

SAFETY ENGINEERING  
IE-527

Time allowed: 3 Hrs

Max. Marks: 100

Note: Attempt any five questions.

- Q1. a) Discuss in detail about Hazards, their nature, Consequences and classifications.  
b) Discuss various hazard analysis techniques. Also discuss hazard prevention strategies.
- Q2. a) Discuss safety factors to be considered during operation and maintenance of plant and equipment.  
b) What are various types of fires? What are the strategies to be adopted for fire prevention?
- Q3. a) What are various types of costs associated with accidents? How they are assessed?  
b) Discuss organization structure of safety department along with role and responsibilities of each position.
- Q4. a) As an engineer how would you describe safety as an essential parameter in designing industrial production system?  
b) What is concept of system safety? Also discuss safety engineering analysis.
- Q5. a) What are various strategies to be adopted for reducing risk? Discuss.  
b) What are the various safety considerations to be kept in mind in regard to machine tools?
- Q6. a) Write short notes on  
i) B.I.S. codes on machine guarding.  
ii) Dangerous machine act.
- Q7. Discuss in detail and explain the various clauses of Indian boiler regulations in reference to safety.
- Q8. a) What are various contributions of ergonomical factors to plant and operator safety?  
b) Discuss contributions of safety engineering on plant productivity.