

6233

BOARD DIPLOMA EXAMINATIONS

SEPTEMBER/OCTOBER - 2020

DECE- THIRD SEMESTER

ELECTRONIC CIRCUITS

Time:3 hours

Max. Marks:80

PART – A

10X3= 30M

Instructions:

1. Answer **all** questions.
2. Each question carries **three** marks.
3. Answer should be brief and straight to the point and shall not exceed five simple sentences.

1. List the factors affecting the operating point.
2. State the need of heat sink and list different types of heat sinks.
3. Draw the h-model of CE transistor configuration.
4. Briefly explain the need for multistage amplifier.
5. List any three applications of Darlington Pair circuit.
6. Classify power amplifiers based on period of conduction.
7. List the advantages of crystal oscillator.
8. List any three applications of clippers.
9. Draw the circuit diagram of RC integrator circuit.
10. Draw the V-I characteristics of photo transistor.

PART – B

5 X 10 = 50

Instructions:

1. Answer any *Five* questions
2. Each question carries **TEN** Marks.
3. Answer should be comprehensive and Criteria for Valuation is the content but not the length of the answer.

11. Explain the working of self biasing circuit of BJT with a neat diagram. 3+7
12. What is thermal stabilization and explain compensation technique to stabilize Q-point using diode. 3+7
13. Explain the principle of operation of two stage transformer coupled amplifier with circuit diagram. 4+6
14. a) Draw the block diagram of negative feedback amplifier and explain. 5
b) Derive the expression for the gain of a negative feedback amplifier. 5
15. Explain the working of complementary push-pull power amplifier circuit. 4+6
16. Explain the working of Hartely oscillator with a circuit diagram and give the expression for frequency of oscillations. 3+5+2
17. Draw and explain the working of transistor collector coupled bi-stable multivibrator with waveforms. 3+4+3
18. Explain the construction and working of LDR. 4+6