Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(CE) (2018 Batch)/(ECE) (Sem.–3)

BASIC ELECTRONICS & APPLICATIONS IN CIVIL ENGINEERING

Subject Code : BTEC-305-18

M.Code : 76374

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Answer briefly :

a) What is Zener Diode?

b) What are passive elements?

c) What is the significance of the load line?

d) Simplify Y= A'B"+ A'B+AB'

e) Draw the logic diagram of D Flip flop.

f) Differentiate between ideal and practical diode.

g) What is integrator?

h) Write the applications of the Photodiode.

i) What is need of biasing?

j) Convert $(101011011101)_2 = ?_{16}$

SECTION-B

2. Differentiate between the Avalanche and Zener Breakdown.

3. Discuss various types of Logic Gates. Also discuss their applications.

4. Explain the working of the BJT with neat diagram.

5. Explain the working of D Flip flop along with Truth Table.

6. Explain the working of Bridge Rectifier. How it can be compared from half wave rectifier.

SECTION-C

7. Reduce the following using K-map technique

   $F(A,B,C,D) = \prod M(0,3,4,7,8,10,12,14)$

8. Explain the block diagram and the characteristics of an Op-amp.

9. Explain the Common Emitter configuration. Sketch the input and output characteristics. Explain the operating regions by indication on the characteristics curve.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.