G 494 (Pages : 2) Reg. No..................................

Name..................................

M Tech CS

M.TECH. DEGREE EXAMINATION, MARCH 2012

First Semester

Branch : Computer Science and Engineering/Information System

MCS 103/MIS 103—OPERATING SYSTEMS

(Supplementary—Prior to 2011 Admissions)

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** questions.

Each question carries 4 marks..

1. Justify the need for naming services in distributed system.

2. How are Process Synchronized in distributed system ?

3. State the strategies to handle deadlock.

4. List any _five_ advantages of a distributed system.

5. Explain the need for securing in RPC.

(5 × 4 = 20 marks)

Part B

Answer **five** questions.

Each question carries 16 marks..

6. (a) Describe the architecture of distributed system. (8 marks)

   (b) State the Design issues of distributed operating system. (8 marks)

_Or_

7. (a) Explain the various transparancies in distributed operating systems. (10 marks)

   (b) Write notes on distributed computing model. (6 marks)

8. (a) Describe Remote Procedure Call. (8 marks)

   (b) Write notes on Process addressing. (8 marks)

_Or_

9. (a) Discuss the issues in IPC by message passing Synchronization. (8 marks)

   (b) Explain the Communication Protocols for RPC. (8 marks)

Turn over

10. (a) What is a deadlock ? Explain the methods to overcome deadlock.   (10 marks)

     (b) Write notes on :

          (i)   Clock Synchronization.

          (ii) Mutual Exclusion.

          (iii) Data Consistency.   (6 marks)

                                                Or

11. (a) Explain the architecture of DSM.   (8 marks)

     (b) Discuss the issues in the design of DSM.   (8 marks)

12. (a) Write notes on the approaches used for load balancing.   (10 marks)

     (b) Explain process migration.   (6 marks)

                                                Or

13. (a) Differentiate processes and threads.   (6 marks)

     (b) Briefly explain the features of global scheduling algorithm.   (10 marks)

14. (a) What is DFs ? What is its use ?   (10 marks)

     (b) How can replication be used to enhance the system performance ?   (6 marks)

                                                Or

15. (a) State the features of a good DFs.   (6 marks)

     (b) Explain the various file accessing models.   (10 marks)

                                                          [5 × 16 = 80 marks]

G 495

M.TECH. DEGREE EXAMINATION, MARCH 2012

First Semester

Branch : Computer Science and Engineering/Information System

MCS 104/MIS 104—COMPUTER ARCHITECTURE

(Supplementary—Prior to 2011 Admissions)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer **all** *questions.*

Each question carries 4 marks..

1. What are structural hazards ? How can they be minimized ?

2. Explain pipeline through–put and efficiency.

3. What are the various dependencies ?

4. What are the limitations of ILP ?

5. How can Parallelism be achieved ? Mention any *two* methods.

(5 × 4 = 20 marks)

Part B

Answer **five** *questions.*

Each question carries 16 marks..

6. (a) Write notes on :

    (i) Computer architecture.

    (ii) Programming Language Architecture.   (8 marks)

  (b) Explain Von Newmann architecture in detail.   (8 marks)

Or

7. (a) State the advantages of Parallelism.   (6 marks)

  (b) Explain the way in which programming language is related to the architecture of a digital computer.

        (10 marks)

8. (a) Explain Flynn's classification.   (8 marks)

  (b) Discuss the design issues of any *two* parallel architecture.   (8 marks)

Or

9. (a) Explain the modern classification of computer.   (8 marks)

  (b) Write notes on different levels of Parallelism.   (8 marks)

Turn over

10. (a) State the various methods to speed up potential of ILP processors.   (8 marks)

    (b) Give an Overview of ILP processors.   (8 marks)

                                          Or

11. (a) Explain Instruction Scheduling in ILP processors.   (8 marks)

    (b) Explain the different types of dependencies with examples.   (8 marks)

12. (a) Show that the maximum speed of a pipeline is equal to the number of stages.   (6 marks)

    (b) What is pipeline ? Explain its working with a pipeline for floating point addition. (10 marks)

                                          Or

13. (a) Write notes on the hazards of pipeline processing.   (8 marks)

    (b) Comment on the performance of pipelines with stalls.   (8 marks)

14. (a) List the steps in superscalar processing.   (8 marks)

    (b) Explain the layout of rename buffer.   (8 marks)

                                          Or

15. (a) Explain Shelving in superscalar processor.   (8 marks)

    (b) Brief the super scalar issue policies.   (8 marks)

                                                                        [5 × 16 = 80 marks]