards?

a. Accuracy in measurement, interchangeability, ease of handling.

b. Prevention of injury, death and loss of income or property.

c. Fair value of price.

d. Competence in carrying out tasks.

e. Sound design, ease of communications.

f. Freedom from interference.

5. Define Code?

Code is a set of standards and laws.

6. Enumerate the roles of codes?

- ♣ 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

7. Give the limitations of codes?

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

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

a. Minimal compliance

b. Many laws are without enforceable sanctions.

9. What is the need to view engineering projects as experiments?

i. Any project is carried out in partial ignorance.

ii. The final outcomes of engineering projects, like those of experiments, are generally uncertain.

iii. 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.

10. Differentiate scientific experiments and engineering projects?

Scientific experiments are conducted to gain new knowledge, while "engineering projects are experiments that are not necessarily designed to produce very much knowledge".

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

a. Model used for the design calculations.

b. Exact characteristics of the materials purchased.

c. Constancies of materials used for processing and fabrication.

d. Nature of the pressure, the finished product will encounter.

12. Engineering is experimentation-Discuss.

Experimentation plays an important role in the design process. Preliminary tests are conducted from the time when it is decided to make a product in the following order.

1. Engineering concept. 2. Rough design. 3. Detailed design. 4. Production stage tests 5. Finished product

13. Engineers are responsible experiments-what are the four general features of such morally responsible engineers?

Engineers are the main technical persons. They are not the sole experimenters. Their responsibility is shared with the management, public and others.

The four general features of morally responsible engineers are:

1. Conscientiousness. 2. Relevant information. 3. Moral autonomy. 4. Accountability

14. Briefly describe the limitation of codes

Most codes are limited in many ways. Codes provide only a very general guidance for engineers to exercise their moral responsibilities, as social experimenters. They cannot expect codes to solve their moral problems in all cases.

15. Briefly list down the code of ethic for corporate members as per institution of engineers, India.

A balanced outlook on laws

In 1969, at Santa Barbara Offshore in California, there spilled about 12 lakhs litres of crude oil. This made the spectacular beach, a black one, for a stretch of about 50km. This also damaged wildlife and the tourist trade was affected. This disaster prompted new laws and strict controls to prevent such occurrences in the future.

In drafting safety regulation for offshore drilling experienced petroleum engineers, geologist and well drillers are to be involved. Some safeguards are also required by law. Following the Santa Barbara incident, then Secretary of Petroleum department ordered an inspection of thousands of offshore oil wells. The inspection showed that hundreds of wells lacked mandatory safety chokes. The Secretary ordered prosecutions.

A regulated society

In order to live, work and play together in harmony as a society we have to balance individual needs and desires, against collective needs and desires. Ethical conduct provides such a balance. Engineers should play an active role in establishing rules of engineering as well as in enforcing them.

Industrial Standards Among many areas, industry is one which welcomes greater accuracy and quality in respect of standards.

Standards decrease production cost. Standards not only help the manufacturers but also benefit the clients and the public. They help the industries to be more competitive but reduces importance on name brands and give the smaller manufacturer a chance to compete. International standards are becoming a necessity in world trade.

Laws serve as a protector of the ethical engineer, some laws are being slowly modified from the precedence of court verdicts. Sometimes engineer will try to settle cases out of the court, though this helps an engineer. It will not establish a legal precedence.