



V SEMESTER B. TECH (ALL BRANCHES – OPEN ELECTIVE)

END SEMESTER ONLINE EXAMINATIONS, JANUARY-FEBRUARY 2021

SUBJECT: INDUSTRIAL SAFETY ENGINEERING [MME 4302]

REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer **ALL** the questions.
- ❖ Missing data may be suitably assumed.

- 1A.** Explain the cause(s) that triggered the gas leakage in LG plant at Vishakhapatnam. Also, explain the consequence of the caused industrial accident. **05**
- 1B.** Explain in brief the three forms to be used in case of industrial accident reporting, as prescribed by OSHA. **03**
- 1C.** Define the two statistical ratios along with the equations used in general for the accident measurement. **02**
- 2A.** Explain the concept of Behavioral Theory of Accident Causation with a suitable example. **05**
- 2B.** Enlist the office ergonomic standards. **03**
- 2C.** An industrial process liberates 10 cubic feet of carbon monoxide per hour into a room that measures 20 feet by 50 feet and has a ceiling height of 10 feet. What is the minimum general exhaust ventilation in cubic feet per second necessary to prevent a general health hazard in this room? Note that the permissible limit for CO gas as per OSHA is 50 ppm. **02**
- 3A.** With a neat sketch, write a short note on Carpal tunnel syndrome. **05**
- 3B.** Briefly discuss about the term hepatotoxins that is categorized as health hazard causing agents by OSHA. **03**
- 3C.** Sketch neatly the cloth tube type fabric filter. **02**
- 4A.** Write a short note on various categories of air contaminants as per the OSHA. **05**
- 4B.** You being an Industrial safety engineer write a short note on First Aid practices being followed in the firm. What according to you are we lacking in **03**

Indian Industries in this case.

- 4C.** Briefly explain the terms TEL and PEL. **02**
- 5A.** Briefly explain the five classes of fire as per the OSHA that can cause industrial accidents **05**
- 5B.** Explain in brief the use of the signal person concerning the material handling using cranes. **03**
- 5C.** With a neat sketch justify the right way of fixing the fans in the ventilation duct systems. **02**