

E 6234



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Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, SEPTEMBER 2024

Sixth Semester

B.Sc. Computer Science

Core Course—PARALLEL PROCESSING

(Prior to 2013 Admissions)

Time : Three Hours

Maximum Weight : 25

Part A (Objective Type Questions)

Answer all Questions.

A bunch of four questions carries a weight of 1.

- I. 1 DMA stands for _____.
- (a) Data Memory Access. (b) Direct Memory Access.
(c) Direct Multiprocessor Access. (d) None of the above.
- 2 OF stands for _____.
- (a) Operand fetch. (b) Operator fetch.
(c) Operating fetch. (d) None of the above.
- 3 MIMD stands for _____.
- (a) Multiple Input stream multiple data stream.
(b) Multiple Instruction stream multiple data stream.
(c) Multiple Input stream multiple device stream.
(d) Multiple Instruction stream multiple data stream.
- 4 Array processor is a _____ parallel computer.
- (a) Asynchronous. (b) Synchronous.
(c) Vector. (d) Raster.
- II. 5 IBM 360/91 computer uses _____ as a main feature.
- (a) Vectoring. (b) Rastering.
(c) Pipelining. (d) None of the above.





- 6 A _____ performs overlapped computations.
- (a) Multiprocessor.
 - (b) Array processor.
 - (c) Pipeline computer.
 - (d) None of the above.
- 7 PDP-10 is a _____.
- (a) Vector processor.
 - (b) Raster processor.
 - (c) Multiprocessor
 - (d) None.
- 8 IPC stands for _____.
- (a) Interpipeline control.
 - (b) Interprocess control.
 - (c) Interpipeline communication.
 - (d) Interprocess communication.
- III. 9 The average number of words accessed per second is _____.
- (a) Access rate.
 - (b) Latency.
 - (c) Demand rate.
 - (d) Memory bandwidth.
- 10 Eddy is a _____.
- (a) Static data flow computer.
 - (b) Dynamic data flow computer.
 - (c) VLSI data flow computer.
 - (d) None of the above.
- 11 FORK, statement is for _____.
- (a) Latency.
 - (b) Redundancy.
 - (c) Concurrency.
 - (d) None of the above.
- 12 Barrel shifters are known as _____.
- (a) PM2I.
 - (b) PMI2.
 - (c) PIM2.
 - (d) PI2M.
- IV. 13 A physical path is actually established between source and destination in _____.
- (a) Circuit switching.
 - (b) Packet switching.
 - (c) ATM.
 - (d) Message switching.





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- 14 Systolic array is a _____.
- (a) Vector computing structure.
 - (b) Raster computing structure.
 - (c) VLSI computing structure.
 - (d) None of the above.
- 15 FTS stands for _____.
- (a) First token slicing.
 - (b) First time slicing.
 - (c) Fixed token slicing.
 - (d) Fixed time slicing.
- 16 Semaphores are handled in _____ section of a process.
- (a) Entry.
 - (b) Exit.
 - (c) Critical.
 - (d) Remainder.

(4 × 1 = 4)

Part B (Short Answer Questions)

*Answer any five Questions.
Each question carries 1 weight.*

- 17 What is cycle stealing ?
- 18 What is the difference between timesharing and multiprogramming ?
- 19 What are the different network topologies ?
- 20 What is memory interleaving ?
- 21 What is an array pipeline ?
- 22 What is a multistage network ?
- 23 What is a loosely coupled microprocessor ?
- 24 What is static priority algorithm ?

(5 × 1 = 5)

Part C (Short Essay Questions)

*Answer any four Questions.
Each question carries 2 weight.*

- 25 Briefly, explain SISD computer organization.
- 26 Briefly, explain the classification of pipeline processors.

Turn over





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- 27 Briefly, explain pipelined vector processing methods.
- 28 Briefly, explain features of a processor for multiprocessing.
- 29 Briefly, classsify various multiprocessor operating systems.
- 30 Briefly, explain static data flow computer.

(4 × 2 = 8)

Part D (Essay Questions)

*Answer any **two** questions.
Each question carries 4 weight.*

- 31 Explain in detail the architecture and working of a uniprocessor system.
- 32 Explain in detail SIMD array processor with illustrations and diagrams.
- 33 Explain in detail dynamic data flow computer.

(2 × 4 = 8)

