

(Following paper code and roll No. to be filled in your answer book)

Paper ID: 3301

Roll No.

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(SEM. I) ODD SEMESTER THEORY EXAMINATION (2010-11)
Electronics Engineering

Time : 3 Hours

Total Marks : 100

Note : Attempt all questions. All questions carry equal marks. Assume any data, not given, suitably.

SECTION - A

1. Attempt all the parts of this question. All parts of the question carry equal marks. These questions contain 10 objectives/ fill in the blank type/ true-false type questions. 2x10=20

- i. The knee voltage of a p-n junction is ----- after doping.
- ii. The Zener diode works as
 - (a) Current regulator
 - (b) Voltage regulator
 - (c) Power regulator
 - (d) Both (a) and (b)
- iii. PIV of all the diodes of center-Tapped-transformer-full-wave-rectifier is ---.
- iv. The biasing circuit which gives best stability to the Q point is
 - (a) Base resistor biasing
 - (b) Emitter resistor biasing
 - (c) Potential divider biasing
 - (d) Feed back resistor biasing
- v. The parameters α and β of a bipolar junction transistor is related as -----.
- vi. The gate of a depletion type MOSFET is made up of
 - (a) metal
 - (b) semiconductor
 - (c) both
 - (d) none
- vii. The input impedance of a JFET is
 - (a) Very high
 - (b) Very low
 - (c) Moderately high
 - (d) Moderately low
- viii. The De Morgan's Theorem states that -----
- ix. The CRO can measure
 - (a) phase
 - (b) voltage
 - (c) current
 - (d) none of the above
- x. The full-scale deflection of ohm scale in a multimeter reads
 - (a) Infinity resistance.
 - (b) Zero resistance
 - (c) Some finite resistance
 - (d) none of the above

SECTION - B

2. Attempt any three parts of the following

10x3 = 30

- a. Define and explain the following terms in respect of p-n junction (i) depletion layer, (ii) barrier potential, (iii) AC and DC resistance, (iv) Diffusion and transition capacitance, (v) PIV, (vi) ripple factor
- b. Explain the h-parameter model of a Bipolar Junction Transistor
- c. Explain the working of p-channel JFET. Draw the I_D vs V_{GS} of the following circuit