PAPER CODE: AHS20010

KALOJI NARAYANA RAO UNIVERSITY OF HEALTH SCIENCES

TELANGANA, WARANGAL – 506 002

B.Sc. (ALLIED HEALTH SCIENCES), SECOND YEAR DEGREE EXAMINATIONS: MAY, 2025

RADIOLOGY AND IMAGING TECHNOLOGY

PAPER-I

PHYSICS OF DIAGNOSTIC RADIOLOGY RADIOGRAPHIC EQUIPMENTS

Time: 3 Hours **Max Marks: 80**

Note: Answer all questions
Draw diagrams whenever necessary with Black Ball point pen /HB pencil /any dark Color pencil.

Write an essay on any TWO of the following questions: 2 X 10 = 20

1. Mention different types of Radiation detectors. Explain in detail about Gas filled detectors.
2. What are different types of Generators? Explain in detail about Three phase generators.
3. Mention types of modern X- ray tube. Write in detail about construction and working of a Rotating anode tube.

Write a short note on any FIVE of the following: 5 X 6 = 30

4. What are Rectifiers? Types of rectifiers. Wite about Full wave rectifiers.
5. X- ray tube shielding.
6. Name the effects on which detection of radiation is based. Write a brief note on its effects.
7. Coherent scattering.
8. TLD badge and its working principle.
9. Define exposure, its units and how it is measured in radiation monitors?

Write briefly on the following: 10 X 3 = 30

10. Focusing cup.
11. Power rating.
12. Absorbed dose.
13. Anode angle.
14. Attenuation.
15. Ionization.
16. Applications of semiconductor detectors.
17. Gray.
18. Flux and fluence.
19. Name factors affecting quality and intensity of X-ray production.

****