Examination for Diploma, Part 1

Clinical Radiobiology

Time allowed : 3 hours

ALL QUESTIONS ARE TO BE ATTEMPTED.

All questions are of equal value. Clearly labeled diagrams should be drawn wherever relevant.

1. Describe the mammalian cell cycle and the variations in sensitivity observed following exposure to ionizing radiation, cytotoxic drugs and hyperthermia.

2. Write an essay on the significance of the time factor in radiotherapy.

3. Describe radiation injury of the lungs.

4. Discuss predictive assays of tumours. In your answer briefly describe the current limitations and potential uses of the assays discussed.

5. In RADIOBIOLOGICAL terms write short notes on three of the following:

   (A) Radiation-induced strand breaks in DNA.
   (B) Imperfections in the Linear-Quadratic model.
   (C) Radiosensitivity in terms of Do.
   (D) Radiation-induced apoptosis.

6. This question is of the multiple choice format and is to be answered on the separate QUESTION DOCUMENT provided according to the instructions of the document itself.

JANUARY 1995