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RN-6247

B. E. - II (Sem. III) (IT) Examination

May / June - 2010

Electronics - I

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दर्शाविएल निशानीवाणी विगतो उत्तरवडी पर अवश्य लपवी.
Fillup strictly the details of signs on your answer book.

Name of the Examination :
B. E. - 2 (Sem. 3) (IT)

Name of the Subject :
Electronics - 1

Subject Code No. : 6 2 4 7 Section No. (1, 2,.....): 1&2

Seat No. :
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Student's Signature

- (2) Figures to the right indicate full marks.
(3) Make necessary assumptions wherever necessary and mention them.
(4) Use separate sheet for separate section.

SECTION - I

- 1 (a) Write answers to the following : 10
(i) Define conduction bond.
(ii) Define doping.
(iii) Property of Zener diode.
(iv) What is ripple factor?
(v) What is PIV?
(b) Explain transition capacitance. 5
(c) N-type semiconductor material. 5
- 2 (a) Explain effect of infinite coupling capacitor. 8
(b) Explain half wave rectifier with efficiency expression. 7

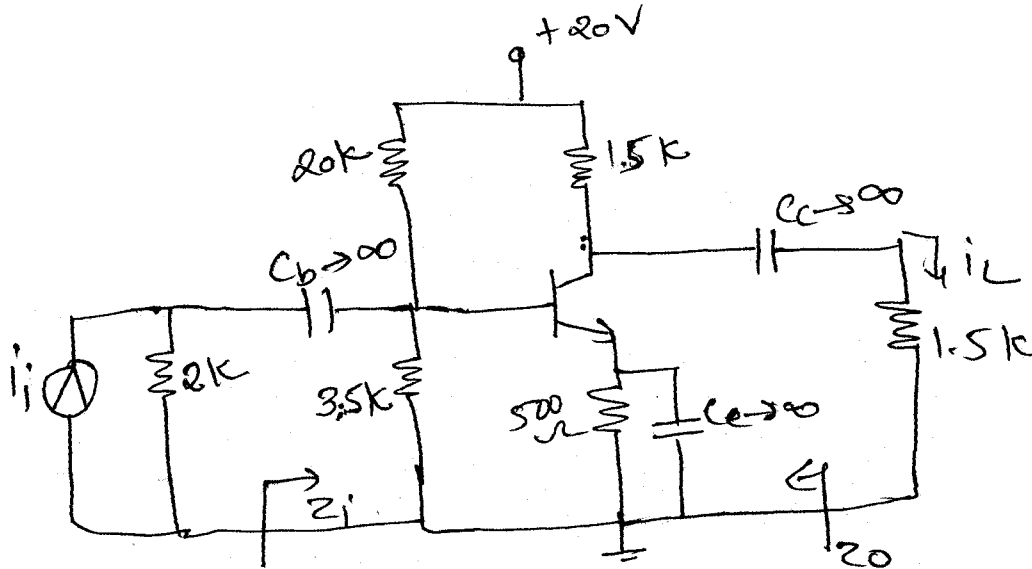
OR

- 2 (a) Explain emitter follower ckt. 8
- (b) Explain beat ripple removing technique of filter. 7
- 3 Attempt any **three** : 15
- (i) p-type semiconductor
- (ii) Zener diode
- (iii) Diode AC load line.
- (iv) Center tapped full wave rectifier.

SECTION - II

- 4 (a) Do as directed : 10
- (i) List different biasing techniques for BJT.
- (ii) Why drain and source are reversible?
- (iii) Which are factors on which a point variation depends?
- (iv) H_{ie} stands for _____.
- (v) Draw circuit symbol for P channel JFET.
- (vi) ICs generally are made of _____.
- (vii) Justify the name of Hybrid parameters.
- (viii) Define stabilization
- (ix) In monolithic ICs resistor are formed by using _____.
- (x) Best method of biasing is _____.

- (b) For the circuit of given figure, $h_{fe} = 100$ and $h_{re} = h_{oe} = 0$ find : 10
- (i) h_{ie}
 - (ii) small signal equivalent ckt
 - (iii) current gain A_i
 - (iv) input impedance Z_i
 - (v) output impedance Z_o



- 5 (a) Draw small signal h-parameter equivalent circuit the emitter follower configuration. Also derive necessary equation. 7
- (b) Explain N channel enhancement MOSFET with necessary diagrams and characteristic. 8
- OR**
- 5 (a) Explain common base configuration regarding to small signal analysis. 7
- (b) Effect of temperature on Q point.
- 6 Attempt any **three** : 15
- (i) Single diode temperature compensation method
 - (ii) Explain steps of IC fabrication
 - (iii) Difference between BJT and FET
 - (iv) Working of n-channel JFET
 - (v) Impedance reflection in transistor.