REGISTRATION NUMBER | | | | | | | | | | |

SRINIX COLLEGE OF ENGINEERING

2ND INTERNAL EXAMINATION-2021-22

Subject-**BETC** Semester-1st Branch- **SEC-B**

Full Mark-**100** Time-**2.30Hrs**

ANSWER all QUESTIONS (PART-A) **[2X10=20]**

1) (a) Distinguish between 3 different forms of matter in electronics.
   (b) What is diode? What is the application of diode and explain it?
   (c) What do you mean by OPAMP? Write its properties.
   (d) Convert $(133.6)_{10} = (?)_8$
   (e) Find the 2's compliment of $(110110)_2$ *and* $(26)_{10}$.
   (f) Differentiate between BJT and FET.
   (g) What is a MOSFET? What is the difference between D-MOSFET and E-MOSFET?
   (h) Write down the difference between combinational and sequential circuit
   (i) Find the relation between α and ϒ.
   (j) Define CMRR.

ANSWER ANY Eight QUESTIONS (PART-B) **[6×8=48]**

1) Add (37) and (-57) in 2's compliment method.

2) Given $Y = A + B\bar{C}$. Find the standard SOP format and find the min terms.

3) Given $Y = \sum m(0,1,2,3,4,5,10,11,14,15)$.Solve using K-map.

4) Explain VI-characteristics of diode with diagram.

5) Explain the n-channel JFET with diagram.

6) Write a note on CMOS.

7) What do you mean by transistor configuration? Explain about CE configuration.

8) Describe about the non-inverting amplifier by using OPAMP.

9) Write a brief note Full Adder.

10) Explain about NPN transistor with diagram.

ANSWER ANY TWO QUESTIONS (PART-C) **[16×2=32]**

1) Explain about various logic gates with relevant information.

2) Describe about D-MOSFET with its transfer characteristics curve.

3) Given $Y = A\bar{B} + C$

i) Draw using basic gates.

ii) Implement using only NAND gate

iii) Implement using only NOR gate.

----------ALL THE BEST----------