

Final 21-02-2022

Course Code: 1930405

Roll No:

MLRS- R19



MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

II B.Tech I Sem Supplementary Examination, February-2022

Analog and Digital Electronics

(CSE & IT)

Time: 3 Hours.

Max. Marks: 70

Note: 1. Answer any FIVE questions.

2. Each question carries 14 marks and may have a, b as sub questions.

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|---|----|---|-----|-----|-----|
| 1 | a) | Explain the operation of P-N Junction diode and obtain the forward bias and reverse bias Volt-Ampere Characteristics. | 7M | C01 | BL4 |
| | b) | How diode is used as a switch and define all switching times | 7M | C01 | BL2 |
| 2 | | Explain the working of a Half-Wave & Full-Wave rectifier and derive the expression for ripple factor. | 14M | C01 | BL4 |
| 3 | a) | What are the different types of configuration of BJT explain with schematic representation? | 7M | C02 | BL1 |
| | b) | What are the advantages and limitations of RC coupled amplifier? | 7M | C02 | BL1 |
| 4 | | Explain Compensation Techniques with respect to BJT biasing. | 14M | C02 | BL4 |
| 5 | a) | Explain in detail how FET can be used as an amplifier | 7M | C03 | BL4 |
| | b) | Write the differences between BJT & JFET. | 7M | C03 | BL1 |
| 6 | | Simplify the following function using map method
$F(A,B,C,D)=\Sigma(0,1,2,3,4,6,9)+d(7,11,12,13,15).$ | 14M | C03 | BL3 |
| 7 | a) | Explain the function of multiplexer and decoder in digital logic design | 7M | C04 | BL4 |
| | b) | Distinguish between Combinational and Sequential Switching circuits. | 7M | C04 | BL2 |
| 8 | | Draw the truth table of SR & JK Flip-flop and obtain its characteristics equations. | 14M | C05 | BL1 |

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