

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH



(A DEEMED TO BE UNIVERSITY)

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

March / April 2026 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.

I. LONG ESSAY

2 X 10 = 20 Marks

- 1 What is gas filled detectors and explain about the types of gas filled detectors?
- 2 What is meant personnel monitoring device and explain about TLD – principle, advantages, uses and types.

II. SHORT ESSAY

6 X 5 = 30 Marks

- 3 What are the beam modifying devices used in radiotherapy.
- 4 What are shielding materials using for radiation protection?
- 5 Explain in detail about Chromosomal aberration and its types.
- 6 Difference between stochastic and deterministic effect.
- 7 Write about the Pocket dosimeter with neat diagram
- 8 Write about the parts of telecobalt machine.

III. SHORT ANSWERS

10 X 3 = 30 Marks

- 9 What is meant Early effects and late effects? Give examples for the same.
- 10 Define workload, use factor and occupancy factor.
- 11 Explain about Phantom material.
- 12 Write about bolus material.
- 13 Define TAR and PDD.
- 14 What is meant HVT and TVT? Write its relationship.
- 15 Define Absorbed dose and exposure with its units.
- 16 Define Half-life and tenth-life.
- 17 Define GTV, CTV and PTV.
- 18 What the daily QA checks doing for linear accelerator and mention its tolerance.

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Time: 2. 30 Hrs.

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.*

I. LONG ESSAY

2 X 10 = 20 Marks

1. Radiotherapy in Cancer cervix - Dose, portals, 2 field & 4 field plans.
2. Parts and working of Telecobalt machine

II. SHORT ESSAY

6 X 5 = 30 Marks

3. Management of Patients with Naso-gastric tube(Ryles tube)
4. IV contrast - use, administration and complications
5. Lung cancer and role of Radiotherapy
6. RT planning in Ca Rectum - Borders, Portals and Dose
7. Pre-radiotherapy counselling
8. Central vaginal sorbo application -Use, Procedure and dose schedule

III. SHORT ANSWERS

10 X 3 = 30 Marks

9. Grades of Radiation induced skin reactions
10. 3 Uses of Electrons in Radiotherapy
11. Magnetron
12. Tolerance dose of Spinal cord, Lung and Brain stem
13. Define GTV, CTV and PTV
14. Symptoms of Breast cancer
15. Side effects associated with pelvic RT
16. Concurrent chemotherapy - Definition and two examples
17. Late side effects of brachytherapy in Ca Cervix
18. Symptoms of Lung cancer

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