Q.P code : 36619

(3 Hours) Total Marks:80

N.B : (1) Question No. 1 is compulsory
. (2) Attempt any three questions out of remaining five.

1.	(a)	When should one use Prototype model? Discuss the advantages and disadvantages of the prototype model.	8
	(b)	Discuss Abstraction, Information Hiding and Functional Independence.	6
	(c)	Explain the features of repository required to support SCM.	6
2.	(a)	Explain with suitable diagram Scrum Agile model.	10
	(b)	Why Integration testing is needed to test a software? Explain the different incremental integration strategies.	10
3.	(a)	List different metrics used for software measurement. Explain function point based estimation technique in detail.	10
	(b)	What do you understand by software maintenance? Also explain the different types of maintenance.	10
4.	(a)	Explain in detail the Software Configuration Management process with suitable diagram.	10
	(b)	What is white box testing? Explain the basis path testing method in detail.	10
5.	(a)	What are the different categories of Risks? Explain the steps in developing RMMM plan.	10
	(b)	What is FTR in SQA? What are its objectives? Explain the steps in FTR.	10
6.		Write short notes on **any two (any 2)**	20
	(a)	Black Box Testing	
	(b)	COCOMO II estimation models	
	(c)	Test Driven Development	
	(d)	Service Oriented Software Engineering	

Q.P. Code: 13539

[Time: Three Hours] **[Marks:80]**

Please check whether you have got the right question paper.

N.B: (1)Question No. **1 is Compulsory**.

(2) Attempt any **three** question out of remaining **five.**

1 (a) Consider the following two relations: EMP and PAY 10

Emp-no	Emp-Name	Title
E1	John	Developer
E2	Mercy	Tester
E3	Smith	System analyst
E4	David	Developer
E5	Jenny	Maintenance
E6	Jack	System analyst
E7	Harry	Maintenance
E8	Tom	Developer

Title	Salary
System analyst	50000
Maintenance	42000
Tester	30000
Developer	25000

Assume that P1: Salary <= 30000 and P2: Salary > 30000 are two simple predicates. Perform a horizontal fragmentation of PAY with respect to predicates P1 and P2 to obtain two fragments PAY1 and PAY2. Using these fragments, perform derived fragmentation for EMP and prove completeness, reconstruction and disjointness rules for fragmentation of EMP relation are satisfied.

(b) Discuss the algorithms used for distributed Deadlock preventions. 10

2 (a) What is transparent System? List out the transparencies of DDBS. 10

(b) Explain SDD1 Semi joined-based algorithm in detail with example. 10

3 (a) Explain in detail the phases of Distributed Query processing with diagram. 10

(b) Draw and Explain architecture for Distributed Transaction Execution. 10

4 (a) Describe any two methods for Deadlock Detection in distributed database. 10

(b) What is XML schema? Define X-Path and X-Query with an example. 10

5 (a) Explain Two phase commit protocol in detail with diagram. 10

(b) Explain Locking based of the Optimistic concurrency control algorithm in detail. 10

6 Write a short notes on **(Any Four)** 20

(a) Features of DDBS

(b) Architecture of Heterogeneous Database

(c) Anomalies for concurrency control

(d) Applications of Distributed Databases

(e) Cost factors affects in query optimization

Q. P. Code:-22991

(3 hours) **[Total Marks: 80]**

1) Question No.1 is **compulsory.**
2) Attempt any **three** questions out of the remaining questions.
3) Make suitable assumptions wherever necessary.

Q1	A	What is GPRS ? Describe its architecture in detail	10
	B	What are various issues in signal propogation ?	10
Q2	A	Describe GSM in detail.	10
	B	Explain GEO and LEO satellite systems.	10
Q3	A	What is goal of Mobile IP ? How is packet delivery achieved to and from mobile node?	10
	B	Discuss various types of Handoffs in cellular networks.	10
Q4	A	Explain HIPERLAN 2 data link control layer.	10
	B	What are android SDK features	10
Q5	A	Describe Bluetooth protocol stack.	10
	B	What are security issues in mobile computing?	10
Q6		Write short notes on any 02.	20

a) Antennae.
b) Authentication and privacy in GSM.
c) TETRA
d) 4G architecture. Comparison of3G and 4G networks

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(3 Hours) **Total Marks: 80**

N.B.: (1) Question No. 1 is compulsory.
(2) Attempt any three questions out of remaining five questions.

Q1. (a) What is system software & application software? (05)
(b) Explain different features of macros. (05)
(c) Compare Compiler and Interpreter. (05)
(d) Write a note on: Java Compiler environment. (05)

Q2. (a) With reference to macroprocessor, explain the following tables with suitable example. (10)
(i) MNT (ii) MDT (iii) ALA
(b) Explain the different code optimization techniques in compiler design. (10)

Q3. (a) Draw flowchart and explain with databases the working pass 2 of assembler. (10)
(b) Explain various functions of loader. Compare linking loader and linkage editor. (10)

Q4. (a) Consider the following grammar (10)
S-> (A)|0
A-> SB
B->,SB|ε
Is the above grammar LL (1)? Justify your answer.
(b) Explain different types of Intermediate code representations. (10)

Q5. (a) Explain the different types of garbage collection and compaction in compilers. (10)
(b) Differentiate Top-down and Bottom-up parsing techniques. Explain recursive descent parser with an example. (10)

Q6. (a) Explain the different phases of compiler. Illustrate all the output after each phase for the following statement:
a = b + c-d*5
(b) Write short note on: (10)
(i) Synthesized and Inherited attrinutes.
(ii) Debug monitor.

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