

Roll No.

Y – 3122

M.Sc. (Fourth Semester) EXAMINATION, May/June-2021

PHYSICS

Paper – 401

NUCLEAR PHYSICS

Time : Three Hours

Maximum Marks : 85

Minimum Pass Marks : 29

Note—Attempt *all* questions.

Unit-I

1. Discuss the Gamow theory of alpha decay. Explain the parity. 17

Unit-II

2. Explain the Neutron-Proton scattering below 10 Mev. 17

Unit-III

3. How are mass and energy distributed in fission ? What do you mean by Magic numbers ? Explain spin-orbit coupling. 17

Unit-IV

4. Write short notes on— 17
(i) Kurie plots and half lives.
(ii) Selection rules and symmetry laws.

Unit-V

5. Explain the followings— 17
(i) Compound nucleus.
(ii) Q-Value of nuclear reaction.

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