P1060

DEC-2008

[3464]-355

B.E. (IT)

SYSTEM OPERATIONS AND MAINTENANCE

(2003 Course) (414448)

Time : 3 Hours] *[Max. Marks : 100*

Instructions to the candidates:

1) ***Answer three questions from section-I and three questions from section-II.***
2) ***Answers to the two sections should be written in separate books.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***
5) ***Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.***
6) ***Assume suitable data, if necessary.***

SECTION - I

Q1) a) List the principal support processes and give a short description of the same. **[5]**

b) List the strategic benefits of advanced support system. **[8]**

c) Classify the telecommunication service providers. **[5]**

OR

Q2) a) With a neat diagram explain the organizational structure of the average provider. **[8]**

b) Explain : **[10]**

i) Types of virtual circuits

ii) Switching technologies

iii) Multiplexing technologies

Q3) a) Explain SS7 with a neat diagram. **[8]**

b) Discuss : **[8]**

- local number portability
- control and congestion management

OR

Q4) a) Explain web switching. **[8]**

b) Discuss : **[8]**

Resource reservation protocol

Q5 a) What is Telecommunication management network with a neat diagram explain the functions within the TMN architecture. **[8]**

P.T.O.

b) Explain the role common management information protocol with respect to FCAPS. [8]

OR

Q6) a) With respect to MPLS [10]

Explain :

i) what is it

ii) operational example

iii) limitations

b) What is MSPP. [6]

SECTION - II

Q7) a) Draw a neat diagram of structure of SNMP based management services and explain the same. [10]

b) What are the different market segments. [6]

c) Write a note on IP based VPNs. [2]

OR

Q8) a) Explain in detail the problem handling process with a neat diagram. [8]

b) Explain the significance of SLA. [5]

c) Describe IP based VPNs. [5]

Q9) a) What is content driven traffic management? [8]

b) Give the significance of data warehouse for business analysis. [8]

OR

Q10) a) What is change management? Explain phases of the same. [8]

b) Explain mediation system's generic architecture. [8]

Q11) a) Write the job profile of a typical network operations manager. [8]

b) Compare reverse and reengineering. [8]

OR

Q12) Write short notes on (any three) : [16]

a) GPS

b) CDR

c) BZC

d) TINA

e) CRM

f) EDGE

Total No. of Questions : 12] [Total No. of Pages :3

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[3464] - 356
B.E. (IT)
DISTRIBUTED SYSTEMS
(414449) (2003 Course)

Time : 3 Hours] *[Max. Marks : 100*

Instructions to the candidates:-

1) *Answer any three questions from each Section.*
2) *Answers to the two sections should be written in separate answer books.*
3) *Neat diagrams must be drawn wherever necessary.*
4) *Figures to the right indicate full marks.*

SECTION - I

Q1) a) Explain the challenge of heterogeneity in DS. How is it handled? [8]

b) Explain with key features, spontaneous networking. [8]

OR

Q2) a) What are the design requirements for distributed architecture? [8]

b) What is HTTP? Explain its main features. [8]

Q3) a) What is the function of Transport layer? Discuss in short any three protocols in this layer. [8]

b) Explain static and dynamic RMI. [8]

OR

Q4) a) How do we specify QoS? Explain token bucket algorithm. [8]

b) Write any four message-passing primitives of MPI. [8]

Q5) a) Compare NFS and CODA on the basis of following issues: [9]

i) Design Goals. ii) Access Model.

iii) Recovery. iv) Sharing Semantics.

b) Explain DNS implementation. [9]

OR

P.T.O.

Q6) a) Draw and explain internal organization of a virtue workstation. **[9]**

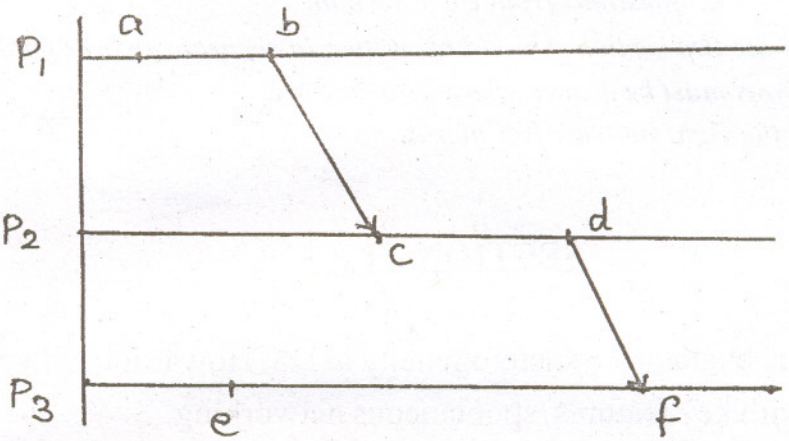
b) Explain the following terms with respect to Naming entities: **[9]**

i) Names ii) Identifiers

iii) Addresses iv) Name space

SECTION - II

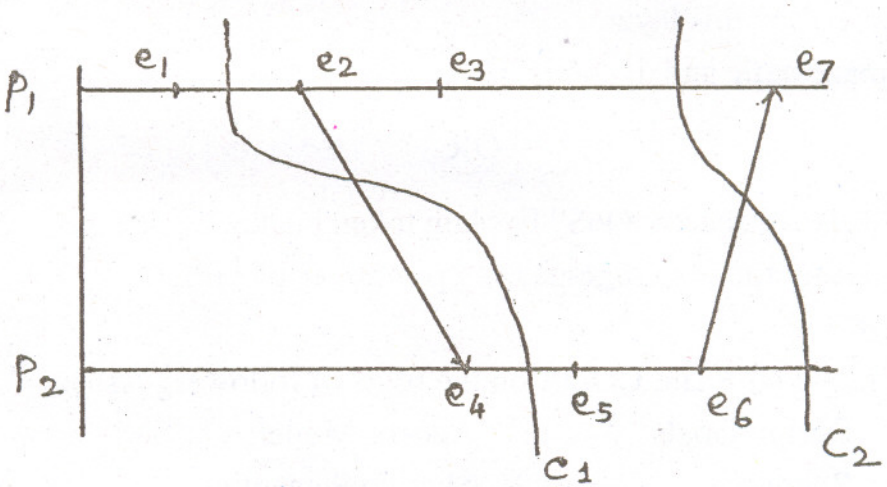
Q7) a) Show Lamport timestamps for the events shown in the following figure: **[9]**



b) Explain centralized algorithm for Mutual Exclusion. **[9]**

OR

Q8) a) From the following diagram, find out consistent and inconsistent cuts. Explain why they are so. **[9]**



b) Explain optimistic concurrency control mechanism. **[9]**

Q9) a) Explain: [8]

i) Availability ii) Reliability

iii) Safety iv) Maintainability

b) What is two-phase commit? What is a blocked participant? [8]

OR

*Q10)*a) Explain: [8]

i) Flat and Hierarchical groups.

ii) Open and closed groups.

b) What is Virtual Synchrony? [8]

*Q11)*a) Explain general organization of CORBA. [8]

b) What are design considerations of GRID computing? [8]

OR

*Q12)*a) How does CORBA implement caching and replication? [8]

b) Explain Grid versus conventional supercomputers. [8]

Total No. of Questions : 6] [Total No. of Pages : 2

P944

[3464] - 357
B.E. (Information Technology)
INFORMATION RETRIEVAL
(414450) (2003 Course)

Time : 3 Hours] *[Max. Marks : 100*

Instructions to the candidates:-

1) *Answer any three questions from each section.*
2) *Answers to the two sections should be written in separate books.*
3) *Neat diagrams must be drawn wherever necessary.*
4) *Figures to the right indicate full marks.*
5) *Assume suitable data, if necessary.*

SECTION - I

Q1) a) Differentiate between Data retrieval and Information Retrieval. [8]

b) Explain Rochhio's Algorithm. [8]

OR

a) Explain Single Pass Algorithm. [8]

b) Explain the different kinds of search strategies. [8]

Q2) a) Explain Inverted File structure with the help of diagram. State how it is useful in implementation of Information Retrieval System. [10]

b) Explain Logical Organization of documents. What are its advantages over physical organization in Information Retrieval System. [6]

OR

a) How is the Multilist and Cellular Multilist file structure implemented in IR System. [8]

b) Explain Suffix arrays with the help of diagram. [8]

Q3) Write short notes on: (any three) [18]

a) Current trends in Information Retrieval.

b) SQL3

c) TREC Collection

d) Dendogram.

P.T.O.

SECTION - II

Q4) a) Explain in brief the probabilistic search strategy. [8]

b) Explain with formulae the basic probabilistic model. [8]

OR

a) Design user interface of search engine using various visualization techniques. [8]

b) How is the information retrieval system evaluated. [8]

Q5) a) Explain Collection portioning and source selection w.r.to Distributed IR. [8]

b) State and explain the four parallel computing architectures. [8]

OR

a) Explain the generic multimedia Indexing Approach. [8]

b) Discuss Reference Collection (TREC). [8]

Q6) Write short notes on: (any three) [18]

a) Web crawlers.

b) Characterizing the web.

c) Interface paradigms for query formulation.

d) Multilingual IR.

Total No. of Questions : 12] [Total No. of Pages : 3

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[3464] - 345
B.E. (Computer & Information Technology) (Common)
SOFTWARE ARCHITECTURE
(410451) (2003 Course) (Elective - II)

Time : 3 Hours] *[Max. Marks : 100*

Instructions to the candidates:-

1) *Figures to the right indicate full marks.*
2) *Answers to the two sections should be written in separate answer books.*
3) *From Section - I, Answer (Q1 OR Q2) and (Q3 OR Q4) and (Q5 OR Q6).*
4) *From Section - II, Answer (Q7 OR Q8) and (Q9 OR Q10) and (Q11 OR Q12).*
5) *Make suitable assumptions wherever relevant and appropriate.*

SECTION - I

Q1) a) What is the role of UML diagrams in software architecture **[4]**

b) Define the given term/concept and give examples **[8]**

i) Software architecture

ii) Stakeholders in architecture

c) Write short notes on Reference Models. **[6]**

OR

Q2) a) Explain with examples the concepts of information hiding, modules how do these concepts help architecturally. **[6]**

b) How do current trends in technology influence architectural decisions taken. **[6]**

c) Write short notes on component and connector structures. **[6]**

Q3) a) What is the relation between Testing and software quality? **[4]**

b) What is the relation between software architecture and Software quality? **[4]**

c) In your own words, Compare and contrast how Testing and software architecture contribute to software quality. **[4]**

d) Define and give example for "Testability" attribute. **[4]**

OR

P.T.O.

Q4) a) How does one specify with measures/metrics the quality attribute performance in an SRS. **[4]**

b) Explain in brief the following in context of quality attributes **[12]**

i) Voting tactic ii) Non Repudiation

iii) Artifact in scenario iv) Conceptual integrity.

Q5) a) Compare and contrast design pattern and software design. **[4]**

b) In implementing design patterns often inheritance and Composition is used, what do you understand by these terms related to objects/classes. **[6]**

c) Explain the FOLLOWING definition of design patterns with examples.

"A design pattern is a description of communicating objects and classes that are customized to solve a general design problem in a particular context". **[6]**

OR

Q6) a) Give the applications of abstract factory pattern. **[4]**

b) Give the structure diagram for FAÇADE pattern, explain with example the structure. **[4]**

c) What do you understand by virtual proxy pattern? **[4]**

d) What do you understand by behavioral patterns? **[4]**

SECTION - II

Q7) In brief write about the technology and its need **[16]**

a) JXTA

b) XML parsers in J2EE.

c) Java on client slide

d) JVM.

OR

Q8) a) Compare application servers and webservers. **[4]**

b) What is a stateless session bean, is a shopping cart for a user a good example for such a bean, justify your answer? **[4]**

c) How J2EE is an extension of java capabilities. **[4]**

d) What is a middleware, why do we need it. **[4]**

Q9) a) What are web applications, give examples of popular websites, which generic client is used to access most web applications, what do you understand by dynamic and interactive websites and how do you make a website dynamic and interactive. **[8]**

b) What is a 3 Tier application and what is the role of the data Tier, the third tier. How do following technologies play a role in the third tier? Namely Oracle and JDBC. **[8]**

OR

Q10) In brief explain the concept and give good examples to illustrate **[16]**

a) DHTML b) Valid XML

c) Active X controls d) JSP tags

Q11) a) Write short notes on DLLServers. **[6]**

b) Write short notes on .NET remoting. **[6]**

c) Write short notes on Web services. **[6]**

OR

Q12) a) Write function prototype for release ( ) method of IUnknown interface in Com and write C++ code to show the use of that method and explain its application. **[6]**

b) Compare .NET and J2EE. **[6]**

c) Write short notes on distributed objects. **[6]**