2023/FYUG/ODD/SEM/
PHYIDC-101T/031

FYUG Odd Semester Exam., 2023
(Held in 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

SECTION—A

Answer *twenty* questions, selecting any *four* from each Unit : 1×20=20

UNIT—I

1. What is physical quantity?

2. What is International System (SI) of units?

3. Define kinetic energy.

4. Write one difference between renewable and non-renewable energy.

5. What do you mean by power?

UNIT—II

6. What is gravity?

7. Write one application of the conservation of angular momentum.

8. What is weather satellite?

9. Write one difference between hot air and helium balloon.

10. Write one application of Bernoulli's theorem.

UNIT—III

11. What is pressure cooker?

12. What is the main purpose of using micro-oven?

13. Write one difference between LCD and LED display.

14. What is the full form of 'RO' in water purifier?

15. What does MP3 player stand for?

UNIT—IV

16. What is radioactivity?

17. What is noise pollution?

18. Define radioisotope.

19. What is dB in noise?

20. What is the nature of sound wave?

UNIT—V

21. What is ultrasound?

22. What is the full form of DNA?

23. What is the purpose of high doses of radiation received in a short time?

24. What is the highest recommended limit for radiation exposures?

25. What is somatic in human person?

SECTION—B

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

UNIT—I

26. What is unit? What are standard basic units in Physics?

27. Write two differences between precision and accuracy.

UNIT—II

28. What is weightlessness? Write one case of weightlessness. 1+1=2

29. How the conservation of angular momentum holds true in case of the planets, orbiting around the sun?

UNIT—III

30. What is mobile phone? Write few advantages and disadvantages of mobile phone. 1+1=2

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

UNIT—IV

32. What is radioactive half-life?

33. What are visible colour spectra? What is the range of frequency of visible spectrum? 1+1=2

UNIT—V

34. What is ultrasound test used for? What disease can ultrasound detect? 1+1=2

35. How does cancer cause infertility? What diseases cause sterility? 1+1=2

SECTION—C

Answer *five* questions, selecting *one* from each Unit : 8×5=40

UNIT—I

36. What is linear momentum? State and prove the law of conservation of linear momentum. 2+6=8

37. What is an error in measurement? Explain in detail the different types of errors in measurements. 2+6=8

UNIT—II

38. What is friction? Write the advantages and disadvantages of friction. How friction comes into play in case of 'bending of cyclist' in a curved path? 1+4+3=8

39. What is satellite? Define geosynchronous satellite. Write the important features of the geosynchronous satellite. Why is its orbit called 'parking orbit'? 1+2+4+1=8

UNIT—III

40. What is electric fan? Who first devised the electric fan? Write four best uses of electric fan. Explain in detail the different pros and cons of electric fan. How are electric fans controlled? Why do electric fans commonly have three blades? 1+1+2+2+1+1=8

41. 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

42. What is radiation sickness or poisoning? What are the four stages of acute radiation syndrome? What are the effects of radiation? Discuss the medical application of radiation. 2+2+2+2=8

(Continued)

43. 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

44. What are MRI imaging and CT scan? What are the differences between MRI imaging and CT scan? What does CT scan show that MRI does not? 2+4+2=8

45. What are direct and indirect DNA? What are the direct and indirect action of ionization radiation on DNA? What is the difference between direct and indirect DNA damage? 2+3+3=8

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