2023
PHYSICS
SEC
Paper : SEC0107803
Physics Workshop Skills

Time: 1.30 Hours
Full Mark: 30

The figures in the margin indicate full marks for the question.

1. Answer the following questions: **1x5=5**

(a) What is the difference between a regulated and unregulated power supply?
(b) What are the basic types of welding joints?
(c) What are the different welding processes?
(d) Can a multimeter be used for measuring very low resistance?
(e) Define inductor and capacitor?

2. Answer the following questions:(any five) **2x5=10**

(a) What is the least count of Screw gauge if the minimum linear scale division is 0.5 mm and circular scale marking are 200 division per 0.5 mm of the linear scale?
(b) What is screw pitch? Write two uses of screw gauge?
(c) Describe the use of sextant for measuring the height of a mountain?
(d) Write the working principle of Timer circuit?
(e) What is IC? Write different types of IC's.
(f) Discuss about the breaking system?
(g) Explain any two common welding defects.

(h) Give the main function of lubricants. Explain any two properties of lubricants.

(i) What is soldering? Explain the various components of a timer circuit.

(j) What is positive, zero and vernier scale?

3. Answer the following questions: (any three) **5x3=15**

(a) Describe the advantages and disadvantages of welding over soldering. Compare the applications of both the processes.

(b) Explain the different manufacturing methods: Casting, Foundry, Machining, Forming and Welding?

(c) Describe the working of a regulated power supply.

(d) Give advantages and disadvantages of disc brakes.

(e) Draw the block diagram of multimeter.

(f) Draw a diagram to show switching action of a transistor and explain.

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