

**Ist 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.