SEMESTER - II

Paper - V : Electronics - II

<div align="right">

Max. Marks: 55
Time: 3 Hrs.

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Note: Nine questions will be set and students will attempt 5 questions. Question No. 1 will be compulsory consisting of 4 parts based on the conceptual aspects of the whole syllabus. The answers should not be in yes/no. In addition to Question No. 1 there will be four Units in the question-paper each containing two questions belonging to four Units in the syllabus. Students will select one question from each unit.

UNIT - I

Number Systems: Introduction to Decimal, Binary, Octal, Hexadecimal Number Systems, BCD Codes, Interconversions of Decimal, Binary and BCD Numbers, Parity. Excess-3, Grey and Johnson Codes.
Logic Gates, Boolean algebra and their Applications: Positive and Negative Logic. Different Logic Gates such as AND, OR, NOT, NAND, NOR, EX-OR, Boolean Axioms D'Morgan's Theorems: Statement, Verification and Applications.

UNIT - II

K-Map for Simply of Boolean Functions upto Four Variables. One's Complement, 2's compliments, Half Adder, Full Adder, Half Subtractor, Full Subtractor .
Logic Families : DTL, TTL, ECL and CMOS, Parameters Like Power Dissipation, Speed, Fan In, Fan Out, Noise Immunity.

UNIT - III

Combinational and Sequential Circuits: Multiplexer, Demultiplexer, Encoders, Decoders, Flip Flops (RS, JK, MS-JK, D,T), Shift Registers, Asynchrous and Synchrous Counters, Semiconductor Memories : ROM, RAM, EPROM.

UNIT - IV

The Intel 8080/8085 Microprocessor : Introduction, the 8085 Pin Diagram and Functions, the 8085 Architecture, Addressing Modes, the 8080/8085 Instruction Set, the 8080/8085 Data Transfer Instructions, the 8080/8085 Arithmetic Instructions,

The 8080/8085 Logical Instructions, The 8080-8085 Branch Instructions, The 8080-8085 Stack, I/O, and Machine Control Instructions.
Programming the 8080-8085 Microprocessor: Introduction, Straight-Line Programs, Looping Programs, Mathematical Programs.

References

1.   Basic Electronics - B.L. Theraja

2.   Microprocessor Architecture Programming and Applications - R.S. Gaonkar

3.   Digital Computers - A.P. Malvino

4.   Microprocessor and its applications - B.Ram

5.   Integrated Electronics - Millman Halkias