



RAN-2403000502039001

B. Sc. (NCF-NEP) (Sem. - II) Examination October - 2025

ELEC-MN-201 : Electronics (Paper - I) Semiconductor Devices and Logic Circuits

Time: 1 Hour]
[Total Marks: 25
સૂચના : / Instructions

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book.

Seat No.:

--	--	--	--	--	--

Student's Signature

Q. 1. One word or short answer (Any 5)
(05)

1. What is Extrinsic semiconductor?
2. What are the applications of LED?
3. What is meant by the term “depletion Layer”?
4. Define Half and full adder.
5. State the type of shift registers.
6. What is asynchronous counter?

Q. 2. Answer (Any 2) 5-marks each
(10)

1. What is a Zener diode? What is avalanche breakdown and Zener breakdown?
2. Discuss the construction and working of BJT. Draw its output characteristics.
3. What is an p-type semiconductor? How it is formed?

Q. 3. Answer (any 2) 5-marks each
(10)

1. What is combinational logic circuit? Explain full adder circuit in detail.
2. Explain operation of J-K flip-flop using circuit and truth table
3. Draw and explain 4 bit ring counter.