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

Question Paper Code : 23496

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Third Semester

Electrical and Electronics Engineering

EE 2203 — ELECTRONIC DEVICES AND CIRCUITS

(Regulations 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define extrinsic semiconductor.

2. Define barrier potential.

3. What is meant by biasing a transistor?

4. What is thermal runaway?

5. Compare BJT and JFET.

6. Define Transconductance of JFET.

7. What is meant by CMRR of a Differential amplifier?

8. State how the differential amplifier can be used as an emitter coupled phase inverter.

9. What is an integrating circuit?

10. What is a negative clamper?

PART B — (5 × 16 = 80 marks)

11. (a) Define drift current and diffusion current and derive equations for it. (16)

Or

(b) Explain the effect of temperature on a PN junction diode. (16)

12. (a) Explain the construction and operation of BJT in unbiased condition and biased condition. (16)

Or

(b) Explain the power transistor construction, characteristics and operation. (16)

13. (a) Explain the working of FET with its construction details. (16)

Or

(b) Explain in detail with neat diagram the JFET Amplifiers, merits and demerits and their application. (16)

14. (a) Explain the differential amplifier with its classification and characteristics. (16)

Or

(b) Explain with a block diagram the concept of Oscillator. (16)

15. (a) Draw the circuit diagram of Schmitt trigger using transistors and explain the operation with wave forms. Also list the applications of it. (16)

Or

(b) Discuss UJT relaxation oscillator with neat sketch. (16)
