Code: 4P3121

M. Tech. II-Semester Regular Examinations Oct/Nov 2015
Managing Big Data
(Computer Science & Engineering)

Max. Marks: 60   **Time: 3 Hours**

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

1. a) What do you mean by structured data and unstructured data? Explain along with examples.   6M
    b) Explain how frauds and risks are handled with big-data.   6M

OR

2. a) What are the applications of big-data? Explain.   6M
    b) How cloud and big-data are helpful in mobile business? Explain. 6M

UNIT-II

3. a) Explain about schema-less modeling in NoSQ   6M
    b) Write about Key / Value Based NoSQL Database Management Systems. 6M

OR

4. a) Compare and contrast NoSQL DBMSs Vs Relational DBMSs.   6M
    b) Discuss about master-slave replication and peer-peer replication models. 6M

UNIT-III

5. a) With a neat sketch explain HDFS architecture.   6M
    b) Write about Hadoop I/O management.   6M

OR

6. a) Write about streaming and pipes in hadoop.   6M
    b) Discuss in detail HDFS concepts.   6M

UNIT-IV

7. a) Write about YARN.   6M
    b) Discuss about MapReduce workflows.   6M

OR

8. a) Explain about input-output formats in MapReduce.   6M
    b) Write about job scheduling in Mapreduce.   6M

UNIT-V

9. a) Write about data model and implementations in Hbase along with examples.   12M

OR

10. a) Write about cassandra data model.   6M
    b) Write about data definition, data manipulation and queries in HiveQL.   6M

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M. Tech. II-Semester Regular Examinations Oct/Nov 2015
Software Architecture and Design Patterns
(Computer Science & Engineering)

Max. Marks: 60   Time: 3 Hours

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

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UNIT-I

1. a) Define design pattern and explain its basic elements?   6M
   b) How to select and use a design pattern for any real world problem?   6M

OR

2. a) Discuss about importance of interface in design patterns?   6M
   b) Distinguish between private methods and accessor methods with examples? 6M

UNIT-II

3. a) Discuss structure, applicability and implementation issues of Factory method?   6M
   b) Write a sample code for singleton pattern and explain its consequences in detail?   6M

OR

4. a) Explain motivation, applicability and implementation   of composite pattern?   6M
   b) Discuss the structure and participants of Iterator pattern?   6M

UNIT-III

5. Explain about adapter pattern in detail?   12M

OR

6. a) Discuss about Structure, collaboration and consequences of chain of responsibility   6M
   b) Distinguish between Virtual proxy and counting proxy?   6M

UNIT-IV

7. a) Explain the motivation and sample code of command pattern?   6M
   b) write short note
      (i) Null Object
      (ii) Strategy   6M

OR

8. Discuss in detail about Template Method?   12M

UNIT-V

9. a) Explain applicability, motivation and consequences of Critical section?   6M
   b) Discuss about the importance of Consistent lock order by taking any real world
      problem?   6M

OR

10. Explain the usage of Read write lock pattern with at least two examples in detail?   12M

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M. Tech. II-Semester Regular Examinations Oct/Nov 2015
Open Systems for Web Technologies
(Computer Science & Engineering)

Max. Marks: 60   Time: 3 Hours
Answer *all five* units by choosing one question from each unit (5 x 12 = 60Marks)

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UNIT-I

1.   Explain about JDBC Architecture.   12M

OR

2.   Explain about getConnection(), createStatement() and executeQuery() statements with an example.   12M

UNIT-II

3.   a) What is Servlet? Mention advantages of Server side Programming.   6M

     b) Explain about Servlet Life Cycle.   6M

OR

4.   Write a Servlet program to store data in database and retrieve the same through another servlet.   12M

UNIT-III

5.   a) What are disadvantages of Servlets over JSP? Elucidate.   4M

     b) Explain any four JSP tags with example.   8M

OR

6.   a) Explain about JSP Processing.   6M

     b) Discuss about Tomcat Server.   6M

UNIT-IV

7.   Explain about Struts MVC architecture.   12M

OR

8.   Develop a Struts application to display a welcome page with user entered name with click of a button.   12M

UNIT-V

9.   Explain about Validator and Tiles in Struts.   12M

OR

10. Explain about JSTL Tag library.   12M

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M. Tech. II-Semester Regular Examinations Oct/Nov 2015
Distributed Operating Systems
(Computer Science & Engineering)

Max. Marks: 60   Time: 3 Hours

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

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UNIT-I

1. a) Explain the Goals of distributed system.   8M
   b) Write about multi-processor timesharing systems.   4M

OR

2. a) Explain the design issues of distributed systems.   6M
   b) Briefly explain about layered protocols.   6M

UNIT-II

3. a) Discuss Mutual Exclusion algorithms in detail.   6M
   b) Distinguish logical clocks and physical clocks in clock synchronization.   6M

OR

4. a) List the design issues for thread packages.   6M
   b) Explain implementing Thread in the kernel.   6M

UNIT-III

5. a) Explain the semantics of File sharing in File System.   6M
   b) Write the comparisons of stateless and state full servers in File system.   6M

OR

6. Explain trends in distributed file system.   12M

UNIT-IV

7. a) Explain various dash protocols in shared memory systems.   6M
   b) Discuss about ring based multiprocessors.   6M

OR

8. a) Explain NUMA comparisons of shared memory system.   6M
   b) Briefly explain switched multiprocessors in shared memory.   6M

UNIT-V

9. Explain various consistency models with synchronization operations.   12M

OR

10. Explain in detail about shared variable distributed shared memory.   12M

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Code: 4P3127

M. Tech. II-Semester Regular Examinations Oct/Nov 2015
Cloud Computing
(Computer Science & Engineering)

Max. Marks: 60   Time: 3 Hours
Answer *all five* units by choosing one question from each unit (5 x 12 = 60Marks)
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UNIT-I

1. a) What is virtualization? List and explain the main objectives of virtualization.   8M
    b) What are the benefits of virtualized technology?   4M

OR

2. Make a comparisons between the grid computing and cloud computing. Discuss the features of both.   12M

UNIT-II

3. a) Give a brief note on security monitoring and virtualization.   6M
    b) Explain the windows virtualization on fedora.   6M

OR

4. Discuss how the main companies have adopted data storage virtualization technologies.   12M

UNIT-III

5. a) Write the benefits of business value for virtualization.   8M
    b) Explain how the performance is improved through virtualization.   4M

OR

6. Explain about improving availability using virtualization with examples.   12M

UNIT-IV

7. a) Mention the benefits and limitations of cloud computing.   4M
    b) Enumerate on the cloud infrastructure models.   8M

OR

8. a) Define cloud computing. Discuss the various kinds of cloud computing architectures.   10M
    b) Write the applications of cloud computing.   2M

UNIT-V

9. What are the security issues in cloud computing? Explain in detail.   12M

OR

10. Explain the following:
     a) Amazon S3
     b) IBM clouds
     c) Host Security   12M

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Code: 4P3128

R-14

M. Tech. II-Semester Regular Examinations Oct/Nov 2015
Mobile Computing
(Computer Science & Engineering)

Max. Marks: 60   Time: 3 Hours
Answer *all five* units by choosing one question from each unit (5 x 12 = 60Marks)
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UNIT-I

1. a) What are the differences between wired, wireless and mobile networks?   6M
    b) What are the specific applications of mobile networks?   6M

OR

2. a) What are the limitations of mobile computing?   4M
    b) How handovers are done in GSM?   8M

UNIT-II

3. a) Why MAC layer of wired networks cannot be used directly in wireless networks?   4M
    b) Compare TDMA and FDMA giving the relative advantages and disadvantages   8M

OR

4. a) What are static and dynamic IP addresses? How DHCP is used for giving IP
       addresses.   6M
    b) Explain in brief the working of CDMA.   6M

UNIT-III

5. a) What are the quality of service issues in mobile networks?   4M
    b) Explain the caching invalidation techniques.   8M

OR

6   a) How database recovery works in mobile networks?   6M
    b) What is context aware computing?   6M

UNIT-IV

7. What are the differences between pull based and push based mechanisms?   12M

OR

8. Explain any one proactive and any one reactive routing protocol for MANETs.   12M

UNIT-V

9. What are the features of J2ME?   12M

OR

10. Explain the physical and MAC layers of Bluetooth.   12M

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