B. Tech. (CSE) (Elective-III) 6th Semester
(G Scheme) Examination, July-2022

DISTRIBUTED SYSTEM

Paper-PEC-CSE-316-G

Time allowed : 3 hours]   *[Maximum marks : 75*

Note : Attempt *five* questions in total. **Question No. 1** *is* **compulsory** *and selected* **one** *question from each unit.*

1. Write short note on the following :   6×2.5=15

    (a) Client server model

    (b) Clock Synchronization

    (c) File Accessing models

    (d) Sun network file system

    (e) Security in Distributed O.S.

    (f) Real time distributed system

Unit-I

2. Define distributed operating system. Explain goal, hardware and software concepts of DOS.   15

3. Explain Remote Procedure Call and its implementation with example.   15

Unit–II

4. Explain clock synchronization and its related algorithm with the help of suitable examples. 15

5. (a) What is deadlock ? Explain deadlock prevention techniques in detail. 10

    (b) Write short note on threads. 5

Unit-III

6. (a) What are the various features and goals of distributed file system ? 7

    (b) Explain general Architecture of distributed shared memory. 8

7. Explain various consistency model with example. 15

Unit-IV

8. What is the need of security in distributed operating system ? 15

9. Explain the following :

    (a) Java RMI

    (b) Process Communication in DS

B. Tech. (CSE) (Elective-III) 6th Semester
(G Scheme) Examination, July-2022

DISTRIBUTED SYSTEM

Paper-PEC-CSE-316-G

Time allowed : 3 hours]   [Maximum marks : 75

Note :   Attempt *five* questions in total. **Question No. 1 is**
         compulsory and selected **one** question from each
         unit.

1.   Write short note on the following :   6×2.5=15

     (a)   Client server model

     (b)   Clock Synchronization

     (c)   File Accessing models

     (d)   Sun network file system

     (e)   Security in Distributed O.S.

     (f)   Real time distributed system

Unit-I

2.   Define distributed operating system. Explain goal,
     hardware and software concepts of DOS.   15

3.   Explain Remote Procedure Call and its implementation
     with example.   15

Unit–II

4. Explain clock synchronization and its related algorithm with the help of suitable examples.   15

5. (a) What is deadlock ? Explain deadlock prevention techniques in detail.   10

   (b) Write short note on threads.

Unit-III

6. (a) What are the various features and goals of distributed file system ?

   (b) Explain general Architecture of distributed share memory.

7. Explain various consistency model with example.

Unit-IV

8. What is the need of security in distributed operating system ?

9. Explain the following :

   (a) Java RMI

   (b) Process Communication in DS

B. Tech. (CSE) (Elective-II) 6th Semester (G Scheme) Examination, July-2022

ADVANCED DATABASE MANAGEMENT SYSTEM

Paper-PEC-CSE-310-G

Time allowed : 3 hours]   [Maximum marks : 75

Note : *Question No. 1 is compulsory. Attempt any one question from each* **Unit-I** *to* **Unit-IV.**

1. Write short notes on the following :   5×3=15

    (a) Third Normal Form (3NF)

    (b) Lock Compatibility Matrix

    (c) Query Processor

    (d) Object Identity

    (e) Join Operation

Unit-I

2. Explain E-R model in detail and draw an E-R diagram for a company.   15

3. What is Query Processing ? How a query can be improved ?   15

Unit-II

4. (a) What is Log Based Recovery ? Explain Deferred Data Base Modification. 7.5

   (b) Write and explain ACID properties of a transaction. 7.5

5. (a) Explain Time Stamp Ordering Protocol. 7.5

   (b) How cascading roll backs can be avoided in strict two phase locking protocol ? Explain. 7.5

Unit-III

6. What is distributed database ? How data can be stored in distributed databases ? 15

7. Explain Distributed Query Processing and Optimization in detail. 15

Unit-IV

8. Explain the Architecture of Object Oriented and Object Rotational Database. 15

9. Explain the complex data semantics, specialization, Generalization, aggregation and association. 15

B. Tech. (CSE) 6th Semester (G Scheme)
Examination, July-2022

MOBILE AND WIRELESS COMMUNICATION

Paper-ESE-CSE-308-G

Time allowed : 3 hours] [*Maximum marks : 75*

Note : **Question No. 1 is compulsory** *and attempt any one question from each section.*

1. Define the following : 6×2.5=15

    (a) SDMA

    (b) DAMA

    (c) Bluetooth Networking

    (d) IP Packet delivery

    (e) GEO

    (f) LEO

Section-A

2. (a) **Explain the different generation in cellular wireless networks.** 8

    (b) Discuss the multiplexing techniques. 7

                    Or

    (a) Explain following terms : 8

        (i) TDMA

        (ii) Slotted ALOHA

(b) Discuss Broadcasting Techniques in detail.

Section-B

4. (a) What are the tasks performed by MAC layer IEEE802.11 protocol architecture ?

(b) What do you meant by security in GSM ? Expla about that in detail.

Or

5. (a) Draw the physical layer configuration HiperLAN.

(b) Write down the features of Bluetooth.

Section-C

6. (a) Briefly explain the configuration of DHCP.

(b) Explain about IPv6 architecture in detail.

Or

7. (a) Draw the diagram for TCP connection.

(b) What are the advantages of TCP over Adh Networks ?

Section-D

8. (a) What are the objectives of WAP Forum ?

3336

(b) Mention all the applications of satellite systems.

7

Or

9. (a) Explain wireless transmission protocols. . 8

(b) Discuss HTML in detail.

7

**B. Tech. (CSE) 6th Semester (G Scheme)
Examination, July-2022**

ADVANCED JAVA

Paper-PCC-CSE-306-G

Time allowed : 3 hours]   _[Maximum marks : 75_

Note : _Attempt **five** questions in all. Question No. 1 is **compulsory** and **one** question from each unit._

1.   Explain the following : $6 \times 2.5 = 15$

   (a)   HTTP servlets

   (b)   MVC in TSP

   (c)   Single thread model

   (d)   CRUD operation

   (e)   Spring

   (f)   J2EE design pattern

Unit-I

Explain Architecture of servlets in detail.   15

Explain JSP technology in detail. Also write its tags and objects.   15

Unit-II

4. What are struct ? Explain structs architecture in detail.

5. Write the method of sending and receiving mail using Java Mail API.

Unit-III

6. What is Hibernate ? Write its Architecture in detail. 15

7. Explain dependency injection method in spring.

Unit-IV

8. Explain building blocks of android.

9. Explain structural and behaviour java patterns.

**B. Tech. (CSE) 6th Semester (G Scheme)
Examination, July-2022**

ARTIFICIAL INTELLIGENCE

Paper-PCC-CSE-304-G

Time allowed : 3 hours]   *[Maximum marks : 75*

Note : *Attempt five questions in all, selecting at least one question from each section.* **Question No. 1 is compulsory.**

1. Explain the following questions :   6×2.5=15

   (a) History of AI

   (b) Ant Colony Optimization

   (c) Bayesian Reasoning

   (d) Transformational Analogy

   (e) Neural Networks

   (f) Informed Search

Section-A

2. What do you mean by Game Playing : Min.-Max. Algorithm and Alpha-Beta Pruning. Explain in detail.   15

3. (a) Explain A * algorithm.   8

(b) What is Hill Climbing ? Explain Simple Hi... Climbing.

Section-B

4. Describe different Approaches to Knowledg... Representation.

5. Explain Rule-Base-System with example.

Section-C

6. Explain in detail Dempster-Shafer Theory.

7. What is Probability Theory in terms of Reasoning und... Uncertainty ? Elaborate.

Section-D

8. Demonstrate fundamental understanding of vario... application of AI techniques in Expert systems a... Neural Networks.

9. Demonstrate a discussion of AI, its current tren... limitations and implications.

B. Tech. (CSE) 6th Semester (G Scheme)
Examination, July-2022

COMPLIER DESIGN

Paper-PCC-CSE-302-G

Time allowed : 3 hours]   [Maximum marks : 75

Note : Question No. **1** *is compulsory. Attempt five questions in total by selecting* **one** *from each unit.*

1. Write short notes on :   6×2.5=15

   (a) Applications of compiler

   (b) Notations for regular expressions

   (c) Compiler construction tools

   (d) Benefits of Intermediate code generation

   (e) Ambiguous grammar

   (f) Code generation

Unit-I

Describe the phases of compiler.   15

(a) What is Lexical analysis ?   9

(b) What is role of Input buffer & how it helps in lexical analysis ?   6

Unit–II

4. Calculate first and follow for the following grammar :

$$E \rightarrow E + E \mid E * E \mid (E) \mid id$$

5. Explain top-down parsing with a suitable example.

Unit-III

6. Explain the making of LR (o) parsing table for the following grammar :

$$E \rightarrow E * B \mid E + B \mid B, \quad B \rightarrow O \mid I$$

7. How CLR parser differs from LALR parser ? Please explain.

Unit-IV

8. What are the various strategies for code optimization

9. Explain code generation in detail.