



C16-AEI-302

6214

BOARD DIPLOMA EXAMINATION, (C-16)

OCT/NOV—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. List any three advantages of JFET over BJT.
2. Draw the characteristics of SCR.
3. State the need for proper biasing in amplifier circuits.
4. Draw the circuit for diode stabilization technique.
5. State the need of a multistage amplifier.
6. Draw the circuit diagram of Darlington amplifier circuit.
7. List the different types of heat sinks.
8. Classify oscillator circuits.
9. List three advantages of crystal oscillators.
10. State the fundamental consideration of sweep waveform.

**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.** Explain the construction and working of UJT, with its characteristics.
- 12.** Explain the basic CE amplifier with a circuit diagram.
- 13.** Explain the principle of operation of two-stage RC coupled amplifier with circuit diagram and draw its frequency response.
- 14.** Explain the following block diagram arrangements of negative feedback amplifiers with diagrams :
- (a) Voltage-series
- (b) Voltage-shunt
- 15.** (a) Draw the circuit of push-pull power amplifier.  
(b) Draw the circuit of astable multivibrator using transistors.
- 16.** Explain the working of an RC phase shift oscillator with diagram.
- 17.** Explain the working of Hartley oscillator with diagram. State the conditions of sustained oscillations and give the expression for the frequency of oscillations.
- 18.** Explain bootstrap sweep circuit with diagram.

\*\*\*