

The West Bengal University of Health Sciences
B.Sc. Radiology and Imaging Technology Part-I
August- September, 2025 Examination



Subject : Physics of Radiation and Diagnostic Radiology
 Paper : III

Full Marks : 80
 Time : 3 hrs.

Group – A

1. Answer **any four** questions of the following : 4 x 10
- a) What are the components present in x-ray circuits? Explain with a neat diagram of the circuit.
 - b) Explain X-ray circuit and its components with a neat diagram.
 - c) What is Radioactivity? Define the modes of decay.
 - d) What is a generator? Enumerate rectifiers with neat diagrams.
 - e) What is X-ray? Describe the production of x-ray.

Group – B

2. Answer **any six** question of the following : 6 x 5
- a) Explain x-ray tables.
 - b) What is ionization and excitation of an atom?
 - c) Define inverse square law.
 - d) What is the use of a grid? Explain the grid factor.
 - e) What is a beam restricted device? Explain all its types.
 - f) What is a **three phase generator** and its uses?
 - g) Define cassette and how do radiographers ensure the proper care and maintenance of cassette?
 - h) What is the intensifying screen? How does it improve the radiography film quality?

Group – C

3. Answer **any five** question of the following : 5 x 2
- a) Define circuit breaker.
 - b) What is the line focus principle?
 - c) Define Roentgen and rem.
 - d) What is an exposure switch?
 - e) What is the grid ratio?
 - f) Name two radioactive isotopes.
 - g) What is the purpose of using lead in radio-diagnosis?