

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
EIGHTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 2019

Course Code: CE494

Course Name: ENVIRONMENTAL HEALTH AND SAFETY

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks.

Marks

- 1 a) What are Occupational diseases? Explain any two occupational diseases (causes, effects on human body and preventive measures) caused by particulate matter arising from various industries. (6)
- b) Explain the difference between Lethal Dose (LD) and Effective Dose (ED) of toxins? Explain LD₅₀ and ED₅₀ (5)
- c) Discuss the health hazards arising from chemical fumes, mist, vapour and gases from various industries (4)
- 2 a) Explain local, systemic and chronic effects of industrial toxins. (5)
- b) Define Noise. Briefly explain the noise exposure regulations given by OSHA (5)
- c) Briefly discuss the classification of Biohazardous agents (5)
- 3 a) Explain the toxic effects of Lead and Chromium Heavy metals for workers handling it in industries. What are the modes through which these metals enter into the human body? (5)
- b) Explain Material Safety Data Sheet (MSDS) (5)
- c) Explain the different methods of control of chemical hazards arising due to dust and fumes (5)

PART B

Answer any two full questions, each carries 15 marks.

- 4 a) What are Ionizing Radiations? Explain the health effects of radiations on human body (5)
- b) Discuss the different health effects on humans and animals due to the depletion of Ozone layer (5)
- c) Explain the different safety aspects that are to be ensured while working on temporary scaffoldings and platforms in construction industries (5)

- 5 a) Explain the concept of clean coal combustion technology. Discuss the different clean coal combustion technologies adopted in thermal power plants (5)
- b) Explain the different safety actions to be taken when an electrical emergency arises (5)
- c) Discuss the safety methods which are to be adopted by workers handling Concrete in construction industry (5)
- 6 a) Explain the different methods of disposal of Radio-active waste (6)
- b) Discuss the various aspects of safety for workers engaged in Welding and Cutting work of metals (4)
- c) What precautions should workers take when transporting (moving) materials manually and mechanically (5)

PART C

Answer any two full questions, each carries 20 marks.

- 7 a) Discuss the different Eco-Friendly energy technologies (6)
- b) Define Hazardous waste. Explain in detail the characterization and classification of Hazardous waste (10)
- c) Explain the pollution control measures for handling suspended particulate matter in cement manufacturing industries (4)
- 8 a) Explain the various pollution control measures taken in Thermal Power Plants (5)
- b) Explain in detail the effluent quality standards of waste water (10)
- c) Explain the various treatment methods adopted for disposal of Hazardous waste (5)
- 9 a) Explain the pollution control measures taken in dyeing and pigment industries (8)
- b) Explain the recycling and reuse of radioactive waste material (6)
- c) Discuss in detail the pollution control measures taken for textile and tannery industries waste. (6)
