Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 40035

B.E. DEGREE EXAMINATION, APRIL/MAY 2018

Second Semester

Electronics and Communication Engineering

EC 8252 – ELECTRONIC DEVICES

(Common to Electronics and Telecommunication Engineering and Medical Electronics Engineering)

(Regulations 2017)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A **(10×2=20 Marks)**

1. State the relationship between diffusion capacitance and diode current in a PN diode.
2. Write down the diode current equation.
3. Define Early Effect.
4. Why BJT is called as current controlled device ?
5. What is pinch off voltage ?
6. State the application and difference between BJT and FET.
7. What is a FinFET ?
8. What is referred as CNTFET ?
9. What is the effect of temperature in Solar Cell ?
10. Draw the symbol and equivalent circuit of TRIAC.

PART – B **(5×13=65 Marks)**

11. a) Demonstrate the working mechanism of a PN junction diode in both forward bias and reverse bias conditions.

(OR)

b) Analyze the impact of temperature on V-I characteristics of PN diode.

12. a) Construct and demonstrate the working mechanism of CE configuration of BJT.

(OR)

b) Construct and demonstrate the working mechanism of CB configuration of BJT.

13. a) Illustrate the working mechanism of JFET with necessary diagram.

(OR)

b) Discuss your understanding on MOSFET detailing the types, construction and characteristics.

14. a) Illustrate with necessary diagram, the working mechanism of a LASER diode.

(OR)

b) Discuss in detail about Zener and Tunnel diode.

15. a) Explain the working and characteristics of SCR and its applications.

(OR)

b) Enumerate the construction and operation of LED.

PART – C **(1×15=15 Marks)**

16. a) Design and analyze a NPN bipolar junction transistor using Eber moll transistor model.

(OR)

b) Explain the working and characteristics of DIAC and its applications.