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C16-AEI-302

6214

BOARD DIPLOMA EXAMINATION, (C-16)

JUNE—2019

DAEI - THIRD SEMESTER EXAMINATION

ELECTRONIC CIRCUITS

Time : 3 hours ]

Total Marks : 80

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**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 MOSFETs.
2. List any three applications of SCR.
3. State why CE mode is widely used in amplifier circuits.
4. List the stabilization techniques.
5. Classify the amplifiers based on coupling.
6. Classify negative feedback amplifiers.
7. List three applications of power amplifiers.

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8. State the Brakhausem criterion conditions for an amplifier to work as an oscillator.
9. State any three reasons for instability in oscillator circuits.
10. Distinguish between voltage and current time-base generators.

## PART—B

10×5=50

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

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

(3) Answer should be comprehensive and criteria for the valuation are the content but not the length of the answer.

11. Explain the working of N-channel JFET with drain and transfer characteristics.
12. Explain potential divider method of biasing.
13. Explain the principle of operation of two-stage RC coupled amplifier with circuit diagram and draw its frequency response.
14. Explain the principle of negative feedback in amplifiers.
15. (a) Draw the circuit of Push-Pull Power amplifier.  
(b) Draw the circuit of bistable multivibrator using transistors.
16. Explain the working of an RC phase shift oscillator with diagram.
17. Explain the working of colpitts oscillator with diagram. Give the expression for the frequency of oscillations.
18. Explain Miller's sweep circuit using transistor with diagram.

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