

S.No. 8345

16 SNMEEL 1

(For candidates admitted from 2016–2017 onwards)

U.G. DEGREE EXAMINATION, NOVEMBER 2022.

Part IV – Electronics — Non Major Elective

PRINCIPLES OF ELECTRONICS

Time : Three hours

Maximum : 75 marks.

SECTION A — (10 × 2 = 20)

Answer all the questions.

1. Specify a colour code for the following resistor
 - (a) 150 K Ω 5%
 - (b) 2.7 K Ω 10%.
2. What is capacitor? Give one application.
3. Define N- type semiconductor.
4. What is called potential barrier.
5. Draw the current symbols of a NPN and PNP transistors.
6. Define input characteristics of a common emitter configuration.

7. Define the term I_{DSS} of a JFET.
8. List the advantages of FET over bipolar transistor.
9. Define Unidirectional thyristors.
10. Give any two application of DIAC.

SECTION B — ($5 \times 5 = 25$)

Answer ALL questions, choosing either (a) or (b).

11. (a) Explain the linear and non-linear resistor.

Or

- (b) What is a Inductor? Give any three applications.
12. (a) What is meant by intrinsic semiconductor?

Or

- (b) List out any five application of PN junction diode.
13. (a) With the neat diagram explain the construction of PNP transistor?

Or

- (b) Define the input and output characteristics of CB transistor.

14. (a) Explain the Transfer characteristic of Enhancement-type MOSFET with the neat diagram.

Or

- (b) Give any five difference between FET and BJT.
15. (a) Explain the construction of TRIAC with suitable diagram.

Or

- (b) List out some application of DIAC.

SECTION C — ($3 \times 10 = 30$)

Answer any THREE questions.

16. What are the different types of Resistors? Explain about fixed Resistors.
17. What is a Zener diode? Draw the VI characteristics and explain it.
18. Sketch the output VI characteristics of an NPN transistors in CE operation and indicate the different regions of importance.
19. Explain the working of JFET.
20. Explain the construction and working of a UJT.