915 Register No.: _____

October 2018

Time – Three hours
(Maximum Marks: 75)

[N.B: (1) Q.No. 8 in PART – A and Q.No. 16 in PART – B are compulsory. Answer any FOUR questions from the remaining in each PART – A and PART – B

(2) Answer division (a) or division (b) of each question in PART – C.

(3) Each question carries 2 marks in PART – A, 3 marks in Part – B and 10 marks in PART – C.]

PART – A

1. Give the classification of semi conduction.
2. Draw the symbol of NPN and PNP transistor. Mark the terminals.
3. What is the general form of LC oscillators?
4. Draw the symbol of a TRIAC. Name its terminals.
5. State the classification of multivibrators.
6. What are the types of negative feedback connection?
7. What are the characteristic of FET?
8. Give some application of a rectifier.

PART – B

9. Draw a Zener diode voltage regulator circuit.
10. Compare CE, CB, CC transistor configurations.
11. Draw a crystal oscillator circuit.
12. Compare SCR and transistor.
13. Briefly explain about opto coupler.
14. Draw the symbol of n-channel MOSFET for depletion and enhancement modes.
15. Explain a simple positive clipper.
16. State the types of transistor biasing.

[Turn over.....

PART – C

17. (a) (a) Explain the working of a Zener diode with necessary diagrams.
(b) State few applications of Zener diode.

(Or)

(b) Explain the working of a bridge rectifier with a neat circuit diagram. Draw input and output waveforms.

18. (a) (i) Explain the working of a transistor in common emitter configuration.
(ii) Mark the different regions in input and output characteristics.

(Or)

(b) (i) Explain the construction of a PNP transistor.
(ii) Explain the operation of PNP transistor with neat diagrams.

19. (a) (i) Explain the working of a RC phase shift oscillator with a neat sketch.
(ii) Write the equation for frequency of oscillation for a RC phase shift oscillator.

(Or)

(b) Explain the construction and working of an n-channel FET with necessary diagrams. Draw the characteristic of a FET.

20. (a) (i) State the applications of a SCR.
(ii) Explain SCR as a controlled rectifier.

(Or)

(b) Explain how a DIAC can be operated on a bi-directional switch and draw the VI characteristics.

21. (a) Explain about: (i)Opto coupler (ii)Photo transistor.

(Or)

(b) (i) Draw the circuit of an astable multivibrator and explain how oscillations are produced.
(ii) Write the equation for ON and OFF period in astable multivibrator.
