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SB—89—2022

FACULTY OF SCIENCE

B.Sc. (Second Year) (Fourth Semester) EXAMINATION

MAY/JUNE, 2022

(New Pattern)

PHYSICS

Paper-IX

(Basic Electronics)

(Wednesday, 15-06-2022)

Time : 2.00 p.m. to 4.30 p.m.

Time— 2½ Hours

Maximum Marks—40

N.B. :— (i) Attempt all questions.

(ii) Illustrate your answers with suitably labelled diagrams wherever necessary.

1. What are h -parameters ? Explain analysis of common emitter amplifier.

15

Or

(a) Explain Zener diode.

8

(b) Discuss types of semiconductor.

7

2. With a neat circuit diagram explain working of phase shift oscillator in detail.

15

Or

(a) Explain operation amplifier and state its ideal characteristics.

8

(b) Obtain an expression for input offset current.

7

P.T.O.

3. Attempt any *two* of the four :

10

- (a) Varactor diode
- (b) Input and output characteristics of common base connection
- (c) Output impedance in Op-Amp.
- (d) Slew Rate.