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**R-14**

**Code: 4P3127**

M.Tech. II Semester Regular & Supplementary Examinations June 2017

### **Cloud Computing**

( Computer Science and Engineering )

Max. Marks: 60

Time: 3 Hours

Answer all five units by choosing one question from each unit ( 5 x 12 = 60 Marks )

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**UNIT-I**

1. a) Compare and contrast various tools and mechanisms for implementing the virtualization techniques. 6M  
b) What is virtualization? What are the objectives of virtualization? 6M

**OR**

2. a) Explain any six benefits of Software as Service in Cloud computing? 6M  
b) Discuss Intel virtualization technology in brief. 6M

**UNIT-II**

3. a) What are the different techniques used for implementation of hardware virtualization? Explain each in details. 8M  
b) Write a short note on OS virtualization 4M

**OR**

4. Define Processor virtualization, Application virtualization, Storage Virtualization. Discuss the benefits of these virtualizations. 12M

**UNIT-III**

5. a) How virtualization helps to improve the performance of cloud computing? 6M  
b) Where and why virtualization can be used. 6M

**OR**

6. a) Discuss storage virtualization in brief. 6M  
b) How can availability be improve using virtualization? 6M

**UNIT-IV**

7. a) What is cloud? Give the benefits and limitations of cloud. 6M  
b) Discuss IaaS cloud service model with following points:  
i) IaaS Architecture  
ii) Characteristics  
iii) Advantages and disadvantages 6M

**OR**

8. a) Discuss the various deployment models for cloud computing. 6M  
b) Discuss PaaS cloud service model with following points:  
i) PaaS Architecture  
ii) Types of PaaS  
iii) Issues in PaaS 6M

**UNIT-V**

9. a) Write a short note on Google App Engine with respect to following points:  
i) Different features of Google App Engine  
ii) Run Time Environment in Google App Engine 8M  
b) Explain the basic security features in Oracle IaaS cloud. 4M

**OR**

10. a) What are the different security issues in cloud? 6M  
b) Write a short note on IBM offering towards cloud computing. 6M

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**R-14**

**Code: 4P3124**

M.Tech. II Semester Regular & Supplementary Examinations June 2017

**Distributed Operating Systems**

( Computer Science and Engineering )

Max. Marks: 60

Time: 3 Hours

Answer *all five* units by choosing one question from each unit ( 5 x 12 = 60 Marks )

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**UNIT-I**

1. a) What are the goals of distributed operating system? Explain 6M
- b) What are design issues of distributed operating system? Explain 6M

**OR**

2. a) Discuss the client-server model with neat diagrams 6M
- b) Explain the asynchronous transfer mode of networks 6M

**UNIT-II**

3. a) What is clock synchronization? Explain different clocks 6M
- b) What is Mutual exclusion? Explain token ring algorithm 6M

**OR**

4. What are different system models? Explain clearly 12M

**UNIT-III**

5. Identify trends in distributed system and explain clearly 12M

**OR**

6. a) Why do some distributed systems use two level naming? Explain 6M
- b) What is the difference between a file service using the upload/download model and one using the remote access model? 6M

**UNIT-IV**

7. a) What is shared memory? Explain comparison of shared memory systems 6M
- b) Explain NUMA multi processors in detail 6M

**OR**

8. Discuss Bus-based and Ring-based multi processors in detail 12M

**UNIT-V**

9. Explain page-based distributed shared memory 12M

**OR**

10. a) Define shared variable in distributed shared memory 6M
- b) Elaborate object-based distributed shared memory 6M

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**R-14**

**Code: 4P3121**

M.Tech. II Semester Regular & Supplementary Examinations June 2017

**Managing Big Data**

( Computer Science and Engineering )

Max. Marks: 60

Time: 3 Hours

Answer all five units by choosing one question from each unit ( 5 x 12 = 60 Marks )

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**UNIT-I**

1. a) What is big data differentiate with database? 6M  
b) Give the industry needs of bigdata. 6M

**OR**

2. a) Write a short note on hadoop architecture 6M  
b) Why bigdata is needed for business analytics? 6M

**UNIT-II**

3. a) Differentiate SQL and No SQL databases with examples 6M  
b) List different No SQL databases. 6M

**OR**

4. Explain master-slave and peer-peer replication 12M

**UNIT-III**

5. Write a short note on hadoop i/o 12M

**OR**

6. a) Write a short note on data serialization step in hadoop 6M  
b) How data is analyzed with hadoop? 6M

**UNIT-IV**

7. a) Describe in brief about input and output formats 6M  
b) Explain failures in classic Mapreduce and YARN 6M

**OR**

8. a) What are the failures in YARN and classic Mapreduce 6M  
b) List MapReduce types 6M

**UNIT-V**

9. a) Explain pig data model implementation process 6M  
b) List HiveQL data types and file formats 6M

**OR**

10. a) Explain casendra clients and its data model with related examples 6M  
b) Briefly explain Hbase data model and clients 6M

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Code: 4P3128

M.Tech. II Semester Regular &amp; Supplementary Examinations June 2017

**Mobile Computing**

( Computer Science and Engineering )

Max. Marks: 60

Time: 3 Hours

Answer all five units by choosing one question from each unit ( 5 x 12 = 60 Marks )

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**UNIT-I**

1. a) Define mobile computing? Explain the architecture of mobile computing. 6M  
 b) Write and explain novel applications of mobile computing 6M

**OR**

2. a) Discuss about various VHF and UHF frequencies, their transmission properties, advantages and disadvantages. 5M  
 b) What are the functions of authentication and encryption in GSM? How is system security maintained? 7M

**UNIT-II**

3. a) What do you mean by medium access control (MAC) and explain the functional operation of PRMA? 6M  
 b) What do you mean by tunnelling & encapsulation? Explain about IP-in-IP encapsulation. 6M

**OR**

4. a) Define MACA and explain how can you avoid collision from hidden and exposed terminals? 6M  
 b) Briefly explain goals, assumptions and requirements of mobile IP 6M

**UNIT-III**

5. a) What are the reasons for the unsuitability of traditional TCP to mobile networks? Explain the mobile TCP solution to this problem 6M  
 b) Explain about data base hoarding techniques. 6M

**OR**

6. a) Explain the working principles of transaction oriented TCP 6M  
 b) Briefly explain about caching invalidation mechanisms 6M

**UNIT-IV**

7. a) Write short notes on selective tuning (indexing) techniques 6M  
 b) Draw the structure of a MANET and list out the properties of a MANET. 6M

**OR**

8. a) Briefly explain hybrid mechanisms 6M  
 b) Explain about dynamic source routing protocols 6M

**UNIT-V**

9. a) Discuss briefly the user scenario of Bluetooth. 6M  
 b) What do you mean by piconet? Explain Bluetooth protocol stack 6M

**OR**

10. a) Discuss in detail wireless session protocol. 6M  
 b) Briefly discuss about J2ME 6M

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**R-14**

**Code: 4P3122**

M.Tech. II Semester Regular & Supplementary Examinations June 2017

**Open Systems for Web Technologies**

( Computer Science and Engineering )

Max. Marks: 60

Time: 3 Hours

Answer all five units by choosing one question from each unit ( 5 x 12 = 60 Marks )

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**UNIT-I**

1. a) Develop a JDBC program to retrieve data from the Data Base. And using the steps involve in the JDBC Program 8M
- b) Difference between Statement and PreparedStatment 4M

**OR**

2. a) Discuss Transaction Management with suitable program? 8M
- b) Elaborate the Scrollable and Updatable Result Set 4M

**UNIT-II**

3. a) Describe the architecture of servlet. 6M
- b) Differentiate between applet and servlet. 6M

**OR**

4. a) List out various types of Session Tracking Techniques? Develop a servlet program using HttpSession? 8M
- b) Compare the advantages and disadvantages of doGet () and doPost () 4M

**UNIT-III**

5. a) List out the important elements used in Constructing JSP Page 6M
- b) Write JSP code that redirects the user to another page using sendRedirect () method of request object. 6M

**OR**

6. a) Elaborate the process involved in JSP page translation and processing phases 8M
- b) Identify the methods involved in JSP Life Cycle 4M

**UNIT-IV**

7. Explain the steps involved to develop a struts application with suitable example 12M

**OR**

8. a) Define the Model? Explain Model Layer Breakdown 6M
- b) Elaborate the Life Cycle methods of Controller Layer 6M

**UNIT-V**

9. How to Include Preconfigured Validation routines in struts application? Explain 12M

**OR**

10. What is Tile? Illustrate the Tiles Framework with suitable steps? 12M

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**R-14**

**Code: 4P3123**

M.Tech. II Semester Regular & Supplementary Examinations June 2017

**Software Architecture and Design Patterns**

( Computer Science and Engineering )

Max. Marks: 60

Time: 3 Hours

Answer *all five* units by choosing one question from each unit ( 5 x 12 = 60 Marks )

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**UNIT-I**

1. a) What is design pattern? Explain how design patterns solve design problems 6M
- b) Explain the Procedure for selecting and using a design pattern 6M

**OR**

- 2 Explain the following
- a) Abstract parent class 6M
- b) Accessor Methods 6M

**UNIT-II**

3. a) Describe motivation for flyweight pattern. 6M
- b) Explain the singleton patterns with its applicability and sample code 6M

**OR**

4. a) Describe the motivation and structure of Abstract Factory design pattern. 6M
- b) Explain sample code of builder design pattern. 6M

**UNIT-III**

5. a) Explain the advantages and liabilities of decorator pattern 6M
- b) Draw and explain structure of proxy 6M

**OR**

6. a) State the implementation issues of chain of responsibility. 6M
- b) Write short note on Aggregate Enforcer. 6M

**UNIT-IV**

7. a) What is the motivation for command design pattern? Explain. 6M
- b) Where do you apply the template method? Explain in detail along with structure and participants 6M

**OR**

8. a) Give the structure & participants of Momento design pattern. 6M
- b) Explain the role of Behavioral patterns in Design pattern. 6M

**UNIT-V**

9. Discuss about Concurrency Patterns. 12M

**OR**

10. a) Draw and explain a structure of Read – Write lock design pattern. 6M
- b) Describe the Critical Section. 6M

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