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B.E / B.Tech (FT) END SEMESTER EXAMINATIONS – APRIL / MAY 2019

MINING ENGINEERING & PRINTING TECHNOLOGY
II Semester
EE7152 & BASIC OF ELECTRONICS ENGINEERING

(Regulation 2015)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. Define Avalanche effect in diode.
2. Compare the depletion regions in forward bias and reverse bias condition?
3. Differentiate PNP and NPN transistor.
4. What is the need of biasing in BJT.
5. Draw the characteristic curve of DIAC.
6. What is the advantage of FET compared with BJT.
7. Mention the usage of positive feedback and negative feedback circuits.
8. How to differentiate inverting and non-inverting amplifier
9. Reduce the Boolean function of $Y = A(B+C) \overline{(AB+AC)}$
10. Give the truth table of EX-OR gate.



Part – B (5 x 13 = 65 marks)

11. a) (i) Explain how n-type and p-type semiconductor material are formed? [6]
(ii) How Zener diode act as regulator? [7]
(Or)
- b) Explain and Analyze the Full wave rectifier with electrical parameter calculation. [13]
12. a) Give detail derivation of CE amplifier stability and also mention the reason of why emitter bias more stable than base bias. [13]
(Or)
- b) (i) What is the need of feedback ? How the feedback influence the voltage series and current series feedback amplifier? [13]
13. a) Discuss the characteristic regions of JFET and also calculate drain current in active Region. [13]
(Or)
- b) (i) Differentiate DIAC and TRIAC. [6]
(ii) Explain in detail about working of SCR along with any one application. [7]

14. a) Give detail discussion about the RC-phase shift oscillator . [13]
(Or)
b) Explain the integrator and differentiator with detail derivation. [13]

15. a) Mention the different types of Analog to digital convertors and also give detail explanation about any two types. [13]
(Or)
b) Discuss the encoder and decoder along with truth table and logic diagram. [13]

Part – C (1 x 15 = 15marks)

16. (i) An Astable multivibrator is constructed with following components $R_1=1k$ ohm, $R_2=2k$ ohm and capacitor $C=10\mu F$. Calculate output frequency from the 555 oscillator. [5]
(ii) Which one of the multivibrator generate square wave using 555 timer IC, explain in detail. [10]

