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**NA—112—2023**

**FACULTY OF SCIENCE**

**B.Sc. (Third Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2023**

**(New Pattern)**

**ELECTRONICS**

**Paper-VI**

**(Amplifiers)**

**(Wednesday, 20-12-2023)**

**Time : 2.00 p.m. to 4.00 p.m.**

*Time—2 Hours*

*Maximum Marks—40*

*N.B. :—* (1) Attempt *all* questions.

(2) Illustrate your answer with suitable labelled diagrams, wherever necessary.

1. What is Q point ? How will you get maximum undistorted output in amplifier ? State factors affecting bias variations. 15

*Or*

(a) Define *h*-parameters of transistor. 8

(b) Draw circuit diagram of CE amplifier and explain its working. 7

2. Explain differential amplifier and obtain expression for differential mode gain. Also define C.M.R.R. 15

*Or*

(a) Explain OP Amp as subtractor. 8

(b) Explain OP Amp as differentiator. 7

P.T.O.

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3. Explain any *two* of the following : 10

- (a) V-I converter using OP Amp
- (b) OP Amp as non-inverting amplifier
- (c) Analysis of CC amplifier
- (d) Voltage divider bias circuit.

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