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Roll No. :

322454(22)

**BE (Fourth Semester) Examination,
April-May 2019**

(New Scheme)

(CSE Branch)

COMPUTER SYSTEM ARCHITECTURE

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each question is compulsory. Attempt any two parts from (b), (c) and (d). Assume any suitable data.

1. (a) Define parameter passing in subroutines. 2

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- (b) Explain the representation, selection and application of instruction formats. 7

- (c) Write the differences between Hardwired and Microprogrammed Control Unit. Draw the block diagram for both. 7

- (d) Explain various addressing modes with example. 7

2. (a) Define Fixed point and Floating point numbers. 2

- (b) Describe the implementation of binary parallel adder/subtractor circuit using full adders. 7

- (c) Define bit pair recoding. Explain Booth's multiplication algorithm for fixed point numbers with example. 7

- (d) Explain the floating point operations with example. Define guard bits. 7

3. (a) Define virtual memory. 2

- (b) Discuss the concept of multimodule memories and memory interleaving in memory organization. 7

- (c) Explain the associative memory organization and derive the expression for match logic. 7

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- (d) Define Cache mapping. Explain the types of cache mapping with examples. 7
4. (a) Define interrupts. 2
- (b) Write down the differences between I/O mapped I/O and memory mapped I/O. 7
- (c) Define priority interrupt. Explain daisy chaining priority interrupt with block diagram. 7
- (d) What is Direct Memory Access? Explain DMA controller with the help of block diagram. 7
5. (a) Define pipelining. 2
- (b) Explain 4 stages of instruction pipelining. 7
- (c) Explain the fault tolerance system. Describe static and dynamic redundancy. 7
- (d) Define parallel processing. Describe Flynn's classification of parallel processing. 7

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