

Reg No.: _____



Jyothi Engineering College(Autonomous)
M.Tech Degree S2 (R) Examination, May 2026 (2025 Scheme)

25PIAT214 - INDUSTRIAL SAFETY IN ENGINEERING



Total Mark: 60

PART A

Answer All Questions

1. Explain the objectives and principles of safety management. Why is integration of safety, health, and environment essential? CO1 (5)
2. Explain accident causation theories and classification of accidents with examples. CO2 (5)
3. Explain different types of machine guards and their importance in industrial safety. CO3 (5)
4. Describe any two occupational diseases (e.g., silicosis) and their prevention methods. CO4 (5)
5. Classify different types of fire and explain methods of extinguishing fire. CO5 (5)

PART B

Answer Any Five Question(s)

6. A manufacturing unit has frequent minor accidents, but management is reluctant to invest in safety measures due to budget constraints. Analyze the situation and suggest how safety auditing and budgeting can improve conditions. CO1 (7)
7. An accident occurred in a plant due to improper handling of chemicals, causing injury to workers. Outline the steps you would follow to conduct an accident investigation and suggest hazard control measures. CO2 (7)
8. A company notices that certain workers are repeatedly involved in accidents. Analyze accident proneness and propose a job safety analysis (JSA) approach to reduce such incidents. CO2 (7)
9. A machine shop reports frequent injuries due to improper handling of machines and lack of guarding. Recommend safety measures including machine guarding and PPE usage. CO3 (7)
10. Workers in a metal processing unit are exposed to high noise levels and complain of hearing loss. Formulate a hearing conservation program and suggest control measures. CO4 (7)
11. A worker in a chemical plant shows symptoms of lead poisoning. Analyze occupational health risks and suggest preventive and control measures including OHS functions. CO4 (7)
12. A fire breaks out in an electrical control room due to overheating equipment. Analyze contributing factors, classify the fire, and suggest appropriate extinguishing methods and prevention strategies. CO5 (7)
