B.Sc. RADIOGRAPHY & IMAGING TECHNOLOGY
(New Syllabus 2018-2019)

FIRST YEAR

PAPER II – GENERAL PHYSICS, RADIATION PHYSICS AND PHYSICS OF DIAGNOSTIC RADIOLOGY

Q.P. Code: 801842

Time : Three Hours **Maximum : 100 Marks**

Answer All questions.

I. Elaborate on: **(3 x 10 = 30)**

1. Explain the production of X rays with neat diagram.
2. Write in detail the various modes (α, β and γ) of radioactive decay.
3. Explain the various factors that affect the quantity and quality of X rays.

II. Write notes on: Answer any 8 out of 10 questions **(8 x 5 = 40)**

1. What is photoelectric effect? Its relevance in diagnostic radiology.
2. Explain the effect of scattered radiation on radiograph image quality and how to reduce it?
3. Describe about the self-induction and mutual induction.
4. Draw the rotating anode X ray circuit and explain its parts.
5. Explain the mA control circuit.
6. Describe the principle of auto transformer.
7. Describe the constituents of intensifying screens.
8. Write any five properties of X rays.
9. Write about the artificial production of radionuclides.
10. What is pair production? Explain the annihilation process.

III. Short answers on: **(10 x 3 = 30)**

1. Define atomic number.
2. Define isobar.
3. What is line focus principle?
4. What is thermionic emission?
5. Define faraday's law.
6. What is focusing cup?
7. Define electric current and its unit.
8. Define power and its unit.
9. What is advantage of rotating anode over stationary anode?
10. What is focal spot?

******