

# SREE CHAITANYA MAHAVIDYALAYA

B.Sc (General) INTERNAL EXAMINATION-2021

## SEMESTER-VI

Subject: Physics

Full marks-20

PAPER CODE: PHSGDSE04T

Time: 45mins

**Answer any five questions from the following questions:**

5×4=20

1. What is packing fraction? Briefly describe the Binding fraction vs mass number curve.
2. Explain Geiger-Nuttall law of alpha decay. What do you mean by Orbital electron capture?
3. Explain how neutrino hypothesis solves the apparent breakdown of conservation of momentum and energy in beta decay.
4. Obtain an expression for the binding energy on the basis of Semi-empirical binding energy formula (Liquid Drop model).
5. Predict the ground state spins of the followings:  ${}_{13}^{27}\text{Al}$  and  ${}_{8}^{16}\text{O}$
6. How are the elementary particles classified on the basis of their masses, interaction or statistics.(with examples)

Link: <https://forms.gle/dbBcUPgw2MrdoWXW7>