(3 Hours)   [Total Marks : 100

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

(2) Attempt any **four** questions out of remaining **six** questions.

1. (a) Explain absolute ordering and causal ordering process with the help of example   10
   for many to many communication.
   (b) Compare processes and threads explain user and Kernel level threads execution   10
   and also the need of light weight threads.

2. (a) What are the good features of a distributed file systems ? Explain file sharing   10
   semantics of it.
   (b) Discuss file caching for distributed system.   10

3. (a) What is physical clock synchronization ? Explain any one algorithm in detail.   10
   (b) Explain main issues in building a DSM system on a network of heterogenous   10
   machines.

4. (a) Explain deadlock avoidance algorithm in a distributed system.   10
   (b) How are failure handled in message passing system in distributed system ?   10

5. (a) Explain centrilized algorithm for mutual exclusion. What are the advantages   10
   and disadvantages of it over distributed algorithm ?
   (b) Explain Marshalling/Unmarshalling mechanism in RPC/RMI.   10

6. (a) Explain the concept of load Balancing along with sender initiated algorithm.   10
   (b) Explain distributed Resource Management with respective to distributed   10
   computing environment.

7. Write a short notes on :-   20
   (a) Fault Tolerance
   (b) Issues in designing of load sharing algorithm.

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(3 Hours)   [Total Marks : 100

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

(2) Solve any **four** questions from remaining **six** questions.

(3) Assume suitable data wherever required.

1. (a) Compare MPEG with H·264.   5
    (b) Explain about defining objects for multimedia system.   5
    (c) Compare TIFF Vs RIFF.   5
    (d) Explain different video formats.   5

2. (a) You are appointed as a consultant to set a multimedia laboratory of Intelligent software   10
        consultancy Pvt. Limited. Give the specifications of various components of multimedia
        system to set this laboratory.
    (b) Explain multimedia system design steps.   10

3. (a) Explain Streaming Protocols.   10
    (b) Explain multimedia system architecture.   10

4. (a) Explain WORM read/write operation in detail.   10
    (b) Describe the CCITT group 3 standard. How does CCITT group 4 differ from CCITT   10
        group 3?

5. (a) Explain chroma sub-sampling.   5
    (b) What is HDTV Standard?   5
    (c) Explain different motion vector search Techniques.   10

6. (a) Explain human factors and design considerations related to virtual reality.   10
    (b) Explain in detail MIDI Communication Protocol.   10

7. Write short notes on any **two**:—   20
    (a) Knowledge based Multimedia Systems.
    (b) Multimedia databases.
    (c) Copyright and methods of licensing for multimedia.

14-11-13-DTP28-NK-6

Con. 8364-13. BE-(comp) – VIII (Rev) Soft. Arch. LJ-13610 ①
(Revised Course) ②24/11/13 ③

(3 Hours) [Total Marks : 100

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

     (2) Attempt any **four** from remaining **six** questions.

     (3) **Figures** to the **right** indicates **full** marks.

1. (a) Explain different types of inconsistancies in models   5

   (b) What is product line architecture?   5

   (c) Compare and contrast stream connector and linkage connector.   5

   (d) What is implicit invocation style? Explain with an example.   5

2. (a) Explain ATAM in detail with diagram.   10

   (b) What are architectural patterns? Explain any one pattern in detail with suitable   10
       example.

3. (a) Explain REST architecture with diagram.   10

   (b) What is consistancy in analysis?   10

4. (a) Compare and contrast event-based and client-server based data distribution connector.   5

   (b) Discuss design issues for NFP: Scalability and hetroginity.   10

   (c) Name the stake holder for building software architecture with their roles.   5

5. (a) Draw framework for classifying connectors and explain it in detail.   10

   (b) What is prescriptive and descriptive architecture, Explain with example.   10

6. (a) Discuss service oriented architecture (SOA) and web services.   10

   (b) Explain model based and simulation based analysis techniques used in software   10
       architecture.

7. (a) "Focus on architecture is a focus on Reuse". Comment.   10

   (b) What is domain specific architecture?   5

   (c) State with reason following statement is true or false : "Connectors are mostly   5
       application dependent elements."

_____

N. B. :   (1) Question No. **1** is **compulsory**.
    (2) Attempt any **four** questions out of **remaining** questions.
    (3) **Figures** to **right** indicates **full** marks.

1.   (a) What is direct and indirect manipulation ?   5
    (b) Explain different types of windows.   5
    (c) Explain influences on icon usability   5
    (d) Compare GUI and Web page.   5

2.   (a) What are the mental models and why are they important in interface design ?   10
    (b) Discuss various software specification methods.   10

3.   (a) Explain important human characteristics that need to be considered in UI design.   10
    (b) What are Pointing devices ? Explain about direct control pointing devices.   10

4.   (a) Explain in detail about the following techniques determining requirements categorize   10
    them as direct or indirect method :
        (i) Traditional focus group
        (ii) Competitor analysis
        (iii) Card sorting
        (iv) Facilitated team workshop.
    (b) Explain proper device base controls. Explain key boards with its layout, keys and   10
    function keys.

5.   (a) What are the possible uses of colors and problems associated with it ?   10
    (b) Explain Graphical system, also explain advantages and disadvantages of it.   10

6.   (a) Discuss Physical and Psychological effects of poor design on human.   10
    (b) Explain the guidelines for scanning, browsing and searching the web.   10

7.   (a) Explain structures and types of menu.   10
    (b) Describe various selection and presentation controls.   10