

Total No. of Questions : 4]

SEAT No. :

PE-525

[Total No. of Pages : 1

[6577]-6

F.E. (Insem.)

**BASIC ELECTRONICS ENGINEERING**  
**(2019 Pattern) (Semester - I) (104010)**

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates :*

- 1) *Solve Q1 or Q2; Q3 or Q4*
- 2) *Figures to the right indicate full marks.*
- 3) *Neat diagrams must be drawn wherever necessary.*

- Q1)** a) Draw & explain Full Wave Rectifier? [5]  
b) Explain the impact of electronics on Industry and Society? [5]  
c) Explain how Zener diode can be used as a Voltage Regulator? [5]

OR

- Q2)** a) Compare active & Passive components? [5]  
b) Explain Breakdown mechanisms in Zener Diode? [5]  
c) Explain the working of LED with suitable diagram? [5]

- Q3)** a) Explain Operation of BJT as a Switch? [5]  
b) Draw & explain block Diagram of Op-Amplifier? [5]  
c) Compare BJT & MOSFET? [5]

OR

- Q4)** a) Draw Input & Output characteristics in CE configuration. Indicate different operating regions in it? [5]  
b) Explain the working of N-channel E-MOSFET with diagram? [5]  
c) Calculate the gain & output voltage for non-inverting op- amplifier with  $R_f = 10\text{K}\Omega$ ,  $R_1 = 1\text{K}\Omega$ ,  $V_{in} = 250\text{mV}$ ,  $V_{cc} = 15\text{V}$ . [5]

