Reg. No. : _____

D 2671 Q.P. Code : [07 DMCA 07]

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2013.

Second Year

COMPUTER NETWORKS

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. (a) Discuss about the application of computer networks. (8)

   (b) Describe OSI model, with a neat diagram. (12)

2. List and explain the various transmission media in detail. (20)

3. (a) Describe the various design issues of a data link layer. (10)

   (b) Explain the simplex stop-and-wait protocol. (10)

4. (a) What do you mean by error correcting codes? Discuss any one in detail. (10)

   (b) Explain the sliding window protocol. (10)

5. (a) Discuss about the elements of transport protocols. (10)

   (b) What is meant by TCP? Explain its structure and connection management. (10)

6. List and explain any four routing algorithms in detail. (20)

7. Write notes on the following:

   (a) Electronic mail. (5)

   (b) FTP. (5)

   (c) Virtual terminals. (5)

   (d) DNS. (5)

8. (a) Describe the various design issues of presentation layer. (10)

   (b) Explain the security measures taken to protect a computer network. (10)

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Reg. No. : .....

D 2673 Q.P. Code : [07 DMCA 09]

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2013.

Second Year

VISUAL PROGRAMMING

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. (a) In what way VB.Net is advantageous over object oriented programming. (10)

   (b) Discuss about various controls used in VB .Net. Explain the important properties of each controls and their usage. (10)

2. (a) Explain the various types of operators used in VB. Net. (10)

   (b) With syntax and example, Discuss about various control structures used in VB. Net. (10)

3. Define Function. Differentiate user-defined function and in-built function. Explain about various inbuilt function available in VB. Net.

4. (a) Explain about reading and writing MDI document with an illustration program in VC++. (10)

   (b) Define DLL. Discuss how a user defined DLL is created in VC++. (10)

5. (a) Compare and contrast structured programming and object oriented programming. (10)

   (b) Explain how the files are classified and handled in VC++. (10)

6. (a) Explain the sequence of steps that takes place when MFC based windows program is executed. (10)

   (b) Explain the various windows common dialogs available in VC++. (10)

7. (a) Write a detailed note on Document view architecture. (10)

   (b) What is the use of class wizard in VC++ and explain how it differs from APP WIZARD? (10)

8. Discuss in detail about how database connectivity and management with ODBC is accomplished in VC++.

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Reg. No. : .....

D 2675 Q.P. Code : [07 DMCA 11]

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2013.

Second Year

Elective — CLIENT/SERVER TECHNOLOGY

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. (a) Explain the building blocks of client server. (10)

   (b) Discuss File, database, transaction, group war, object, web and fat servers in detail. (10)

2. (a) Write some notes on the anatomy of a server program. (10)

   (b) Explain peer to peer communications and remote procedure calls. (10)

3. (a) Discuss the MOM middleware and distinguish between MOM and RPC. (10)

   (b) Briefly elaborate server scalability, client anatomy and client server hybrids. (10)

4. (a) Give some notes on stored procedures, triggers and rules. (10)

   (b) Explain OLAP and EIS/DSS. (10)

5. (a) Explain the architecture of CORBA OMA in detail. (10)

   (b) Discuss CORBA object services, common facilities, Business objects and compound documents. (10)

6. (a) What s groupware? Discuss the components and distributed objects. (10)

   (b) Explain client server transaction processing, the ACID properties and transaction models, monitors and management standards. (10)

7. (a) Elaborate DCOM/OLE object and the CORBA object web. (10)

   (b) Explain the architecture of JDBC. (10)

8. (a) Write some notes on CGI and HTML based web forms. (10)

   (b) Discuss hot java, applet components, web security and java libraries. (10)

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Reg. No. : _____

D 2668 Q.P. Code : [07 DMCA 04]

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2013.

First Year

ANALYSIS AND DESIGN OF INFORMATION SYSTEM

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. (a) State the difference between data and information. Explain about the quality attributes of information. (10)

   (b) Discuss the role of computer in information system. (10)

2. (a) Examine the roles and responsibilities of system analyst in the analysis and design of an information system. (10)

   (b) Describe about the tools used by the system analyst in designing information system. (10)

3. What are the different sources of information? Explain various methods of searching for information with example.

4. (a) Discuss the need and importance of feasibility analysis in system requirement specification. (10)

   (b) Write a detailed note on cost-benefit analysis. (10)

5. Define DFD. Describe the symbols used in DFD. Draw a DFD for online cinema ticket reservation system.

6. Discuss about process specification in structured English with example and also explain how to eliminate the redundant specification

7. Explain how the process specification is accomplished using decision table and discuss the role of karnaugh maps in decision tables.

8. (a) What are the various data input methods and explain how the input data are validated. (10)

   (b) Bring out the importance of output design and explain the role of business graphics. (10)

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Reg. No. : .....

D 2675 **Q.P. Code : [07 DMCA 11]**

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2013.

Second Year

Elective — CLIENT/SERVER TECHNOLOGY

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. (a) Explain the building blocks of client server. (10)

   (b) Discuss File, database, transaction, group war, object, web and fat servers in detail. (10)

2. (a) Write some notes on the anatomy of a server program. (10)

   (b) Explain peer to peer communications and remote procedure calls. (10)

3. (a) Discuss the MOM middleware and distinguish between MOM and RPC. (10)

   (b) Briefly elaborate server scalability, client anatomy and client server hybrids. (10)

4. (a) Give some notes on stored procedures, triggers and rules. (10)

   (b) Explain OLAP and EIS/DSS. (10)

5. (a) Explain the architecture of CORBA OMA in detail. (10)

   (b) Discuss CORBA object services, common facilities, Business objects and compound documents. (10)

6. (a) What s groupware? Discuss the components and distributed objects. (10)

   (b) Explain client server transaction processing, the ACID properties and transaction models, monitors and management standards. (10)

7. (a) Elaborate DCOM/OLE object and the CORBA object web. (10)

   (b) Explain the architecture of JDBC. (10)

8. (a) Write some notes on CGI and HTML based web forms. (10)

   (b) Discuss hot java, applet components, web security and java libraries. (10)

Reg. No. : .....

D 2671 Q.P. Code : [07 DMCA 07]

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2013.

Second Year

COMPUTER NETWORKS

CHINMAYA MISSION COLLEGE
Chinmaya Gardens Library Date.
KOLAZHY, TCR-10

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. (a) Discuss about the application of computer networks. (8)

   (b) Describe OSI model, with a neat diagram. (12)

2. List and explain the various transmission media in detail. (20)

3. (a) Describe the various design issues of a data link layer. (10)

   (b) Explain the simplex stop-and-wait protocol. (10)

4. (a) What do you mean by error correcting codes? Discuss any one in detail. (10)

   (b) Explain the sliding window protocol. (10)

5. (a) Discuss about the elements of transport protocols. (10)

   (b) What is meant by TCP? Explain its structure and connection management. (10)

6. List and explain any four routing algorithms in detail. (20)

7. Write notes on the following:

   (a) Electronic mail. (5)

   (b) FTP. (5)

   (c) Virtual terminals. (5)

   (d) DNS. (5)

8. (a) Describe the various design issues of presentation layer. (10)

   (b) Explain the security measures taken to protect a computer network. (10)

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Reg. No. : .....

D 2672 Q.P. Code : [07 DMCA 08]

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2013.

Second Year

SOFTWARE ENGINEERING

MAR MIVANIOS COLLEGE * KOLAZHY, TCR-10 * Summary Cardona Library Date.

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

Each question carries 20 marks.

(5 × 20 = 100)

1. (a) With a neat sketch, explain the function of Software Engineering life cycle model. (10)

   (b) Discuss in detail COCOMO model for software cost estimation. (10)

2. (a) Write notes on Software process model evaluation. (10)

   (b) Explain the objectives of software project planning. (10)

3. (a) Explain the software prototyping methods and tools. (12)

   (b) Explain the principles of requirements specification. (8)

4. (a) Write note on effective modular design. (10)

   (b) Explain the process of mapping requirements in to software architecture. (10)

5. (a) Distinguish between structured and object-oriented design. Explain the features of object-oriented design. (10)

   (b) Write notes on functional and behavioral modeling. (10)

6. (a) Discuss the various issues to be considered in designing the user interface. (10)

   (b) List and explain the design notations used. (10)

7. (a) What are the different levels of testing? For each level, specify which of the testing approaches is most suitable. (15)

   (b) Explain validation testing. (5)

8. (a) Explain black box and white box testing? (12)

   (b) Write note on system testing. (8)

CHINMAYA ...

Reg. No. : .....

D 2675 Q.P. Code : [07 DMCA 11]

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2010

Second Year

Elective — CLIENT/SERVER TECHNOLOGY

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. (a) Explain the building blocks of client server. (10)

   (b) Discuss File, database, transaction, group war, object, web and fat servers in detail. (10)

2. (a) Write some notes on the anatomy of a server program. (10)

   (b) Explain peer to peer communications and remote procedure calls. (10)

3. (a) Discuss the MOM middleware and distinguish between MOM and RPC. (10)

   (b) Briefly elaborate server scalability, client anatomy and client server hybrids. (10)

4. (a) Give some notes on stored procedures, triggers and rules. (10)

   (b) Explain OLAP and EIS/DSS. (10)

5. (a) Explain the architecture of CORBA OMA in detail. (10)

   (b) Discuss CORBA object services, common facilities, Business objects and compound documents. (10)

6. (a) What s groupware? Discuss the components and distributed objects. (10)

   (b) Explain client server transaction processing, the ACID properties and transaction models, monitors and management standards. (10)

7. (a) Elaborate DCOM/OLE object and the CORBA object web. (10)

   (b) Explain the architecture of JDBC. (10)

8. (a) Write some notes on CGI and HTML based web forms. (10)

   (b) Discuss hot java, applet components, web security and java libraries. (10)

CHINMAYA MISSION COLLEGE Chinmaya Gardens Library Date KOLAZHY, TCR-10

Reg. No. : _____

D 2673 Q.P. Code : [07 DMCA 09]

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2013.

Second Year

VISUAL PROGRAMMING

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. (a) In what way VB.Net is advantageous over object oriented programming. (10)

   (b) Discuss about various controls used in VB .Net. Explain the important properties of each controls and their usage. (10)

2. (a) Explain the various types of operators used in VB. Net. (10)

   (b) With syntax and example, Discuss about various control structures used in VB. Net. (10)

3. Define Function. Differentiate user-defined function and in-built function. Explain about various inbuilt function available in VB. Net.

4. (a) Explain about reading and writing MDI document with an illustration program in VC++. (10)

   (b) Define DLL. Discuss how a user defined DLL is created in VC++. (10)

5. (a) Compare and contrast structured programming and object oriented programming. (10)

   (b) Explain how the files are classified and handled in VC++. (10)

6. (a) Explain the sequence of steps that takes place when MFC based windows program is executed. (10)

   (b) Explain the various windows common dialogs available in VC++. (10)

7. (a) Write a detailed note on Document view architecture. (10)

   (b) What is the use of class wizard in VC++ and explain how it differs from APP WIZARD? (10)

8. Discuss in detail about how database connectivity and management with ODBC is accomplished in VC++.

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Reg. No. : .....

D 2670 Q.P. Code : [07 DMCA 06]

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2013.

Second Year

OOPS USING C++ AND JAVA PROGRAMMING

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carries equal marks.

(5 × 20 = 100)

1. (a) Compare structural programming with object oriented programming. (10)

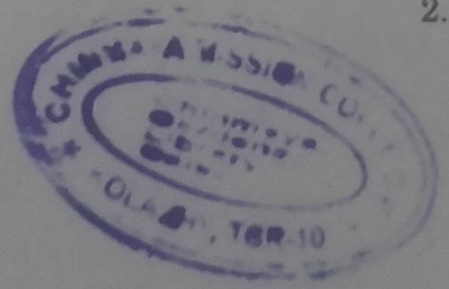
   (b) Discuss various types of relationships among classes. (10)

2. (a) Explain the following :

   (i) Copy constructor

   (ii) Dynamic constructor. (10)

   (b) Explain the importance of reference variable with an example. (10)



3. (a) Write short notes on type conversions. (10)

(b) Discuss function overloading with an example. (10)

4. (a) What are the rules for operator overloading? (5)

(b) Write a C++ program to add two matrices using operator overloading. (10)

(c) List out the operators can not be overloaded. (5)

5. (a) Explain the following :

(i) Multiple inheritance

(ii) Virtual base class. (10)

(b) Discuss virtual functions with programming example. (10)

6. (a) Give the structure of Java programming language. (5)

(b) Write short notes on 'awt'. (10)

(c) Discuss various Java packages. (5)

7. (a) Write a Java program for following :

(i) Palindrome checking

(ii) Finding sub string and string concatenation.

(b) Discuss Java applets in detail. (10)

8. (a) Explain the following :

(i) JDBC

(ii) Exception handling. (10)

(b) Write a Java program to demonstrate multi thread concepts. (10)

CHINMAYA VISHWAVIDYAPEETH COLLEGE
Chinmaya Gardens Library Date
KOLAZHY, TCR-10

Reg. No. : .....

D 2667 Q.P. Code : [07 DMCA 03]

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2013.

First Year

RELATIONAL DATABASE MANAGEMENT SYSTEMS

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. (a) Explain the architecture of DBMS. (10)

(b) Write short notes on ACID properties of transaction management. (10)

2. (a) Give the definition for the following :

(i) Super key

(ii) Candidate key

(iii) Primary key

(iv) Foreign key

(v) Composite key. (5)

(b) Discuss various types of relationship in E-R model. (5)

(c) Draw E-R diagram for railway reservation system. (10)

3. Explain the various operations of relational algebra with suitable example. (20)

4. (a) Write short notes on relational calculus. (5)

(b) Write SQL query for deleting duplicate records in a table. (5)

(c) Give the SQL syntax for grant and revoke commands. (5)

(d) Write short notes on 'ODBC'. (5)

5. (a) What are the important features of SQL? (10)

(b) Discuss any five aggregate functions of SQL. (5)

(c) Explain correlated sub query with an example. (5)

6. (a) Explain 2 phase locking protocol in detail. (10)

(b) Discuss the following :

(i) Functional dependency

(ii) Concurrent transactions. (10)

7. (a) Explain BCNF with an example. (10)

(b) What is multi value dependency? Explain fourth normal form with an example. (10)

8. (a) Explain the architecture of parallel databases. (10)

(b) Discuss the procedure for sorting data in a distributed environment. (10)

Reg. No. : .....

D 2666 Q.P. Code : [07 DMCA 02]

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2013.

First Year

PROBLEM SOLVING IN C AND DATA STRUCTURES

Time : Three hours Maximum : 100 marks

Answer any FIVE questions. (5 × 20 = 100)

Each question carry equal marks.

1. (a) What are I/O functions of 'C'?

(b) Discuss self referential structure with an examples.

(c) Explain the following :

(i) Local variable

(ii) Global variable

(iii) Macro variable

(iv) Static variable

(v) Register variable.

2. (a) Write short notes on fseek( ), rewind( ) and ftell( ) commands. (10)

(b) Explain C pointers with an example. (10)

3. (a) Define Big-O notation. (2)

(b) Discuss algorithm analysis techniques in detail. (10)

(c) Explain dynamic memory management techniques. (8)

4. (a) Write the procedure for stack. (10)

(b) Discuss any one application of stack with an example. (10)

5. (a) Convert the following infix expression into postfix notation using stack.

$k = ((a + b) * (c * d))/e + 5.$ (10)

(b) Write the procedure for queue data structure. (10)

6. (a) Give the creation, insertion and deletion procedure for doubly linked list. (10)

(b) Explain any one application of linked list with an example. (10)

7. (a) Write the procedure for in order traversal of a Binary tree. (10)

(b) Explain threaded Binary tree with an example. (10)

8. Write the procedure for Quick sort. Arrange the following numbers in ascending order using quick sort. Show the intermediate steps.

100, 90, 80, 70, 60, 10, 20, 30, 40, 5, 8.

Derive its worst case time complexity.

Reg. No. : .....

D 2668 **Q.P. Code : [07 DMCA 04]**

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2013.

First Year

ANALYSIS AND DESIGN OF INFORMATION SYSTEM

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. (a) State the difference between data and information. Explain about the quality attributes of information. (10)

   (b) Discuss the role of computer in information system. (10)

2. (a) Examine the roles and responsibilities of system analyst in the analysis and design of an information system. (10)

   (b) Describe about the tools used by the system analyst in designing information system. (10)

3. What are the different sources of information? Explain various methods of searching for information with example.

4. (a) Discuss the need and importance of feasibility analysis in system requirement specification. (10)

   (b) Write a detailed note on cost-benefit analysis. (10)

5. Define DFD. Describe the symbols used in DFD. Draw a DFD for online cinema ticket reservation system.

6. Discuss about process specification in structured English with example and also explain how to eliminate the redundant specification

7. Explain how the process specification is accomplished using decision table and discuss the role of karnaugh maps in decision tables.

8. (a) What are the various data input methods and explain how the input data are validated. (10)

   (b) Bring out the importance of output design and explain the role of business graphics. (10)

Reg. No. : _____

D 2669 Q.P. Code : [07 DMCA 05]

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2013.

First Year

OPERATING SYSTEM

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

Each questions carries 20 marks.

(5 × 20 = 100)

1. (a) List out the various functions of real time operating systems. (5)

(b) Write short notes on virtual machines. (5)

(c) Give various functions of operating system with respect to memory. (10)

2. (a) Write short notes on IPC. (5)

(b) Compare short term scheduler for long term scheduler. (5)

(c) Draw process state diagram and explain each state. (10)

3. Explain the following CPU scheduling algorithm with an example.

(a) FCFS

(b) SJF

(c) Preemptive priority algorithm

(d) Round rabir algorithm. (20)

4. (a) Compare resource allocation graph and wait for graph. (5)

(b) Give important characteristics of dead lock. (5)

(c) Explain Banker's algorithm with an example. (10)

5. (a) Explain contiguous memory management in detail. (10)

(b) Write short notes on cache memory. (10)

6. Explain the following

(a) LRU page replacement algorithm. (5)

(b) Optional page replacement algorithm. (5)

(c) Demand paging. (5)

(d) Belady anamoly. (5)

7. Write short notes on following

(a) Latency time

(b) Free space management

(c) SSTF disk scheduling algorithm

(d) C-look disk scheduling algorithm.

8. (a) Explain any two file allocation methods in detail. (10)

(b) Discuss the architecture of LINUX operating systems.

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Reg. No. : _____

D 2665 Q.P. Code : [07 DMCA 01]

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2013.

First Year

COMPUTER ORGANISATION AND ARCHITECTURE

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

Each question carries 20 marks.

$(5 \times 20 = 100)$

1. (a) Perform the following subtraction using 1's compliment and 2's compliment

11011 – 11110. (4)

(b) Write notes on binary codes. (6)

(c) Simplify the following Boolean function in sum of products and product of sums and implement it using gates

$F(w, x, y, z) = \Sigma(0, 1, 3, 6, 8, 11, 13)$. (10)

2. (a) Implement a full adder circuit using gates. (5)

(b) Design a Mod-10 counter. Explain its operation. (10)

(c) Write the function table of a D flip-flop. Draw its diagram using NAND gates and explain. (5)

3. (a) Design a 16-to-1-line multiplexer with two 8-to-1-line multiplexers and one 2-to-1-line multiplexer. Draw its block diagram. (10)

(b) Construct a bidirectional 4-bit shift register with parallel load and explain its operation. (10)

4. (a) Explain stack organization. (10)

(b) Explain the different types of addressing modes with examples. (10)

5. (a) What is meant by asynchronous data transfer? Explain one method. (10)

(b) How priorities are assigned to interrupts? How are they served? Explain. (10)

6. (a) Explain DMA data transfer in detail with necessary diagrams. (12)

(b) Write notes on Input/Output processor. (8)

7. Define Cache memory. Explain with diagrams, the organization of Cache memory using the three types of mapping procedures. (20)

8. (a) Explain memory hierarchy in detail. (8)

(b) What is meant by virtual memory? Explain with a neat diagram how address mapping is done in paging system. (12)

CHINMAYA MISSION COLLEGE KOLAZHY, TCR.10

Reg. No. : .....

D 2507 Q.P. Code : [07 DMCA 07]

(For the candidates admitted from 2007 onwards)

M.C.A. DEGREE EXAMINATION, MAY 2014.

Second Year

COMPUTER NETWORKS

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

Each question carries 20 marks.

(5 × 20 = 100)

1. (a) Discuss about the applications of computer networks. (8)

   (b) Describe the ISO OSI reference model elaborately. (12)

2. (a) Discuss about public switched telephone network. (10)

   (b) Discuss about the difference between broadcast radio and microwave. (5)

   (c) What are the properties of communication satellites? Discuss. (5)

3. (a) Describe the various design issues of dat link layer. (10)

   (b) What do you mean by error correcting codes? Discuss anyone in detail. (10)

4. (a) Explain sliding window protocol for flow control with an example. (10)

   (b) Explain the need for collision avoidance in a wireless network, and discuss how this is achieved in the IEEE 802.11 protocol. (10)

5. (a) Explain the leaky bucket and token bucket algorithms in detail. (10)

   (b) Discuss about the transport layer quality of service parameters. (10)

6. Explain the following routing algorithms in detail.

   (a) Flow–base routing. (10)

   (b) Multicast routing. (10)

7. (a) Explain presentation layer features in detail. (10)

   (b) Explain the concept of cryptography. (10)

8. (a) Explain the various design issues of presentation layer. (10)

   (b) Write elaborate note on E–mail. (10)

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