

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : 91464

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

Third Semester

Electronics and Instrumentation Engineering

EI 2203/EI 35/EC 1209/080300002/10133 EE 305 — ELECTRONIC
DEVICES AND CIRCUITS

(Common to Instrumentation and Control Engineering

(Regulation 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is diffusion capacitance?
2. What is meant by early effect?
3. Draw the equivalent circuit of UJT.
4. List the applications of SCR.
5. What is Push-Pull amplifier?
6. What are h parameters?
7. What is the need for feedback in amplifiers?
8. What is negative resistance oscillator?
9. Define intrinsic stand-off ratio of UJT.
10. List the applications of bistable multivibrator?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the operation of Tunnel diode with neat diagram. (8)
(ii) Explain how transistor act as an amplifier. (8)

Or

- (b) (i) Explain briefly about varactor diode and its applications. (8)
(ii) Illustrate the input and output characteristics of CB configuration. (8)

12. (a) (i) Compare the properties of BJT and FET. (8)
(ii) Explain the construction of N-channel FET. (8)

Or

- (b) (i) Explain the operation of UJT relaxation oscillator with neat diagram. (8)
(ii) Discuss about the characteristics of DIAC. (8)

13. (a) Explain the analysis of a transistor amplifier circuit using h-parameters. (16)

Or

- (b) Explain the circuit diagram and working principle of class AB amplifier. (16)

14. (a) Draw the Colpitts oscillator circuit and explain its working principle. (16)

Or

- (b) Discuss the effect of negative feedback on the bandwidth and distortion in an amplifier with necessary derivations. (16)

15. (a) (i) Explain the working of monostable multivibrator. (8)
(ii) Discuss about transistor series voltage regulator. (8)

Or

- (b) (i) Explain VI characteristics of UJT. (8)
(ii) Draw and explain the Schmitt trigger circuit. (8)