



OEPH112

Reg. No.

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I Semester Degree Examination February/March - 2024

PHYSICS (Open Elective)

PHYSICS FOR ALL

(NEP Scheme - Freshers 2021-22 and Onwards)



Time : 2½ Hours

Maximum Marks : 60

Instructions to Candidates:

Follow the instructions given under each part.

PART - A

Answer any TEN questions. Each question carries 1 mark.

(10×1=10)

1. Which form of energy in TNT(Tri Nitro Toluene) is suddenly converted into heat energy?
2. Define power.
3. One kilowatt is equal to -----joules per second.
4. The source of energy in the sun is -----of hydrogen.
5. What are Spy satellites?
6. Objects float on water, if their density is -----than that of water.
7. Gravity map is used for the search of -----.
8. Air pressure is caused by -----of air above you.
9. Atom is electrically neutral. (True / False)
10. One sievert is equivalent to -----rem.
11. Which type of radiation from a radioactive substance has highest penetrating power?
12. What is radioactive dating?

PART - B

Answer any TEN questions. Each question carries TWO marks.

(10×2=20)

13. Define energy. What is the unit of energy which appears on the labels of food packages?
14. What happens to the kinetic energy of an object, if its velocity increases?
15. Mention any two advantages of battery-driven automobile compared to that driven by gasoline.
16. What is a solar cell? What is the maximum efficiency of a solar cell?
17. What is weightlessness?
18. What is a satellite? Which type of satellite is used for TV broadcasting?

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19. Expand i) GPS ii) LEO.
20. What is the nature of charge on i) proton and ii) electron
21. What are cosmic rays?
22. Mention any two types of radiations emitted by radioactive substances.
23. Write any two uses of isotopes which are radioactive.
24. What is linear effect with respect to radiation exposure?

PART - C

Answer any FIVE questions. Each question carries SIX marks.

(5×6=30)

25. a) What are smart rocks?
b) Explain how gasoline releases energy in an automobile. (2+4)
 26. Explain briefly the working of a hybrid automobile. (6)
 27. a) What is conservation of energy? Explain with an example. (5+1)
b) Expand LED.
 28. a) What is escape velocity? What is the value of escape velocity on earth?
b) Explain the principle of hot air balloon. (3+3)
 29. a) Mention three types of satellites based on their orbits.
b) What are the applications of artificial satellites? (3+3)
 30. Write a note on Geostationary satellites. (6)
 31. a) Write any two properties of alpha rays.
b) Explain briefly the demise of dinosaurs. (2+4)
 32. a) What are smoke detectors? How do they work?
b) What is radiation poisoning? Mention any two effects of radiation poisoning. (3+3)
 33. Distinguish between nuclear fission and nuclear fusion reactions. (6)
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