



C09-AEI-303

3213

**BOARD DIPLOMA EXAMINATION, (C-09)
OCT / NOV-2015
DAEI - THIRD SEMESTER EXAMINATION
ELECTRONIC CIRCUITS**

Time : 3 hours]

[Total Marks : 80

PART - A

3 X 10 = 30

Instructions : (1) Answer **all** questions.

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

1. State the need for proper biasing in amplifier circuits.
2. Draw the characteristics of UJT.
3. Classify MOSFETs.
4. Draw the frequency response of RC-coupled amplifier.
5. Classify amplifiers based on coupling.
6. List any three advantages of push-pull amplifiers.
7. State any three remedies for instability in oscillator circuits.
8. Write the expression for frequency of oscillations of a Colpitts' oscillator.
9. Mention any three fundamental considerations of a sweep waveform.
10. Draw the Miller sweep circuit using operational amplifier.

PART - B

10 X 5 = 50

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

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

11. Explain potential divider method of biasing with a circuit diagram.
12. Explain the principle of operation of N-channel enhancement-mode MOSFET with sketch.
13. Explain the principle of operation of two-stage transformer-coupled amplifier with a circuit diagram.
14. (a) Draw the frequency response of a transformer-coupled amplifier and label it.
(b) Distinguish between voltage amplifiers and power amplifier.
15. Explain the principle of negative feedback in amplifiers with block diagram.
16. Explain the working of Wien bridge oscillator with a circuit diagram.
17. (a) Mention the conditions for sustained oscillations in a Hartley oscillator.
(b) Explain how the transistor works as a switch in CE mode.
18. Draw and explain the working of a transistorized monostable multivibrator with waveforms.

* * *