

**2024/FYUG/ODD/SEM/
PHYIDC-101T/056**

FYUG Odd Semester Exam., 2024

PHYSICS

(1st Semester)

Course No. : PHYIDC-101T

(Physics in Daily Life)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

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

UNIT—I

1. Answer any *four* from the following : $1 \times 4 = 4$

(a) What is International System (SI) of Units?

(b) What do you mean by power?

(c) What is renewable energy?

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(Turn Over)



(2)

- (d) What do you mean by momentum?
(e) What is the unit of measure for energy?

2. What is physical quantity? Define fundamental and derived quantity. 1+1=2

OR

3. Write the differences between precision and accuracy. 2
4. What is kinetic energy? State and prove law of conservation of linear momentum. 2+6=8

OR

5. What is meant by measurement error? Explain in detail different types of error in measurements. 2+6=8

UNIT—II

6. Answer any four from the following : 1×4=4

- (a) What is friction?
(b) What do you mean by weightlessness?
(c) What is spy satellite?

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(3)

(d) Write one difference between hot air and helium balloon.

(e) What do you mean by rocket?

7. What is gravity? Define acceleration due to gravity. 1+1=2

OR

8. How does the conservation of angular momentum hold true in case of the planets, orbiting around the sun? 2

9. What is meant by geosynchronous satellite? What is the difference between geosynchronous and geostationary satellite? What are the four main types of satellites? What is the speed of geosynchronous satellite? What are the advantages of geosynchronous satellites? Where is geosynchronous satellite used? 2+2+1+2+1=8

OR

10. What is the theory of friction? Write the advantages and disadvantages of friction. How does friction come into play in case of 'banking of roads' in a curved path? 2+3+3=8

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(4)

UNIT—III

11. Answer any *four* from the following : $1 \times 4 = 4$

- (a) What is the function of electric motor?
- (b) Write one difference between LCD and LED display.
- (c) What does MP4 player stand for?
- (d) What is the full form of 'RO' in water purifier?
- (e) What is the temperature gradient of a refrigerator?

12. What is the difference between analog and digital microphones? 2

OR

13. What is smart watch? State the differences between smart watch and normal watch. $1+1=2$

14. What is the purpose of water purifier? What are UV, UF and RO? Which purifier is the best UV or RO? What is TDS in water? What are the seven stages of purification of water?
 $1+1\frac{1}{2}+1+1+3\frac{1}{2}=8$

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(Continued)

(5)

OR

15. What is computer? What is the full form of computer? Who is the father of computer? How many types of computers are there? How many categories are there in computer system? $2+1+1+2+2=8$

UNIT—IV

16. Answer any *four* from the following : $1 \times 4 = 4$

- (a) What is radioisotope?
- (b) What is normal dB for humans?
- (c) What is the frequency of visible light?
- (d) What is the SI unit of sound intensity?
- (e) Why is noise pollution bad?

17. What is radioactivity? 2

OR

18. How do sound waves affect the ear? 2

19. What is the basic concept of colour? What is the basic principle of colour? What are visual defects? What causes vision defects? What causes bad vision? How can defects of vision be rectified? $1+1+1+1+3=8$

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(6)

OR

20. What is called acoustic? What is acoustic quality of buildings? Define acoustic comfort in buildings. What are five acoustic materials? What are the benefits of building acoustics? $1+2+1+2+2=8$

UNIT—V

21. Answer any four from the following : $1 \times 4 = 4$

- (a) What is the full form of DNA?
- (b) What do you mean by X-ray?
- (c) What is sterility disease?
- (d) Why is radiation given in small doses?
- (e) What is the highest recommended limit for radiation exposures?

22. What is ultrasound test used for? What diseases can ultrasound detect? $1+1=2$

OR

23. How does cancer cause infertility? 2

24. What are magnetic resonance imaging and computed tomography? What is a CT scan used for? What are the side effects of CT scan? Which is better, MRI or CT scan? What are the advantages and disadvantages of CT scan? $2+1+1+1+3=8$

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(7)

OR

25. What is full form of DNA? What is the full name of DNA test? What happens if DNA is damaged? What types of radiation can cause cancer and damage to a cell DNA? How does IR cause DNA damage? Can damaged DNA repair itself? $1+1+1+2+2+1=8$

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