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C09–AEI–303

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BOARD DIPLOMA EXAMINATION, (C–09)

OCT/NOV—2016

DAEI—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) Answer should be brief and straight to the point and shall not exceed *five* simple sentences.

1. State the need for proper biasing in amplifier circuits.

2. List any three applications of SCR.

3. Draw the drain characteristics of JFET.

4. List three types of coupling.

5. Draw the frequency response of RC-coupled amplifier.

6. List any three applications of power amplifier.

7. State the condition for an amplifier to work as an oscillator.

8. List any three advantages of crystal oscilallators over other types.

9. Distinguish between voltage time base and current time base.

10. Classify multivibrators.

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. Draw the circuit of potential divider method of biasing and explain it.

12. Draw and explain the principle of operation of MOSFET in depletion mode.

13. Classify amplifiers based on frequency, period of condition and coupling.

14. *(a)* Draw the circuit of a two-stage RC-coupled amplifier. 5

(b) Explain the working of Darlington amplifier. 5

15. Draw and explain the circuit of push-pull power amplifier.

16. Explain the working of an RC phase shift oscillator and mention its oscillation frequency and conditions of sustained oscillations.

17. *(a)* State any five reasons for instability in oscillator circuits. 5

(b) Draw and explain the working of Schmitt trigger circuit. 5

18. Draw and explain the working of transistorised astable multivibrator with waveforms.

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