## MPH33 — MICROPROCESSOR AND MICRO CONTROLLER

Time : Three hours   Maximum : 75 marks

SECTION A — (5 × 6 = 30 marks)

Answer ALL the questions.

1. (a) Give any four logical instructions and explain with an example.

Or

(b) Draw the timing diagram for memory read and memory write cycles and explain.

2. (a) Explain the memory mapped I/O and I/O mapped I/O with diagrams.

Or

(b) Draw the block diagram for DAC interface and explain its working.

3. (a) Give a brief account on 8-bit microcontroller families.

Or

(b) Write an ALD for Division of two 8-bit integers.
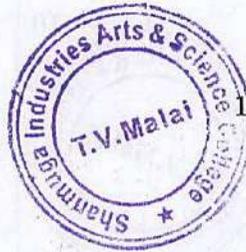
4. (a) List out the five interrupt sources of 8051 μc.

Or

(b) How can you interface 8051 with sensors? Explain.

5. (a) Explain the Data and flash program memories.

Or

(b) Discuss the I/O ports of 8051 μc.

SECTION B — (3 × 15 = 45 marks)

Answer any THREE questions.

6. (a) What are addressing modes? (2)

(b) List out the different types of them in 8085 μp. (4)

(c) Explain them with an example. (9)

7. (a) Draw and explain the block diagram of PPI (8255 A). (8)

(b) Discuss about its BSR mode. (7)

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8. With an example, explain the following instructions:

(a) CLR A (b) CLR bit (c) CPA A (d) CPL bit (e) RL A (f) RR A (g) RLC A (h) RRC A (i) SWAP A (j) SET B. (10 × 1.5 = 15)

9. Describe the software and hardware for interfacing 8051 μc with a stepper motor.

10. (a) Draw the Architecture of 8051 μc. (4)

(b) Draw the Register file map and explain. (7)

(c) Give the functions of each block in Architecture of 8051 μc. (4)

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