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NA—91—2023

FACULTY OF SCIENCE

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

NOVEMBER/DECEMBER, 2023

(New Course)

ELECTRONICS

Paper III

(Semiconductor Devices and Electronic Instruments)

(Tuesday, 19-12-2023)

Time : 10.00 a.m. to 12.00 noon

Time—Two Hours

Maximum Marks—40

N.B. :- All questions are compulsory and carry equal marks.

1. Explain in detail construction, working and V-I characteristics of P-N junction diode. 15

Or

- (a) Give the relation between α_{dc} and β_{dc} of a transistor. 8
- (b) Describe the construction and working of MOSFET. 7
2. Draw the circuit diagram of full wave rectifier and explain its working in detail. Give its ripple factor and efficiency. 15

P.T.O.

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Or

- (a) With suitable diagram explain the cathod ray oscilloscope. 8
- (b) How to convert a galvanometer into voltmeter and ammeter ?
Explain it. 7
3. Write short notes on any *two* of the following : 10
- (a) Zener diode
- (b) C-E transistor characteristics
- (c) Block diagram of a power supply
- (d) Applications of CRO.