

BIKRAMJEET GOSWAMI MEMORIAL COLLEGE

B.SC. SEMESTER- VI PROGRAM COURSE INTERNAL EXAM, 2020

COURSE CODE – 601

COURSE TYPE- DSC-2 (BPHSDSRT)

FULL MARKS- 10

Answer any one of the following questions:

1. Write down the expression for the binding energy of a nucleus based on liquid drop model. State the semi-empirical formula of Weizacker. Show the graph of binding energy per nucleon and discuss all the terms such as volume, surface, coulomb and asymmetry energies.
2. What is Cherenkov radiation? What is the physical origin of this radiation ? What is Compton effect ? Explain and derive an expression for the Compton shift on the basis of quantum theory. Show that Compton shift in terms of wavelength is given by

$$\Delta\lambda = \frac{h}{m_0c}(1 - \cos\theta)$$

Guidelines to the students:

- Mention Name, University Roll & Number, Registration Number, Subject & Name of the paper on the top of the Answer copy.
- The Answer Copy should be submitted to the following e-mail id / Whatsapp No.:
 - mrakshit007@gmail.com
 - 9800121271
- Last date of submission of the Assignment : 11th July, 2020

Monojit Rakshit

Department of Physics, B.G.M. College, Joypur , Purulia

Date : 07/07/2020