(3 Hours)   (Marks: 80)

N.B: (1) Question no 1 is compulsory.
     (2) Attempt any three of remaining.
     (3) Make suitable assumptions wherever necessary and state them.

Q1   Attempt **any 4**
     A)   What is frequency reuse concept in cellular communication?   05

     B)   Explain various types of handoffs in GSM network   05

     C)   Explain wireless local loop   05

     D)   What is hidden and exposed terminal problem? Discuss solutions to these   05
          problems.
     E)   What is an antenna. Explain different types of antennae   05

Q2. A)   Explain in detail Bluetooth protocol architecture   10
     B)   Explain Hiperlan2   10

Q3. A)   Why is mobile IP packet required to be forwarded through a tunnel.   10
          Explain minimal technique of encapsulation

     B)   Explain the functioning of I-TCP and SNOOP-TCP giving advantages   10
          and disadvantages ot both

Q4. A)   Explain GSM in detail   10

     B)   Explain how Mobile Terminated Call works detailing the role of HLR   10
          and VLR

Q5. A)   Explain in detail 3G architecture   10

     B)   Explain UTRA-FDD and TDD modes   10

Q6. A)   Write short notes on(any 02)   20
          A) Security issues in mobile computing.
          B) UMTS.
          C) Android components
          D) Satellites (GEO and LEO)

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T.E. comp sem VI, CBGGS   26-5-17

[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)	Differentiate between homogeneous and heterogeneous distributed database management systems with example.	10
	(b)	Discuss the phases of distributed query processing with neat diagram.	10

2   Consider the following relations:

        BOOKS(Book#, Primary_author, Topic, Total_stock, $price)

        BOOKSTORE(Store#, City, State, Zip, Inventory_value)

        STOCK(Store#, Book#, Qty)

Total_stock is the total number of books in stock and Inventory_value is the total inventory value for the store in dollars.

(a)	Design a global schema for above database. Give an example of two simple predicates that would be meaningful for the BOOKSTORE relation for horizontal partitioning	08
(b)	How would a derived horizontal partitioning of STOCK be defined based on the partitioning of BOOKSTORE?	04
(c)	Show predicates by which BOOKS may be horizontally partitioned by topic. Show how the STOCK may be further partitioned from the partitions in (b) by adding the predicates in	04
(d)	(c).	04

3	(a)	What is distributed data independence? Explain how distributed data independence is provided by the architecture of DDBMS.	10
	(b)	Discuss the algorithms used for distributed Deadlock preventions.	10

4	(a)	Compare various locking based concurrency control protocols.	10
	(b)	XML document of 'Restaurant Menu Card' has food items, categorized into Starters, Drinks, Chinese, South and Punjabi. Each food item element contains name, cost, calories, and veg/non-veg flag.	10

       i.   Write DTD rules for above XML document.

       ii.   Write XML Schema for above XML document.

5	(a)	Discuss the different communication structures for 2PC.	10
	(b)	Describe the distributed R* query optimization algorithm.	10

6	Write a short notes on (Any two)	20
(a)	Distributed transaction management	
(b)	Multi-version TO algorithm	
(c)	Transparency in Distributed Database Design	
(d)	Schema architecture of federated MDBS	

TE- SEM VI (CBGS) - Computer

Q.P. Code :11612

[Time: 3 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.**

Q.1   Develop a Software Requirement Specification (SRS) for developing a software for hospital management   20
      system. Create an SRS that contains the following:
      1. Objective and Scope
      2. Product perspective
      3. Functional requirements (at least 3)
      4. Non-functional requirements

Q.2 a) List the various metrics used for software measurement. Explain Function Point estimation technique in   10
         detail.
     b) Explain the various fundamental software design concepts.   10

Q.3 a) Explain the change control and version control activities in SCM.   10
     b) What are the different categories of risks? Explain the process of Risk Projection.   10

Q.4 a) What is Agility in context of software engineering? With suitable diagram explain Extreme Programming   10
         (XP).
     b) Explain basis path testing in detail.   10

Q.5 a) Explain Test Driven Development (TDD) with an example.   10
     b) What is FTR in SQA? What are its objectives? Explain the steps in FTR.   10

Q.6   Write short notes on **any two** :-   20
      (a) System testing
      (b) Coupling and Cohesion
      (c) Service Oriented Software Engineering
      (d) Software Maintenance

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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 types of text editor. (05)
(c) Explain left recursion with an example (05)
(d) Write a note on: Input buffering scheme of lexical analyser. (05)

Q2. (a) With reference to assembler, explain the following tables with suitable example (10)
    (i) POT   (ii) MOT   (iii) ST   (iv) LT
(b) Explain the different code optimization techniques in compiler design. (10)

Q3. (a) Draw flowchart and explain with databases the working pass 1 of macro processor. (10)
(b) Explain various functions of loader. Also explain the design and flowchart of (10)
    Absolute loader.

Q4. (a) Compare LR(0),LR(1) and LALR parser. (10)
    Construct LR(0) parser table for following grammer:-
    S-> (L) |id
    L-> S|L,S
    Variables: S and L
    Terminals: (id ,)

(b) Explain different ways to represent three address code. (10)

Q5. (a) Explain run time storage organization in detail. (10)
(b) Explain the different phases of compiler. Illustrate the output after each phase (10)
for the following statement:
    a = b + c-d*5

Q6. (a) Differentiate Top-down and Bottom-up parsing techniques. Explain recursive (10)
    descent parser with an example.

(b) Write short note on:- (10)
    (i) Basic block and flow graph
    (ii) JAVA compiler environment.

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