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C16–EC–302

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BOARD DIPLOMA EXAMINATION, (C–16)

OCT/NOV—2017

DECE—THIRD SEMESTER EXAMINATION

ELECTRONIC CIRCUITS

Time : 3 hours] [*Total Marks* : 80

PART—A 3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. List the types of biasing circuits.

2. Define stability factor and write its equation.

3. Draw the h-model of a transistor in CB mode.

4. Classify the amplifiers on the basis of frequency and period of conduction.

5. Define frequency response and bandwidth of an amplifier.

6. List the advantages of crystal oscillator over other types.

7. Draw the frequency response of single-turned amplifier.

8. List the applications of clippers and clampers.

9. Classify multivibrators.

10. List the disadvantages of series voltage regulator.

PART—B

10×5=50

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. *(a)* Explain self-bias circuit with necessary diagram. 8

(b) List the advantages of self-bias circuit. 2

12. *(a)* Explain the concept of DC and AC load lines. 5

(b) Explain the need for proper biasing in amplifier circuits. 5

13. Explain the operation of two-stage RC-coupled amplifier with a circuit and draw its frequency response. 7+3=10

14. Explain the effect of negative feedback on gain, bandwidth, input and output impedances.

15. *(a)* Explain the operation of class-A amplifier with waveforms. 5

(b) List the distortions in power amplifiers. 5

16. Explain the working of a Hartley oscillator with a circuit diagram and write the expression for its frequency of oscillations.

17. Explain the working of transistorized collector coupled bistable multivibrator with necessary circuit.

18. *(a)* Explain the operation of transistor series voltage regulator. 5

(b) Explain the working principle of LCD. 5

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