Register No.:

879

October 2017

Time – Three hours
(Maximum Marks: 75)

[N.B: (1) Q.No. 8 in PART – A and Q.No. 16 in PART – B are compulsory. Answer any FOUR questions from the remaining in each PART – A and PART – B.

(2) Answer division (a) or division (b) of each question in PART-C.

(3) Each question carries 2 marks in PART – A, 3 marks in Part – B and 10 marks in PART – C.]

PART – A

1. Define register transfer language.
2. Draw the circuit for adding two 4 bit binary data.
3. Why we need I/O module?
4. What are the types of asynchronous data transfer?
5. Mention any two secondary storage devices.
6. What is hit ratio?
7. Define multithreading.
8. Name the machine control flags in 8086 microprocessor.

PART – B

9. What is fetch cycle? Mention the steps in the cycle.
10. How a priority interrupt is solved in serial method?
11. What is write back process in cache memory?
12. What is the function of magnetic disk and how it is normally called?
13. How an asynchronous serial transfer of data occurs? Explain.
14. Why we are going for segmentation? What are the segment registers available in 8086 microprocessor?
15. Explain pipelining in super scalar processors.
16. Give a short note about NUMA.

PART – C

17. (a) Explain the different length instruction formats available in CPU.

(Or)

(b) Explain the operation of instruction cycle in detail.

18. (a) (i) How an asynchronous communication interface work? Explain.
(ii) Write about CPU-IOP communication.

(Or)

(b) (i) Explain the function of DMA controller.
(ii) Mention the different I/O commands available in I/O transfer.

19. (a) Write about any two mapping techniques of cache memory in detail.

(Or)

(b) (i) Explain different page replacement techniques.
(ii) Draw and explain memory table in a paged system.

20. (a) (i) Draw the block diagram of 8086 processor.
(ii) Mention the Flynn's classification in parallel processor organization.

(Or)

(b) Explain instruction pipelining in detail.

21. (a) Explain about a mainframe SMP.

(Or)

(b) Explain cluster configuration in detail.
