

Roll No.

Total No. of Questions : 09]

[Total No. of Pages : 02

Paper ID [A0838]

(Please fill this Paper ID in OMR Sheet)

B.Tech. (Sem. - 7th/8th)

INDUSTRIAL SAFETY AND ENVIRONMENT (ME - 402)

Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Four** questions from Section - B.
- 3) Attempt any **Two** questions from Section - C.

Section - A

Q1)

(10 x 2 = 20)

- a) Discuss the role of a safety specialist in employing the safety programmes in any manufacturing industry?
- b) How the industrial hazards of catastrophic nature can be taken care of in any organization?
- c) Enlist the factors that affect the thermal comfort of human body.
- d) Justify the use of natural lighting over artificial lighting in giving better working environment on the industrial shop floor?
- e) How types of accidents can be categorized according to the causes of events in any industry?
- f) Explain briefly what is meant by the term 'safety legislation'?
- g) Discuss the role of 'Vibration' as an environmental factor on human body and mind.
- h) Differentiate between 'Natural ventilation' and 'Mechanical ventilation' as related to industrial safety.
- i) What is the benefit of ISO standards for the customers / consumers of any product?
- j) How sound insulation can be taken care of during building construction?

Section - B

(4 x 5 = 20)

- Q2) Define the term 'Safety policy' as related to industrial safety. Discuss how safety inspection is carried out in an industry.
- Q3) What are the principles of good illumination and discuss the various colour codes used along with their purpose in any industry?
- Q4) Write a note on the common heat stress indices used in an industry. How heat exposure can be controlled in an industry?
- Q5) Discuss the selection criteria for proper ventilation in an industry giving due consideration to natural and mechanical ventilation.
- Q6) How vibration can be measured and controlled in an industry?

Section - C

(2 x 10 = 20)

- Q7) Discuss the need of environment control in an industry. How do 'noise' and 'heat' affect the efficiency and accuracy of the work environment? What essential steps need to be undertaken for safeguarding the health of workers in an industry?
- Q8) (a) Write a note on the need and objectives of 'safety standards' in an industry.
(b) Discuss how accidents are reported, investigated and analyzed in an industry? How does it help in the prevention of future accidents in that industry?
- Q9) Write notes on the following :
- (a) Measurement and mitigation of physical and mental fatigue as related to industrial environment.
- (b) Environmental standards for representative industries.

