

Enrollment No.

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20/12/24

COURSE NAME (Branch)- M.TECH (EEM)

II YEAR/ III SEM. EXAMINATION

Subject Name: INDUSTRIAL SAFETY

[Time: 3:00 Hours]

[Max Marks: 70]

NOTE:- ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS.

QUESTION NO. 1: ATTEMPT ANY FOUR PARTS (4*3=12)

- Define the concept of occupational environment and its relation to health.
- Explain how different environmental stresses impact human physiology in industrial settings.
- Name essential members of the occupational health team.
- Explain the effects of poor ventilation and indoor air quality on workers.
- Discuss the role of lighting and its effect on health and safety in industrial settings.
- Explain the emergency preparedness (on site & offsite)?

QUESTION NO. 2: ATTEMPT ANY THREE PARTS. (3*4=12)

- What is the significance of ergonomics in the workplace?
- Describe the types of interaction between humans and the occupational environment.
- What are the different types of occupational hazards, and how do they affect workers' health?
- Discuss the causes and effects of chemical hazards in industrial settings.

QUESTION NO. 3: ATTEMPT ANY THREE PARTS. (3*6=18)

- Explain the Hazchem code and its importance in the transportation of hazardous chemicals.
- Discuss the proper methods for storing hazardous chemicals in an industrial setting.
- What are the risks associated with the transportation of hazardous chemicals?
- How should hazardous substances be handled to ensure worker safety?

QUESTION NO. 4: ATTEMPT ANY TWO PARTS. (2*7=14)

- Explain the importance of risk management in the context of industrial safety.
- Discuss the role of engineering controls in minimizing industrial hazards.
- Describe the major provisions of the Hazardous Waste (Management, Handling, and Transboundary Movement) Rules, 2008.

QUESTION NO. 5: ATTEMPT ANY TWO PARTS. (2*7=14)

- Why What are the penalties for non-compliance with industrial safety regulations?
- Discuss the role of government agencies in enforcing industrial safety regulations.
- Discuss the key provisions of the Workmen's Compensation Act, 1923.

M. Tech. (EE)
2nd Yr, 3rd
20

Printing Pages : 1

Paper Code : MEEM-003

(C) SVSU 2024-25/R

20/12/24

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17-12-24

Printing Pages : 1

Paper Code :MEEM-302

(C) SVSU 2024-25/R

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COURSE NAME (Branch)- M.TECH (EEM)

II YEAR/ III SEM. EXAMINATION

Subject Name: AIR POLLUTION CONTROL

[Time: 3:00 Hours]

[Max Marks: 70]

NOTE:- ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS.

QUESTION NO. 1: ATTEMPT ANY FOUR PARTS (4*3=12)

- A) Explain the different types of aerosols and their sources.
- B) Define gases and vapors in the context of air pollution.
- C) What are air quality standards, and why are they essential?
- D) How is carbon monoxide produced, and what are its effects on human health?
- E) Discuss the sources and health effects of asbestos in the atmosphere.
- F) Explain the types and impact of metals as air pollutants.

QUESTION NO. 2: ATTEMPT ANY THREE PARTS. (3*4=12)

- A) Define a wind rose and its application in air pollution studies.
- B) Define atmospheric stability and its influence on air pollution levels.
- C) Describe the different types of plume behavior and their causes and How is effective stack height calculated, and why is it important?
- D) Explain the Gaussian dispersion model and its application in air pollution studies.

QUESTION NO. 3: ATTEMPT ANY THREE PARTS. (3*6=18)

- A) Explain the health effects of air pollution on humans and What are the effects of air pollution on animal health?
- B) What is the importance of monitoring air pollutants and Describe the process for sampling gaseous air pollutants.
- A) What are PM10 and PM 2.5, and why is it a concern for air quality?
- B) How is sulfur dioxide (SO₂) measured in the atmosphere?

QUESTION NO. 4: ATTEMPT ANY TWO PARTS. (2*7=14)

- A) Explain the general methods used to control gaseous pollutants.
- B) Explain the purpose and function of gravity settling chambers.
- C) What are incinerators, and how are they used to control air pollution

QUESTION NO. 5: ATTEMPT ANY TWO PARTS. (2*7=14)

- A) Discuss the role of government policies in managing air quality.
- B) What are the challenges in implementing air pollution control strategies in urban areas?
- C) Discuss the role of green belt development in controlling air pollution in India.

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COURSE NAME (Branch)- M.TECH (EEM)

II YEAR/ III SEM. EXAMINATION

Subject Name: WATER & SEWAGE TREATMENT

[Time: 3:00 Hours]

[Max Marks: 70]

NOTE:- ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS.**QUESTION NO. 1: ATTEMPT ANY FOUR PARTS (4*3=12)**

- A) Describe how urban drainage interacts with surrounding areas.
- B) Differentiate between a combined and a separate sewerage system.
- C) Discuss the planning considerations for designing a sewerage system.
- D) List the sources of sanitary sewage in urban areas.
- E) Define Dry Weather Flow (DWF) and its significance in sewage treatment.
- F) Describe the factors affecting the quantity of stormwater.

QUESTION NO. 2: ATTEMPT ANY THREE PARTS (3*4=12)

- A) Discuss the various materials used for sewer pipes and their characteristics.
- B) Describe the population forecasting method used in sewage quantity estimation.
- C) What is the use of it in storage and handling of hazardous substance?
- D) Describe engineering measures in health and safety measures?

QUESTION NO. 3: ATTEMPT ANY THREE PARTS. (3*6=18)

- A) Describe the differences between water supply pipes and sewer pipes.
- B) Explain the requirements for designing and planning a sewerage system.
- C) List the hydraulic formulas used to determine flow velocities in sewers.
- D) Why is it important to maintain minimum and maximum flow velocities in sewer pipes?

QUESTION NO. 4: ATTEMPT ANY TWO PARTS. (2*7=14)

- A) Explain the purpose and function of catch basins in wastewater management.
- B) Describe the role of flushing tanks in sewer maintenance.
- C) Describe the maintenance, cleaning, and ventilation requirements of sewers.

QUESTION NO. 5: ATTEMPT ANY TWO PARTS. (2*7=14)

- A) Describe the primary treatment processes in a sewage treatment plant.
- B) What is sedimentation, and how is it used in wastewater treatment?
- C) Explain the aerobic and anaerobic processes used in secondary treatment.
