CBCS SCHEME

USN | | | | | | | | | | |

20EVE324

Third Semester M.Tech. Degree Examination, Feb./Mar. 2022
Advanced Computer Architecture

Time: 3 hrs. Max. Marks: 100

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1 a. Explain the fundamentals factors for calculation of performance of a computer. **(07 Marks)**
b. Explain the elements of a modern computer system. **(05 Marks)**
c. Explain the general model of distributed memory multicomputer. **(08 Marks)**

OR

2 a. Explain UMA multiprocessor model. **(08 Marks)**
b. Explain data dependence in computing environment. **(05 Marks)**
c. Explain the different levels of parallelism in program execution. **(07 Marks)**

Module-2

3 a. Explain Amdahl's law for a fixed work load. **(10 Marks)**
b. Analyze the mean performance. **(10 Marks)**

OR

4 a. Explain the different phases of instruction pipelines in a base scalar processor. **(10 Marks)**
b. Explain VLIW architecture. **(10 Marks)**

Module-3

5 a. Analyze the bandwidth of two interleaved memory organization over eight memory modules. **(10 Marks)**
b. Explain Lampart's definition for sequential consistence memory model. **(10 Marks)**

OR

6 a. Discuss the different concepts and challenges in ILP. **(10 Marks)**
b. Explain structural hazard with neat block diagram. **(10 Marks)**

Module-4

7 a. Explain different vector-access memory schemes. **(10 Marks)**
b. Explain vector register file in Cray – Fujitsu super computers. **(10 Marks)**

OR

8 a. Explain the implementation and management issues of SUM. **(10 Marks)**
b. Analyze processor consistency and Release consistences. **(10 Marks)**

Module-5

9 a. Explain in brief the GCD test and software pipelining with examples. **(10 Marks)**
b. Explain the optimizing compilers for parallelism. **(10 Marks)**

OR

10 a. Explain Dekker's protocol. **(10 Marks)**
b. Explain the different levels of multitasking. **(10 Marks)**

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