

**VINAYAKA MISSIONS RESEARCH FOUNDATION**  
**(Deemed to be University)**  
**M.TECH -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**COMPUTER SCIENCE AND ENGINEERING**  
**FIRST SEMESTER**  
**COMPUTER NETWORKS AND MANAGEMENT**  
(Candidates admitted under 2017 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions  
**Part-A (10 x 2 =20 Marks)**

- 1 What are the layers present in SDH?
- 2 What is the need for asynchronous digital hierarchy?
- 3 Why Switching is so popular?
- 4 What are the uses of spanning tree algorithm?
- 5 Define Non-blocking.
- 6 Define partially self routing.
- 7 What is Packet loss probability?
- 8 What is signal latency in a network?
- 9 What are functions of ATMARP Client?
- 10 Draw the diagram for RTCP source description?

**PART-B (5 x 16 = 80 )**

- 11 a. Explain in detail about ATM Adaptation Layer (AAL).  
**OR**
- b. Describe in detail about Wireless LAN.
- 12 a. Explain in detail about Single server queues?  
**OR**
- b. Explain in detail about Congestion Avoidance with Explicit Signaling.
- 13 a. Describe in detail about ATM traffic related attributes.  
**OR**
- b. Explain about traffic control.
- 14 a. Explain in detail about Random Early Detection.  
**OR**
- b. Explain in detail about RED Algorithm.
- 15 a. Describe in detail about RSVP Operation.  
**OR**
- b. Explain in detail about RTCP.

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**M.TECH -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**COMPUTER SCIENCE AND ENGINEERING**  
**FIRST SEMESTER**  
**DATA STRUCTURES AND ALGORITHMS**  
(Candidates admitted under 2017 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions  
**Part-A (10 x 2 =20 Marks)**

- 1 What is mean by list ADT?
- 2 Define amortized analysis.
- 3 Define cascading cut with example.
- 4 How to construct a Min-Max heap?
- 5 Define B+ trees.
- 6 Write about the properties of Red-Black trees.
- 7 Define complexity analysis.
- 8 What is the worst case time complexity of quick sort?
- 9 Draw the different solutions for the 4-queue problem.
- 10 What are the rules for flow shop scheduling?

**PART-B (5 x 16 = 80 )**

- 11 a. (i) Explain the principle of Amortized Analysis.  
(ii) Write algorithm to insert a node in the beginning of a list.

**OR**

- b. Describe in detail about recurrence equations

- 12 a. Explain the Insertion and deletion of Max heap with example.

**OR**

- b. Give the details about Fibonacci heaps.

- 13 a. Explain the insertion and deletion of 2-3-4 trees.

**OR**

- b. Find the binary search tree for the following :  
6, 4, 9, 2, 5, 8, 12, 7, 10.  
(i) Delete 4. (ii) Insert the elements 3, 6.

14 a. What are all the theorems involved in job sequencing with deadlines?

**OR**

b. Illustrate the faster algorithm of job sequencing.

15 a. Illustrate 8-queens problem with back tracking.

**OR**

b. Explain the knapsack problem with the example.

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**M.TECH -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**COMPUTER SCIENCE AND ENGINEERING**  
**SECOND SEMESTER**  
**DATABASE TECHNOLOGY**

(Candidates admitted under 2017 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions

**Part-A (10 x 2 =20 Marks)**

- 1 What are the advantage and disadvantage of distributed database?
- 2 What is Database Recovery?
- 3 Mention the drawbacks of persistent programming language.
- 4 When the concurrency is managed?
- 5 What is cluster?
- 6 Mention the uses of mobile database.
- 7 What is database integrity?
- 8 Write the difference between temporal and non-temporal database.
- 9 Mention the characteristics of knowledge based system.
- 10 What is text database?

**PART-B (5 x 16 = 80 )**

- 11 a. What is meant by transaction? Explain in detail about transaction processing.

**OR**

- b. Illustrate the concept of concurrency control in distributed databases.

- 12 a. Explain multi version locks with an example?

**OR**

- b. Write notes on persistent programming language.

- 13 a. Write a detailed note on data mining.

**OR**

- b. With a neat diagram explain about mobile database system.

- 14 a. Write short notes on database tuning.

**OR**

- b. Discuss in detail about the three layer architecture of SDBMS.

- 15 a. Explain briefly about text databases.

**OR**

- b. How do you edit and delete an image record?

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**M.TECH -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**COMPUTER SCIENCE AND ENGINEERING**  
**SECOND SEMESTER**  
**ADVANCED OPERATING SYSTEMS**  
(Candidates admitted under 2017 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100

Answer **ALL** questions**Part-A (10 x 2 =20 Marks)**

- 1 Mention the classifications of advanced operating system.
- 2 Give short notes about semaphores with an example.
- 3 List out the various issues present in distributed operating systems.
- 4 How centralized control helps in distributed deadlock detection?
- 5 List the mechanisms are used for building distributed file system.
- 6 Define Page replacement in distributed system..
- 7 Differentiate forward and backward error recovery.
- 8 What is dynamic voting in fault tolerance?
- 9 List out the ways we can implement in the process wait.
- 10 List out the requirements of a database operating system.

**PART-B (5 x 16 = 80 )**

- 11 a. Give brief notes about communicating sequential process and drawbacks.

**OR**

- b. Explain about safe-state checking algorithm with example.

- 12 a. a) Explain about issues in deadlock detection resolution.  
b) What are control organizations for distributed deadlock detection?

**OR**

- b. Describe the classification of agreement problems.

- 13 a. Describe the architecture and motivation of distributed shared memory.

**OR**

- b. Describe about the design issues of distribute shared memory.

- 14 a. Write brief notes about various phases of rollback recovery algorithms.

**OR**

- b. Explain in detail about non-blocking commit protocol for single site failure.

- 15 a. a) Write brief notes about design issues of memory management.b) Explain about MACH kernel.

**OR**

- b. Explain about Optimistic algorithms in concurrency control.

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Marks

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**M.TECH -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**COMPUTER SCIENCE AND ENGINEERING**  
**SECOND SEMESTER**  
**ADVANCED SYSTEM SOFTWARE**  
(Candidates admitted under 2017 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions**Part-A (10 x 2 =20 Marks)**

- 1 Eliminate Left Recursion for the given Grammar  
E->E+T/T T->T\*F/F f->(E)/id
- 2 What is meant by Heap Management?
- 3 How the Value Numbers are working?
- 4 Write the 3 codes for id=id\*id+10.
- 5 Define lattices.
- 6 Define code sharing.
- 7 What are the disadvantages of system virtual machine?
- 8 Define common intermediate language.
- 9 What are the benefits of hardware emulator?
- 10 Draw a virtual machine grid infrastructure.

**PART-B (5 x 16 = 80 )**

- 11 a. Write a short notes about
  - a) Passing Parameters?
  - b) Construct the DAG for the following three- Address code  
t1 := 4\*i    t2 := a[t1]  
t3 := 4\*i    t4 := b[t3]  
t5 := t2\*t4    t6 := prod+t5  
prod := t6    t7 := i+1  
i := t7    if i<=20 got (1)

**OR**

- b. Describe in detail about over view of the memory management.
- 12 a. Elucidate about Order & Repetition of Optimization in detail.

**OR**

- b. Describe in detail the concept of intermediate languages.
- 13 a. Explain the concepts of Graph colouring.

**OR**

- b. Explain the concepts of procedure optimization and leaf routine optimization

14 a. Explain in detail about java virtual machine architecture.

**OR**

b. Narrate about optimization.

15 a. Explain the following

a) Interpretation.

b) Instruction set.

**OR**

b. Describe the concept of profiling.

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**M.TECH -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**COMPUTER SCIENCE AND ENGINEERING**  
**FOURTH SEMESTER**  
**INFORMATION SECURITY**

(Candidates admitted under 2017 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions

**Part-A (10 x 2 =20 Marks)**

- 1 What type of security was dominant in the early years of computing?
- 2 Write short notes about cost benefit analysis.
- 3 How do you define Cryptosystem?
- 4 List the difference between Stream cipher and block cipher.
- 5 Mention types of policies in CA (Certificate Authority).
- 6 What are the limits of capabilities?
- 7 Define computer worms.
- 8 Mention the three statistical models in Anomaly detection analyzes.
- 9 Define DMZ.
- 10 Write short notes on Group Access?

**PART-B (5 x 16 = 80 )**

- 11 a. Explain about Clark- Wilson Integrity Model.  

**OR**
- b. Explain in details on policy and Mechanism.
- 12 a. Explain in detail about Data Encryption Standard (DES) algorithm with neat sketch.  

**OR**
- b. Explain in following:
  - a) Authentication header protocol
  - b) Encapsulating security payload protocol
- 13 a. Explain the following.
  - i) Identity
  - ii) Files & Objects

**OR**
- b. Describe in details of Lock and Keys in Access Control.
- 14 a. Explain in details about NRL taxonomy.

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**OR**

- b. Write a note on
  - a) Anomaly modeling
  - b) Misuse modeling
  - c) Specification modeling
- 15 a. Explain in detail about the analysis of network infrastructure.

**OR**

- b. What are the requirements and polices in program security?

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Sl.No. E-564

**VINAYAKA MISSIONS RESEARCH FOUNDATION**  
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**M.TECH -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**COMPUTER SCIENCE AND ENGINEERING**  
**FOURTH SEMESTER**  
**WEB TECHNOLOGY**

(Candidates admitted under 2017 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions

**Part-A (10 x 2 =20 Marks)**

- 1 Mention some text formatting tags.
- 2 What is the use of frames in HTML give the syntax of frames.
- 3 How do you use java script?
- 4 Mention the advantages of java script.
- 5 Give the common mechanisms used for session tracking.
- 6 Mention the difference between doGet() and doPost()?
- 7 What is XQuery?
- 8 How XML is differs from HTML?
- 9 What do you mean by JDBC?
- 10 What are the various web services platform elements?

**PART-B (5 x 16 = 80 )**

- 11 a. Discuss the various tags used in HTML in detail.  

**OR**

b. Design a web page to demonstrate student personal information system.
- 12 a. How do you implement Arrays in java script with example program?  

**OR**

b. Create a web page for date comparison using java script.
- 13 a. Elucidate about ASP and its importance in web design.  

**OR**

b. How can create a web application using JSP? Write an example program.
- 14 a. Write a Program to converting a DOM Document object to an XML text representation.  

**OR**

b. Explain about dynamic web pages with an example program.
- 15 a. Describe in detail about MYSQL and .  

**OR**

b. Write an example program using PHP.

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**M.TECH -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**COMPUTER SCIENCE AND ENGINEERING**  
**FOURTH SEMESTER**  
**ELECTIVE - MOBILE COMPUTING**  
(Candidates admitted under 2016 & 2017 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions  
**Part-A (10 x 2 =20 Marks)**

- 1 Define signal.
- 2 List out the advantages and disadvantages of SDMA.
- 3 Define inclination angle.
- 4 Define bread cast desk.
- 5 Mention the services provided by WLAN MAC layer.
- 6 Mention some advantages and disadvantages of radio transmission.
- 7 Give some example for mobile IP network.
- 8 What is binding acknowledgement?
- 9 Write the advantages of WAP.
- 10 List the features of WML

**PART-B (5 x 16 = 80 )**

- 11 a. Briefly explain the following concepts
- i) PRAM
  - ii) Polling
  - iii) Inhabit Sense Multiple Access

**OR**

- b. What is multiplexing? Explain about different types of multiplexing.
- 12 a. Briefly explain the system architecture of DECT.

**OR**

- b. Write a brief notes on digital video broadcasting .
- 13 a. Narrate the service offered by IEEE802.11 standard

**OR**

**(P.T.O)**

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b. Describe in detail about roaming concepts.

14 a. What are the requirements used in mobile IP?

**OR**

b. Briefly explain the concept of DSDVC destination sequence distance vector.

15 a. Narrate in detail about push architecture.

**OR**

b. Describe the operation of the window flow control mechanism

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Sl.No.E 518