



UNIVERSITY OF NORTH BENGAL

B.Sc. Honours Part-III Examination, 2021

PHYSICS

PAPER-IX

Full Marks: 90

ASSIGNMENT

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

All symbols are of usual significance.

For each question, the candidates will be graded according to the quality of the presentation of the topic (8 marks) and originality of language (2 marks). Maximum word limit for each topic is 400

Write short notes on the following topics

10×9 = 90

GROUP-A

(Atomic Physics)

1. Normal and anomalous Zeeman effect
2. Stern-Gerlach experiment and interpretation of its results
3. Thomson's experiment and determination of charge to mass ratio of an electron

GROUP-B

(Quantum Mechanics)

4. Linear harmonic oscillator: Wave function and energy eigen values
5. One dimensional potential barrier: Reflection and transmission coefficients
6. Heisenberg's uncertainty principle with illustrations

GROUP-C

(Nuclear and Particle Physics)

7. α -decay of a radioactive element
8. Liquid drop model of a nucleus
9. Construction and operation of GM counter

—×—