Roll No _____ **ID: RLI-095403**

One Year Post Diploma Course in Industrial Safety
Branch: Industrial Safety
Subject Name: Safety Engineering-II

Time Allowed : 3 Hrs. **MM:100**

Section –A

Note: Multiple Choice questions. All questions are compulsory. **10x1=10**

Q.1 All are the example of administrative control of occupational hazards except:
- a) Acclimatization of workers going to absorb in heat prone areas
- b) Shifting the workers from noisy area to non-noisy area who are suffering from initial stage of noise induced hearing loss
- c) Environmental monitoring
- d) Replace the workers from hazardous area to non-hazardous area

Q.2 Reduction in the weight in a hand-held vibratory tool can produce:
- a) Reduction of workload on joints (elbow, shoulder)
- b) Increase the vibration
- c) More chances of HAVS
- d) All of the above

Q.3 Which of the following information about the chemical substance is not provided in the section of the MSDS dealing with stability and reactivity?
- a) Flash point
- b) Packaging of the chemical
- c) Fire hazards and explosion hazards
- d) Flammable limits

Q.4 Oxygen levels are maintained between _____and _____ by volume; and ventilation is typically used to maintain permissible oxygen concentration
- a) 20.5% and 22.5 %
- b) 19.5% and 22%
- c) 30.5% and 32.5%
- d) None of the above

Q.5 Noise exposure can produce a permanent hearing loss in exposed individuals and it depends on the following factor:
- a) The sound intensity
- b) The length of time an employee is exposed to the noise
- c) Individual susceptibility
- d) All of the above

Q.6 Which of the following is standard deals with "Industrial Plant Layout – Code of Safe Practice"
- a) IS 8091
- b) IS 1893
- c) 1S 9081
- d) None of the above

Q.7 Which Zone as per hazardous zone classification is considered as most hazardous due to continuous presence of flammable vapours.
- a) Zone-0
- b) Zone-1
- c) Zone-2
- d) Zone-3

Q.8 Which of the following is standard deals with "Code of Practice for industrial lighting"?
- a) IS 5566
- b) IS 6665
- c) IS 5656
- d) None of the above

Q.9 The threshold of pain of noise for human ear is:
- a) 140 dB
- b) 130 dB
- c) 135 dB
- d) 145 dB

Q10 If two noise sources are each producing 90 dB right next to each other, the combined noise sound level will be dB, as opposed to 180 dB:

a) 93 dB
b) 94 dB
c) 92 dB
d) 90 dB

Section-B

Note: Objective type questions. All questions are compulsory. 10x1=10

Q.11 What do you meant by Administrative Controls in risk management?
Q.12 What is meant by Mechanical Ventilation?
Q.13 Give Full form of DBT and WBT.
Q.14 What is Whole Body Vibration?
Q.15 What is noise induced hearing loss?
Q.16 Differentiate between Hazard and Risk.
Q.17 What are the hazards associated with borrowed neutrals?
Q.18 Write a short note on Use of Colour as an aid in good housekeeping.
Q.19 Explain the importance of Bonding in avoiding static electricity.
Q.20 List precautionary measures to avoid head stroke.

Section –C

Note: Short answer type Questions. Attempt any twelve questions out of fifteen questions. 12x5=60

Q.21 Explain Risk Matrix used while carrying out HIRA and its significance.
Q.22 Elaborate the principles of good housekeeping to ensure safety at workplace.
Q.23 Describe the various undesirable effects of improper lighting at workplace and its control measures.
Q.24 Elaborate the factors to be considered while preparation of Emergency Response Plan for handling onsite and offsite emergencies of hazardous process industry.
Q.25 Explain the hazardous zone classification in a factory and its significance for job specific risk assessment
Q.26 Write a note on types of potable fire extinguisher and their applications.
Q.27 Write a short note on preventive measures to control noise at high noise prone area like Compressor House / Pump House in a factory.
Q.28 Explain the various factors affecting thermal comfort.
Q.29 Differentiate between Heat stress and Heat strain.
Q.30 Explain the reason for use of logarithmic scale i.e. dB for noise measurement instead of an absolute scale i.e. Pa/ Watt. What is difference between dB(A), dB(B) & dB(C)?
Q.31 Define the following terms:
a) Explosion
b) Detonation
c) Flash Point
d) Auto Ignition Temperature
e) LEL
Q.32 List the measures to ensure good ventilation in an industrial building. Explain with the help of diagram dilution ventilation system.
Q.33 Elaborate on heat balance equation for human body and its significance.
Q.34 Differentiate between direct and indirect lighting with suitable examples and sketches.
Q.35 What is meant by Fire Load? Illustrate with an example the process of determining fire load of a building.

Section-D

Note: Long answer type questions. Attempt any two questions out of three questions. 2x10=20

Q.36 Explain in detail the probable causes of fire and mitigation measure in a hazardous process industry.
Q.37 Enlist the important factors to be considered during Plant Layout to ensure safety at workplace.
Q.38 Explain in detail the phenomena of BLEVE. What are the causes and consequences of BLEVE?