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C09–AEI–303

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BOARD DIPLOMA EXAMINATION, (C–09)

MARCH/APRIL—2013

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 types of biasing circuits.

2. Draw the drain characteristics of JFET.

3. State the applications of SCR.

4. Classify the amplifiers based on frequency.

5. State the need of multistage amplifier.

6. Compare between Negative and Positive feedback.

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

8. Draw the circuit of Colpitt's oscillator.

9. Define sweep voltage.

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 and explain the working of CB amplifier using BJT. List its salient features. 10

12. With a neat diagram, explain the construction and principle of operation of UJT. 10

13. Explain the principle of operation of two-stage RC coupled amplifier with circuit diagram. 10

14. *(a)* Classify the amplifiers based on period of conduction, coupling. 5

(b) Classify power amplifier circuits on the basis of frequency and period of conduction. 5

15. *(a)* Draw the block diagrams of different negative feedback amplifiers. 6

(b) List the advantages of negative feedback. 4

16. Draw and explain the working of RC phase-shift oscillator. 10

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

(b) Draw Bootstrap sweep circuit using BJT. 5

18. Draw and explain the working of transistor astable multivibrator with waveforms. 10

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