A–842

Total Pages : 3 **Roll No. .....**

MCS-602/MIT (CS)-404

Computer System Architecture/Computer Organization & Architecture

MCA/MSCCS

3rd/4th Semester Examination, 2024 (June)

Time : 2:00 Hrs. Max. Marks : 70

Note* :–** This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. ***Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

Section–A

(Long Answer Type Questions) 2×19=38

***Note* :–** Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. Explain computer architecture with suitable diagram.

2. Explain various addressing modes and there applications in details. Also explain designing of Instruction set with suitable example.

3. Define Secondary storage and type of storage devices in details.

4. Difference between RISC and CISC. What are the design issues of a RISC processor ? Explain with example.

5. (a) Explain the benefits of parallel processing in details.

   (b) Explain Memory organization for multiprocessors systems.

Section–B

(Short Answer Type Questions) 4×8=32

***Note* :–** Section 'B' contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Explain computer programming language and its types with example.
2. Define number system and types of number system each with suitable example.
3. Explain Instruction cycle and instruction formats in details.
4. Explain DMA controller.
5. What are the functions of cache memory ? Explain the terms cache hit and cache miss.
6. What is pipelining ? What are the advantages of pipeling system over non-pipeling system.
7. Define Virtual memory. Explain Multiprocessors system and its characteristics.
8. Explain the features of General register organization and stack organization of CPU organizations.

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