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C16-AEI-302

**6214**

**BOARD DIPLOMA EXAMINATION, (C-16)**

**JUNE/JULY—2022**

**DAEIE - 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. Draw the symbols of P-channel and N-channel FET.
2. List different thyristor family devices.
3. State the need for proper biasing in amplifier circuits.
4. Define the term stabilization.
5. List three couplings used in amplifiers.
6. Classify negative feedback amplifiers.
7. List any three applications of power amplifiers.
8. Classify oscillator circuits.
9. List the advantages of crystal oscillators over other types of oscillators.
10. Define sweep voltage.

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## PART—B

- Instructions :** (1) Answer *any five* questions.  
(2) Each question carries **ten** marks.  
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Explain the construction and working principle of UJT with its characteristics. 10
12. (a) Explain the potential divider method of biasing. 6  
(b) State why CE mode is widely used in amplifier circuits. 4
13. Explain the principle of operation of two stage transformer coupled amplifier with its circuit diagram and draw its frequency response. 10
14. (a) Explain the principle of negative feedback amplifiers. 5  
(b) Explain how transistor works as switch in CE mode. 5
15. Explain the emitter follower circuit and mention any two advantages of it. 10
16. Draw and explain the working of Hartley oscillator. 10
17. Draw and explain the working of RC phase shift oscillator. 10
18. Draw and explain the working of monostable multivibrator with its waveforms. 10

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