

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH



(A DEEMED TO BE UNIVERSITY)

B.Sc. Allied Health Sciences Third Year Semester-V

April 2024 Examination

B.Sc. Radiotherapy Technology (RTT)

Time : 2 Hrs 30 Min

Paper – I

[Max. Marks : 80]

Radiation Physics

Q.P Code: K5580

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

- 1 What are the biological effects of radiation and explain in detail.
- 2 Write about gas filled detectors and its types.

SHORT ESSAY

6 X 5 = 30 Marks

- 3 Write about the properties of Iridium 192, Cobalt 60, Cesium 137, Iodine 125, Palladium 103 radioisotopes used in brachytherapy.
- 4 What is pocket dosimeter? Write about its principle and advantage.
- 5 Write briefly about Compton effect with neat diagram.
- 6 Write in detail Direct and indirect effect of radiation.
- 7 Write about well type chamber in detail.
- 8 Explain about IMRT , IGRT and VMAT

SHORT ANSWERS

10 X 3 = 30 Marks

9. What are the protective materials used for shielding?
10. What is tube voltage and tube current?
11. Basic principles of radiation protection.
12. Define SSD, SAD and Dmax?
13. Define TPR and TMR.
14. Write the Properties of X-rays.
15. Write properties of tungsten and molybdenum.
16. What are the types of brachytherapy? Mention some examples for the same.
17. Define early effects and late effects with proper examples.
18. What is scattering foil and what type of material is made?

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B.Sc. Allied Health Sciences Third Year Semester-V

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B.Sc. Radiotherapy Technology (RTT)

Time : 2 Hrs 30 Min

Paper – II

[Max. Marks : 80]

Principle and Practice of Radiotherapy

Q.P Code: K5590

*Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.*

LONG ESSAY

2 X 10 = 20 Marks

- 1 Skin cancers and their management
- 2 Explain the principle and functioning HDR remote after-loading machine. Mention the radioactive isotopes used & 3 applications

SHORT ESSAY

6 X 5 = 30 Marks

- 3 Work up and staging of Ca Breast
- 4 Steps of Simulation CT scan
- 5 RT portals and dose for treatment of Ca Tongue
- 6 Intra oral prosthesis(Mouth bite) - Where is it used and its advantages
- 7 Management of Skeletal metastasis
- 8 Explain the Indications, procedure, planning and dose of ISBT in Ca Cervix

SHORT ANSWERS

10 X 3 = 30 Marks

- 9 Define Half-life & what is the half-life of Co-60, Ir-192
- 10 Prophylactic dental check up
- 11 Grading of Radiation induced enteritis and its management
- 12 Name 3 routes of drug administration
- 13 Disadvantages of Linac over Telecobalt machine
- 14 Shoulder retractor and its uses
- 15 What is Haemostatic RT - mention its Dose
- 16 Mention 4 types of commonly used IV fluids
- 17 What is Organ at risk..?
- 18 Define Point A & Point B

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