K25FY3072 Pages: 2 Reg No:.....
Name:.....

Third Semester FYUGP Degree (Reg) Examination November 2025

KU3VACPHY101 - RADIATION HAZARDS AND PROTECTION

2024 Admission onwards

Time : 1.5 hours Maximum Marks : 50

Section A

Answer any 6 questions. Each carry 2 marks.

1. How are indirect effects of radiation caused?
2. What is Acute Radiation Syndrome (ARS)?
3. Define equivalent dose. Write the SI unit of equivalent dose.
4. Define absorbed dose. Write the SI unit of absorbed dose.
5. Who is referred to as a "representative person" in radiological protection?
6. Name the agency is behind the document, "Dosimetry in diagnostic radiology- An international code of practice"
7. What do you mean by half life period? How is it related to decay constant?
8. what do you mean by positive beta emission?

Section B

Answer any 4 questions. Each carry 6 marks.

9. Discuss the conditions for changing dose limits for pregnant workers through history.
10. Compare the tissue weighting factors for fetus and adult tissues as per ICRP guidance.
11. Give an account of 'Reference levels' in exposure situations?
12. What do you mean by ionising and nonionising radiation ? Give examples
13. Explain photo electric effect and give the expression for maximum energy of emitted electrons
14. Write a note on pair production.Give the significance of a minimum energy value of the photon involved in pair production

Section C

Answer any 1 questions. Each carry 14 marks.

15. Evaluate the differences between stochastic and deterministic effects of radiation exposure.

16. Define tissue weighting factor and discuss the values recommended by ICRP (Publication 103). Explain how these values are used in effective dose calculation.