



C09-AEI-303

3213

BOARD DIPLOMA EXAMINATION, (C-09)
MARCH/APRIL—2017
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) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Mention why CE mode is widely used in amplifier circuits.
2. Draw the drain characteristics of JFET.
3. List any three applications of SCR.
4. What is the need of a multistage amplifier?
5. Classify amplifiers based on frequency.
6. List any three advantages of emitter follower circuit.
7. State any three reasons for instability in oscillator circuits.
8. List any three advantages of crystal oscillator over other types.
9. Define sweep voltage.
10. Draw a simple current sweep circuit.

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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.** Determine the *Q* point (operating point) on the DC load line with sketch.
- 12.** Explain the principle of operation of n-channel depletion mode MOSFET with sketch.
- 13.** Explain the principle of operation of two-stage *R-C* coupled amplifier with a circuit diagram.
- 14.** (a) Classify amplifiers based on period of conduction. 5
(b) Explain the working of a Darlington amplifier. 5
- 15.** Draw and explain the circuit of push-pull power amplifier.
- 16.** Explain the working of a *R-C* phase-shift oscillator with a circuit diagram.
- 17.** (a) Mention the conditions for sustained oscillations in a Wein bridge oscillator. 5
(b) Draw the bootstrap sweep circuit. 5
- 18.** Draw and explain the working of a transistorized astable multivibrator with waveforms.
