



OEPH112

Reg. No.

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I Semester B.A./B.Com./B.Sc. Degree Examination, April - 2023

PHYSICS

Physics For All (Open Elective)

(NEP-Freshers and Repeaters Scheme 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. Expand TNT.
2. How much energy is store in 12 ounce can of Coca Cola?
3. What is a solar cell?
4. What is the unit of energy which appears on the labels of food packages?
5. The pull of gravity between two objects was discovered by .....
6. Period of geostationary satellite is ..... hrs.
7. Hot air balloon rises till its ..... becomes equal to that of surrounding air.
8. Expand GPS.
9. The source of energy in the sun is ..... of hydrogen.
10. Expand STM.
11. A Sievert is equal to ..... rem.
12. What is the atomic number of hydrogen?

**PART - B**

Answer any **Ten** questions. Each question carries 2 marks.

(10×2=20)

13. What are smart rocks? How are they used?
14. Define power and write its unit.
15. Compare the energy stored per gm of
  - a. CCCs and
  - b. U-235 with equal weight of TNT.

[P.T.O.]



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16. Explain why gasoline is a popular fuel.
17. You weigh less or more on Moon. Explain.
18. Mention any two applications of satellites.
19. State Newton's third law.
20. Explain the meaning of escape velocity.
21. What are the constituents of an atom?
22. Explain the phenomenon of radioactivity.
23. What are Protons and neutrons made of?
24. Distinguish between fission and fusion reactions.

### PART - C

Answer any **five** questions. Each question carries 6 marks.

(5×6=30)

25. Briefly explain the damage caused when an asteroid hits the surface of the earth. (6)
  26. Explain the working of a hybrid automobile. (6)
  27. Explain briefly how power is generated by wind mill. (6)
  28. Explain how gravity is used to search for oil. (6)
  29. Write a note on geosynchronous and geostationary satellites. (3+3)
  30. What is momentum? State and explain the conservation of momentum with an example. (2+4)
  31. Mention any two properties of each of  $\alpha$ ,  $\beta$  and  $\gamma$  rays. (6)
  32. What is linear effect? Explain the plot of radiation dosage versus chance of excess cancer. (2+4)
  33. Explain the methods by which the age of rocks and fossils are measured? (6)
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