

Please check whether you have got the right question paper.

- N.B:
1. All question is compulsory.
  2. Figures to the right indicate full marks.
  3. Students answering in the regional language should refer in case of doubt to the main text of the paper in English.

**Q1. Attempt any four of the following.****20 Marks**

- a) Describe the basic logic gates and functions along with the truth tables.
- b) Explain edge-triggered D latch.
- c) Write a note on multiplexers.
- d) Explain the basic structure and operation of a computer.
- e) Explain shift registers.
- f) Write a note on ripple carry adder.

**Q2. Attempt any four of the following.****20 Marks**

- a) Illustrate the difference between RISC and CISC.
- b) Explain the types of machine instructions: i] arithmetic ii] logic.
- c) Write a note on indexing for arrays.
- d) Explain the concept of assembler directives.
- e) Write a note on Operand addressing modes.
- f) What do you mean by processor runtime stack?

**Q3. Attempt any four of the following.****20 Marks**

- a) Write a note on memory access and branch instructions.
- b) Explain: i] registers and register files ii] ALU.
- c) Write a note on executing arithmetic/logic.
- d) Describe the concept of Datapath.
- e) Explain interrupt requests and processing.
- f) Explain: i] control unit ii] instruction fetch unit.

**Q4. Attempt any four of the following.****15 Marks**

- a) Explain the big-endian and little-endian arrangements.
- b) Write a note on tristate buffers.
- c) Describe the concept of accessing I/O devices.
- d) Explain the interfaces to instruction and data memories.
- e) Write a note on Memory organization.
- f) Explain full adder with a suitable diagram.

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