B. Tech. Sem – VIII (Biomedical Engg.) (2014 COURSE) (CBCS) : SUMMER - 2019

SUBJECT-NUCLEAR MEDICINE

Day: Saturday
Date: 25/05/2019

S-2019-2934

Time: 02.30 PM TO 05.30 PM
Max. Marks: 60

N.B.:

1) All questions are **COMPULSORY.**
2) Figures to the right indicate **FULL** marks.
3) Assume suitable data if necessary.

Q.1. Define nuclear medicine. Write the importance of detectors in nuclear medicine. With the help of neat schematic explain the working of scintillation detector **(10)**

OR

Explain in detail radioactive decay process. Write a note on Gamma ray spectrometry.

Q.2. Draw and explain working of single channel pulse height analyzer. **(10)**

OR

Describe in detail cathode ray tube and oscilloscopes used in radiation detection systems.

Q.3. Define hospital radiopharmacy. Explain in detail preparation of 99mTC radiopharmaceuticals **(10)**

OR

What is the importance of radionuclide generator? Explain in detail the following

i) Nuclear reactor
ii) Nuclear Fusion
iii) Nuclear Fission

Q.4. With the help of constructional detail positron emission tomography (PET) System. **(10)**

OR

Describe in detail nuclear cardiology Techniques. State its importance. Also explain its various types of technique.

Q.5. Define Radio Immuno Assay (RIA). Explain working principle of radio immune assay. **(10)**
Describe in detail various diagnostic and thereupatical applications of radio pharamaceuticals in nuclear medicine. Write a short note on radio metric devices.

Q.6. Explain on detail control of external radiation exposure. **(10)**

OR

Describe in detail storage and disposal of radioactive waste products.

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