



## Shree H.N.Shukla group of colleges

PHYSICS

T.Y.B.Sc. (Sem. VI) (CBCS)

Unit Test examination

PAPER- 601

UNIT - 2 : RADIOACTIVITY

DATE :

TOTAL MARKS : 30

**Instructions:** All questions are compulsory.

The right side figure indicates total marks of the question.

Draw the figure wherever necessary.

Write answers of all the questions in main answer sheets.

### SECTION-A

**Q.1: One marks questions:**

**[5 MARKS ]**

- 1 The ionisation power of  $\alpha$  particle is \_\_\_\_\_ time greater than  $\beta$  rays.
- 2 The \_\_\_\_\_ particle are identical with electron.
- 3 The unit of radioactivity is \_\_\_\_\_.
- 4 The  $\beta$  particle have \_\_\_\_\_ charges.
- 5 Write equation of Half life time :

### SECTION – B

**Q.2 (A): Short Questions: Write all three : [2 Marks each]**

**[6 MARKS]**

- 1 What is the mass of 1 Curie of  $U^{238}$
- 2 A radioactive substance has half life of 30 days . Calculate the radioactive disintegration constant.
- 3 A radioactive substance has half life of 50 days . Find the radioactive decay constant and mean life.

**Q.2 (B) : Short questions: Write all three: [3 Marks each]**

**[9 MARKS]**

- 1 Write properties of ALPHA rays.
- 2 Write properties of GAMMA rays.
- 3 Explain the radioactive THORIUM series.

**Q.2 (C): Write Detail Note on [Any two]: [5 Marks each]**

**[10 MARKS]**

- 1 Explain Half life and Mean life .
- 2 Explain the application of Radio isotope.
- 3 Describe the theory of ALPHA decay.
- 4 Explain natural radioactivity series.