

**2023/FYUG/ODD/SEM/  
PHYSEC-101T/030**

**FYUG Odd Semester Exam., 2023  
( Held in 2024 )**

**PHYSICS**

**( 1st Semester )**

**Course No. : PHYSEC-101T**

**( Workshop Skill )**

Full Marks : 50  
Pass Marks : 20

*Time : 2 hours*

*The figures in the margin indicate full marks  
for the questions*

**SECTION—A**

**Answer fifteen questions, selecting three from each**

**Unit : 1×15=15**

**UNIT—I**

- 1. What is a vernier calliper?**
- 2. Define vernier constant.**
- 3. What is international system of unit?**

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4. Define least count of a screw gauge.

UNIT—II

5. What are the methods of manufacturing?  
6. Why are alloys used in manufacturing?  
7. What is welding process?  
8. State one of the commonly used materials in manufacturing.

UNIT—III

9. What is lubricating oil?  
10. What are cutting tools?  
11. What are fitting tools?  
12. What type of blade is used to cut sheet metal?

UNIT—IV

13. What is the difference between fuse and switch?  
14. What is multimeter?

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15. What are the different parts of a multimeter?

16. What is the full form of VOM?

UNIT—V

17. State the principle of lever. Write an expression for its mechanical advantage.  
18. What is fulcrum?  
19. Which machine helps us to lift a heavy load with a lever?  
20. State the principles of power generation and transmission.

SECTION—B

Answer *five* questions, selecting *one* from each  
Unit : 2×5=10

UNIT—I

21. The specific heat of water is  $1 \text{ cal g}^{-1} \text{ } ^\circ\text{C}^{-1}$ .  
What will be its value in the SI unit?  
22. Explain in brief the working principle of a screw gauge.

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UNIT—II

23. State the difference between workshop and training.
24. Name an alloy with its constituent elements.

UNIT—III

25. What are machining processes?
26. Why is drill hole diameter always greater than drill bit diameter?

UNIT—IV

27. State the main difference between regulated power supply and unregulated power supply.
28. Mention few uses of a multimeter.

UNIT—V

29. How does a generator produce an electric current?
30. What is gear system? Why is gear system used?

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( Continued )

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SECTION—C

Answer *five* questions, selecting *one* from each  
Unit : 5×5=25

UNIT—I

31. What are the standard systems of measurement? Write the precautions to be followed when a metre scale being used for measuring a given length. 2+3=5
32. What is the use of a sextant? Describe the use of sextant for measuring the height of the buildings. 1+4=5

UNIT—II

33. What is manufacturing? Explain different types of manufacturing techniques. 1+4=5
34. What are welding defects? Explain briefly the various types of weld defects occurred in sheet of metal fabrication processes. 2+3=5

UNIT—III

35. State the names of some common types of bench vice. Explain the various tasks which are to be performed with the help of bench vice. 2+3=5

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( Turn Over )

( 6 )

- 36.** What are the different types of cutting tools which are commonly used? Explain their functions in brief. 2+3=5

UNIT—IV

- 37.** Explain with suitable diagram, how we need to connect a multimeter in a circuit to measure currents and voltages.
- 38.** What is a CRO? Give block diagram of CRO. Explain briefly the construction of CRO. 1+2+2=5

UNIT—V

- 39.** Explain the working principle of a lever. How does it determine mechanical advantage? 2+3=5
- 40.** Explain how electric power system generation, transmission and distribution are done.

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