

[LQ 0220]

FEBRUARY 2020

Sub. Code: 2103

**B.Sc. NUCLEAR MEDICINE TECHNOLOGY**

**FIRST YEAR**

**PAPER III – BASIC PHYSICS & NUCLEAR PHYSICS**

*Q.P. Code: 802103*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Explain nuclear structure and atomic models.
2. Explain the mechanisms of radioactive decay.
3. Explain types Interaction of radiation with matter and its important.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Isotope and Isomer.
2. Electromagnetic Induction.
3. Decay constant.
4. Tenth value layer.
5. Calculate heat produced in a circuit having 5 Ohms resistor, when conducts 3mA current for 30 min.
6. State natural and artificial radioactive sources.
7. Fluorescence.
8. Ohms law.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Half-life of Cs-137.
2. Inert gases in periodic table.
3. Unit for radiation exposure.
4. Pair production.
5. Coloumb force.
6. Mass number.
7. Half life of Tc-99m.
8. Shielding material for beta particle.
9. Mass number.
10. Ionization.

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