

1st Year/One Year Post Diploma in Industrial Safety**Branch: Industrial Safety****Subject: Safety Engineering – I****Time: 3 Hrs.****Maximum Marks: 100****Section –A****Note: Objective type questions. All questions are compulsory.****10x1=10**

- Q.1 Why is it important for machine operators to receive proper training?
- a) To become experts in operating the machine
 - b) To impress their supervisors
 - c) To reduce the need for supervision
 - d) To understand potential hazards and safe operation of the machine
- Q.2 If a machine operation throws off chips or sparks:
- a) Operators should wear safety glasses.
 - b) Operators may need to wear a face shield.
 - c) The machine should have a shield to keep the hazards from reaching the operator.
 - d) All of the above.
- Q.3 What is the purpose of ergonomics?
- a) Another way to keep you busy
 - b) A way to make work less comfortable
 - c) Designing a task to fit the worker
 - d) A way to improve productivity
 - e) Both C and D
- Q.4 Day to day inspection should include
- a) Inspect the wire rope for abnormalities and/or damage
 - b) Inspect the block and hook for any crack or damage
 - c) Visually inspect limit switches for abnormalities and test for proper functionality
 - d) All of the above
- Q.5 Important factor while attaching the load is
- a) Use appropriate sling/hardware (work load limit)
 - b) Single angle
 - c) Centre of gravity alignment
 - d) All of the above
- Q.6 How to prevent falls of material from height?
- a) By providing the toe-boards
 - b) By securing the loose material
 - c) By using hand tools strap and tools bag
 - d) All of the above
- Q.7 Which is not a part of preventive maintenance?
- a) Routine maintenance
 - b) Periodic maintenance
 - c) Overhaul
 - d) None of above
- Q.8 An abrasive wheel is checked for cracks or defects with a...
- a) Sound or ring Test
 - b) Hit and trial Test
 - c) Forward or rewind Test
 - d) X-ray machine
- Q.9 Section 25 of the Factories Act, 1948 contains provisions on _____
- a) Employment of young person's on dangerous machines
 - b) Striking gears and devices for cutting off power
 - c) Self-acting machines
 - d) Work on or near machinery in motion
- Q.10 When working with power tools outdoors or in a damp environment, where should the cord be plugged in to
- a) A non-waterproof extension cord
 - b) A GFCI (Ground Fault Circuit Interrupter)

- c) An outlet without a grounding plug
- d) All of the above

Section-B

Note: Objective type questions. All questions are compulsory.

10x1=10

- Q.11 Full of SWL pertaining to crane.
- Q.12 The overhead crane that consist of parallel runways with a travelling bridge is called ____.
- Q.13 Formula of Factor of Safety.
- Q.14 The geometrical shape of warning sign is_____
- Q.15 _____does not prevent the fall, allowing the user to reach a zone where free fall risk exists, but should a free fall occur, the system stops it, limiting the length of fall to prevent collision with the ground, with the structure from where the worker is falling or other obstacles
- Q.16. ESD stands for _____
- Q.17 What is the natural material for rope fiber?
- Q.18 Yanking the electrical hose or the cord to disconnect it from the receptacle is the safe method. (True or False)
- Q.19 OSHA allows only _____ hours of exposure to 100 dBA sound levels
- Q.20 Wire cutting pliers that have plastic-covered handles should not be used to cut low-voltage, live electric wire. (True or False)

Section –C

Note: Short answer type Questions. Attempt any twelve questions out of fifteen questions.

12x5=60

- Q.21 What are the statutory provision of the safety guard of machine
- Q.22 Purchasing Policy
- Q.23 Inspection and testing of hand tools.
- Q.24 Various types of defects of wire ropes.
- Q.25 Ergonomics of machine guarding.
- Q.26 Role of preventive maintenance in accident prevention
- Q.27 The competent person under the Factories Act
- Q.28 Hazards associated with power presses.
- Q.29 Hazards associated with conveyor and safety devices of conveyor.
- Q.30 Incidental safety devices for machine guarding.
- Q.31 Write down the difference between lifting machine and lifting tackles.
- Q.32 Scaffold and its type
- Q.33 Fragile roof
- Q.34 Safety Belt and Lifeline for Working at Height
- Q.35 Improving safety and productivity through work place design

Section-D

Note: Long answer questions. Attempt any two questions out of three questions.

2x10=20

- Q.36 Discuss the statutory provisions related to lifts and hoists.
- Q.37 (i) Control Measures against the human errors.
(ii) potential tripping and slipping hazard
- Q.38 Define working at height. What are the hazards and risks while working at height.