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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.

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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.