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ZOS 555

Fourth Semester M.Sc. Examination, September/October 2022

(CBCS)

ZOOLOGY

Radiation Biology

Time : 3 Hours

Max. Marks : 70

Instructions : 1) Answer **all** questions.

2) Give illustrations **wherever** necessary.

I. Write short notes on :

(5×2=10)

- a) Pair production.
- b) GM counter.
- c) Radiolysis of water.
- d) Radioactive disposal.
- e) Radiation hormesis.

II. a) Discuss the modes of interaction of X- rays with matter. Add a note on applications of X- rays.

12

OR

- b) Explain the types and sources of ionizing radiations. Add a note on radiation doses and units.

III. a) Explain the principle of radiation dosimetry. Add a note on physical dosimeters.

12

OR

Write notes on :

- b) Frick dosimetry
- c) High and low dose indicator.

P.T.O.



IV. a) Discuss the effects of radiation on nucleic acids, proteins and carbohydrates. **12**

OR

b) Describe the different types of chromosomal damages induced by radiation.

V. a) Elaborate on radiation induced external and internal hazards and their evaluation. **12**

OR

b) Give an account of radiation protection measures in radioisotope laboratories.
Add a note on Maximal Permissible Dose (MPD).

VI. a) Write an account on radioimmunoassay and its applications. **12**

OR

b) Discuss on the applications of radioisotopes in agriculture, plant breeding and in medicine.
