

**2025/FYUG/ODD/SEM/
PHYSEC-101T/195**

FYUG Odd Semester Exam., 2025

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*

UNIT—I

1. Answer any three of the following questions :

1×3=3

- (a) What is meant by unit?
- (b) Mention two uses of sextant.
- (c) Write the formula of volume of a cylinder of radius a and length h .
- (d) State the principle on which screw gauge works.

2. Answer any one of the following questions :

2

- (a) Convert 1 erg into joule.
- (b) What are positive errors and negative errors in screw gauge?

(2)

3. Answer any *one* of the following questions :

- (a) Describe how you can measure the volume of a cylindrical body by using a slide calliper.
- (b) How can height the help of sextant? measured in detail.

UNIT—II

4. Answer any *three* of the following questions :

- (a) Define casting.
 - (b) What do you mean by foundry?
 - (c) What are welding defects?
 - (d) Mention the composition of steel.
5. Answer any *one* of the following questions :
- (a) Mention the various types of welding joint.
 - (b) What is alloy?
6. Answer any *one* of the following questions :
- (a) Explain the various types of joints commonly used in welding.
 - (b) Discuss in brief all the machining operations.

UNIT—III

7. Answer any *three* of the following questions :

- (a) Define bench vice.
- (b) What are lubricating oils?

(3)

(c) Define shaper.

(d) State one function of lathe.

8. Answer any *one* of the following questions : 2

- (a) What is the role of additives in lubricating oils?
- (b) Mention two applications of a bench vice.

9. Answer any *one* of the following questions : 5

- (a) Describe the process of drilling a hole on a workpiece by a pillar drill machine.
- (b) Describe some common materials used in cutting tools.

UNIT—IV

10. Answer any *three* of the following questions : 1×3=3

- (a) What is the requirement of good multimeter?
- (b) How can a multimeter be used as ammeter?
- (c) Mention one use of CRO.
- (d) What is regulated power supply?

11. Answer any *one* of the following questions : 2

- (a) Why is filter used in a regulated power supply?
- (b) Why is trigger used in an oscilloscope?

(Turn Over)

12. Answer any *one* of the following questions :
- (a) Describe the different components of an oscilloscope.
 - (b) What is a switching circuit? Explain basic construction of a relay switch.

UNIT—V

13. Answer any *three* of the following questions : 1×3
- (a) Define fulcrum.
 - (b) Mention the mechanical advantage of a lever system.
 - (c) What is pulley?
 - (d) What is brake?
14. Answer any *one* of the following questions :
- (a) What are the different types of pulley?
 - (b) Explain in brief the working of a gear.
15. Answer any *one* of the following questions :
- (a) State and prove the working principle of a lever.
 - (b) Describe different steps that one should follow while fixing a gear with a motor axel.

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