

FIFTH SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2025

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC20UPHY5D03 - ELEMENTARY MEDICAL PHYSICS

(Physics - Open Course)

(2020 Admission onwards)

Time : 2.00 Hours

Maximum : 60 Marks

Credit : 3

Part A (Short answer questions)Answer ***all*** questions. Each question carries 2 marks.

1. Explain the properties of γ – radiations.
2. Give an example for nuclear fusion.
3. What is Rayleigh scattering?
4. Define Photoelectric effect.
5. What are Radiopharmaceuticals?
6. What do you mean by Electrocardiography?
7. How does an electrical wave travel down a neuron?
8. How do X-Rays work?
9. What is Planar X-Ray Imaging?
10. What is X-Ray Fluoroscopy?
11. How do we generate ultrasonic waves?
12. What are the properties of Ultrasonic waves?

(Ceiling: 20 Marks)**Part B (Short essay questions - Paragraph)**Answer ***all*** questions. Each question carries 5 marks.

13. What is half life period? Obtain an expression for it.
14. Explain Rayleigh scattering.
15. Explain Radiation safety and protection.
16. What are normal and abnormal cardiac rhythms and also specify their symptoms?

17. What is EMG? How does it work?
18. What do you mean by Muscular Servomechanism? Also explain the potentials generated during muscle actions.
19. Explain Ultrasound Instrumentation and different modes in Ultrasound imaging.

(Ceiling: 30 Marks)

Part C (Essay questions)

Answer any ***one*** question. The question carries 10 marks.

20. What are different types of Non-Electrical parameters? Briefly explain the measurement of any three of them.
21. Explain Ultrasound Instrumentation and different modes in Ultrasound imaging. Discuss the hazards and safety of Ultrasound imaging.

(1 × 10 = 10 Marks)
