

DURATION: - 2½ hrs

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Note: - (1) All questions are compulsory.
 (2) All questions carry equal marks.
 (3) Figures to the right indicates full marks

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| Q.1) Attempt any 4 | | 20M |
| 1) | Design 3 bit ripple counter with its timing diagram | CO1-U |
| 2) | Draw symbol and truth table of basic gates and universal Gate | CO1-R |
| 3) | What are the major requirement of input/output module | CO1-R |
| 4) | Compare RISC and CISC | CO2-U |
| 5) | Explain the applications of micro programming | CO3-U |
| 6) | Draw 8:1 multiplexer With its truth table. | CO2-R |
| Q.2) Attempt any 4 | | 20M |
| 1) | Solve using K map | CO1-R |
| | $y = \Sigma m(1,2,9,10,11,14,15)$ | |
| 2) | Compare computer organisation and computer architecture | CO1-U |
| 3) | What is cluster computing | CO3-U |
| 4) | What is Adder, explain half adder with its truth table & logical implementation | CO1-R |
| 5) | Explain architecture of Microprocessor | CO3-U |
| 6) | Classify and explain different type of "Triggering method" | CO2-U |
| Q.3) Attempt any 4 | | 20M |
| 1) | Why NAND and NOR gate is called as universal Gate | CO1-U |
| 2) | Compare Asynchronous and Synchronous counter | CO1-U |
| 3) | What is 'MOD N Counter' how many flip-flop are required for the following counter:
i) Mod 5 ii) Mod 10 iii) Mod 72 iv) Mod 50 | CO1-U |
| 4) | Compare static RAM & dynamic RAM | CO1-R |
| 5) | Explain different type of "System BUS" | CO1-R |
| 6) | Compare "combinational CKT" and "sequential CKT" | CO1-U 15M |
| Q.4) Attempt any 5 | | |
| 1) | Explain different type of "Addressing mode" | CO2-U |
| 2) | Compare RAM and ROM | CO2-R |
| 3) | Explain Cache architecture with look through cache & look Aside Cache | CO2-R |
| 4) | Explain immediate, Direct, indirect and register addressing mode | CO3-R |
| 5) | Write a short note on "Nano Programming" | CO3-U |
| 6) | Design 2 bit synchronous is up counter with truth table and Timing diagram | CO3-U |
