

Question Paper

Exam Date & Time: 01-Jun-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER M.Sc. (MEDICAL RADIATION PHYSICS) DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: MRP 704 - CLINICAL RADIATION DOSIMETRY AND RADIATION STANDARDISATION
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain in detail the absorbed dose to water protocol for the output measurement of high-energy Electron beams. (20)
- 2) Elucidate the Design and Characteristics of Free air chambers and Graphite chambers. (20)
- 3A) Explain the intercomparison of standard chambers for ensuring traceably. (10)
- 3B) **Write a note on:** (10)
 - i) Temperature pressure correction factor.
 - ii) Recombination correction factor.
- 3C) Discuss Bragg-Gray cavity theory and its validity. (10)
- 3D) Discuss the phantoms used for the calibration of personnel dosimeters. (10)

4. Write a short note on:

- 4A) ICRU Sphere. (5)
- 4B) LET and stopping power. (5)
- 4C) TG-51 protocol. (5)
- 4D) Transient Charged particle equilibrium. (5)

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