22U517 (Pages: 2) Name: .....

Reg.No: .....

FIFTH SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2024

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC20U PHY5 D03 - 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 relation between mass number and radius of a nucleus.
2. Explain the properties of ϒ – radiations.
3. Why fusion reactions are called thermonuclear reactions?
4. Define Photoelectric effect.
5. What is the unit of radioactive dosage?
6. What is Sphygmomanometer?
7. What all parameters are being diagnosed using EMG?
8. What do you mean by Muscular Servomechanism?
9. What are Ultrasonic waves?
10. How do we detect ultrasonic waves?
11. What are the properties of Ultrasonic waves?
12. What is the role of transducer used in ultrasound imaging?

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

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

13. Explain Compton scattering.
14. Write a short note on photoelectric effect.
15. Explain electrical behaviour of cardiac cells.
16. What are normal and abnormal cardiac rhythms and also specify their symptoms?
17. What are the properties of X-Rays and How are they produced?

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 ***two one*** question. The question carries 10 marks.

20. Give a brief idea about Radiation exposure.
    (a) What are Radiopharmaceuticals?
    (b) What are their uses
    (c) How do they work?

21. What is an Electroencephalography?
    (a) Explain the function of the brain and the bioelectric potentials produced inside the brain.
    (b) How does an electrical wave travel down a neuron?

(1 × 10 = 10 Marks)

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