

20U513

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Name: .....

Reg.No: .....

**FIFTH SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2022**

(CBCSS - UG)

**CC20U PHY5 D03 - ELEMENTARY MEDICAL PHYSICS**

(Physics - Open Course)

(2020 Admission - Regular)

Time : 2.00 Hours

Maximum : 60 Marks

Credit : 3

**Part A** (Short answer questions)

Answer *all* questions. Each question carries 2 marks.

1. Define 1 atomic mass unit.
2. Give an example for nuclear fusion.
3. What are the classifications of X-Rays?
4. Define Photoelectric effect.
5. What is effective radiation dose?
6. What are different systems that controls the function of heart?
7. What is EEG?
8. What do you mean by Muscular Servomechanism?
9. List some properties of X-Rays.
10. What are the uses of X-Ray fluoroscopy?
11. What are the properties of Ultrasonic waves?
12. How are waves produced inside transducer?

**(Ceiling: 20 Marks)**

**Part B** (Short essay questions - Paragraph)

Answer *all* questions. Each question carries 5 marks.

13. Explain mass defect and binding energy.
14. What is photoelectric effect? Explain its applications.
15. What are radiopharmaceuticals? Briefly explain their uses.
16. Explain the function of brain and the bioelectric potentials generated in the brain.
17. Explain different sleep stages.

18. What is X-Ray imaging? Explain planar X-Ray Imaging.
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 some methods for temperature and pulse rate measurements.
21. What are Ultrasonic waves?
  - a) Explain the generation and detection of Ultrasonic waves.
  - b) Explain Ultrasonic instrumentation and imaging.

**(1 × 10 = 10 Marks)**

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