Master in Computer Application (First Year) (M.C.A.) Choice Based Credit System (CBCS)

Semester–I Examination

IT1 : ADVANCED JAVA PROGRAMMING

Paper–I

Time : Three Hours] [Maximum Marks : 80

N.B. :— (1) All questions are compulsory and carry equal marks.

(2) Draw neat and labelled diagram wherever necessary.

EITHER

1. (A) What is the difference between an Abstract Class and Interface ? 8
   (B) What is inheritance in Java ? How do we implement inheritance in Java ? 8

   OR

   (C) Explain the two ways to create a class that can be multithreaded. 8
   (D) Write a program to illustrate the use of stop( ) and suspend( ) methods. 8

   EITHER

2. (A) What is the significance of DataInputStream and DataOutputStream classes in Java ? 8
   (B) Write a program to demonstrate the addition of a list to scroll pane. 8

   OR

   (C) What is dialog box ? List and differentiate between the types of dialog boxes based on mode of their working. 8
   (D) How is a check box different from a radio button ? 8

   EITHER

3. (A) Explain server object. What is proxy server ? 8
   (B) Write a note on URL and URL connection. 8

   OR

   (C) Discuss the role of IP in the TCP/IP model. 8
   (D) Explain the method invocation in Java using RMI. 8

   EITHER

4. (A) What is the difference between Java Bean and EJB ? 8
   (B) Write notes on : 8
   (i) Swing button (ii) Cookies

   OR

   (C) Explain javax.servlet.http package in detail. 8
   (D) Explain session object. How can we use the session variable ? Give example. 8

5. (A) What is controls statements ? 4
   (B) How is menu bar created in Java ? 4
   (C) Explain InetAddress and factory methods. 4
   (D) Explain working of JAR files. 4

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Master in Computer Application (First Year) (M.C.A.) Choice Based Credit System (CBCS)
Semester–I Examination

1T2 : DATA COMMUNICATION AND NETWORK

Paper–2

Time : Three Hours] [Maximum Marks : 80

N.B. : (1) All questions are compulsory and carry equal marks.
(2) Draw neat and labelled diagram wherever necessary.

EITHER

1. (A) Explain the design issues of Data Link Layers. 8
(B) Explain Elementary Data Link Protocols with examples. 8

OR

(C) Explain Digital Transmission in detail. 8
(D) Explain congestion control algorithm. 8

EITHER

2. (A) What is RPC ? Explain the design issues of session layer. 8
(B) What are the different data compression techniques ? Explain. 8

OR

(C) Explain the Connection Management of TCP. 8
(D) What is Cryptography ? Explain the Cryptography Techniques in detail. 8

EITHER

3. (A) Explain the concept of DES algorithm in detail. 8
(B) What is Cryptanalysis ? Explain types of attack on encrypted messages. 8

OR

(C) Explain the concept of key distribution. 8
(D) What are the classification of security services ? 8

EITHER

4. (A) Explain :
(i) Message Digests and checksums
(ii) Message Authentication. 8
(B) Why firewalls are used ? Explain in detail. 8

OR

(C) Explain the concept of Packet Filtering.

(D) What is Intruder ? Explain Intrusion detection techniques.

5. (A) Write a note on ISDN.

(B) What is Virtual Terminal ? Explain.

(C) What is Address–Based Authentication ?

(D) Explain Trusted System.

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Master in Computer Application (First Year) (M.C.A.) Choice Based Credit System (CBCS)
Semester—I Examination
1T3 : OPEN SOURCE WEB PROGRAMMING USING PHP
Paper—3

[Maximum Marks : 80

Time : Three Hours]

Note : (1) All questions are compulsory and carry equal marks.
(2) Draw neat and labelled diagrams wherever necessary.

EITHER

1. (A) Write the steps for installing PHP on Windows. 8
(B) What is Variable ? Explain different datatypes used in PHP with syntax. 8

OR

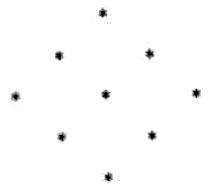
(C) Write the steps for installing PHP on Linux. 8
(D) Write a process for embedding PHP in web pages. 8

EITHER

2. (A) What is function ? What are the ways by which we can pass parameters to function ? 8
(B) Write a program to insert array elements in Array of size 10. 8

OR

(C) Write a program in PHP to obtain following result :



8

(D) Differentiate between single dimensional array and multidimensional array with syntax. 8

EITHER

3. (A) Write a procedure to connect PHP with database. 8
(B) Explain introspection in detail. 8

OR

(C) Write a program to calculate factorial of a number using class and object. 8
(D) Explain session and cookies used in PHP. 8

EITHER

4. (A) Write a program in PHP to dynamically generate buttons. 8

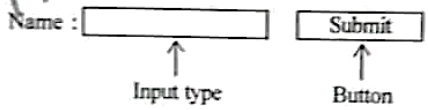
   (B) Write a procedure for creating and drawing images in PHP. 8

   OR

   (C) Write PHP code to upload file with FTP. 8

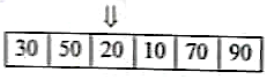
   (D) Explain Parsing XML and Transforming XML. 8

5. (A) Write a program to obtain following output :



   4

   (B) Write a program to delete 20 from a list using array :



   4

   (C) Write a program in PHP to access server information. 4

   (D) Explain error handling in detail. 4

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Master in Computer Application (First Year) (M.C.A.) Choice Based Credit System (CBCS)
Semester—I Examination
1T4 : ADVANCED DBMS AND ADMINISTRATION
Paper—I

Time : Three Hours] [Maximum Marks : 80

Note :— (1) All questions are compulsory and carry equal marks.
(2) Draw neat and labelled diagrams wherever necessary.

EITHER

1. (A) What is estimation of Query Processing Cost ? Explain with example. 8
(B) Explain 3NF and 4NF with suitable example. 8

OR

(C) Write notes on :
(i) Structure of query optimizer
(ii) Merge Join. 8
(D) What is equivalence of Expression ? Explain different expression rules. 8

EITHER

2. (A) Write notes on :
(i) Shadow paging
(ii) Checkpoint. 8
(B) What is Serializibility ? Explain conflict serializibility. 8

OR

(C) What is Client Server Computing ? Explain three layer architecture. 8
(D) Write notes on :
(i) ACID properties
(ii) States of Transaction. 8

EITHER

3. (A) Discuss Oracle Export/Import utilities in detail. 8
(B) Write notes on :
(i) Tablespaces
(ii) Privileges and roles in Oracle database. 8

OR

(C) What is Rollback Segment ? Explain how rollback segments are managed. 8
(D) Write noes on :
(i) Redo log files
(ii) Control files. 8

EITHER

4. (A) What is Integrity Constraints ? Explain procedural integrity constraints in detail.

   (B) Explain Rollback Segment Tuning in detail.

   OR

   (C) Write notes on :

      (i) Tuning the shared pool

      (ii) Security issues in Oracle Database.

   (D) Discuss database storage allocation parameter in detail.

5. (A) Explain Lossless Join and dependency preserving.

   (B) Write a note on immediate update.

   (C) What is physical backup in database ?

   (D) Explain Buffer cache in detail.

Master in Computer Application (First Year) (M.C.A.) Choice Based Credit System (CBCS)
Semester—I Examination
1T5 : SOFTWARE ENGINEERING
Paper—5

Time : Three Hours] [Maximum Marks : 80

Note :— (1) All questions are compulsory and carry equal marks.

(2) Draw neat and labelled diagrams wherever necessary.

EITHER

1. (A) Define Software Engineering. What are software myths in software engineering ? Explain. 8

(B) Define process model. Explain incremental process model in detail. 8

OR

(C) Why Software Engineering is considered as a layered technology ? Explain. 8

(D) How does the Capability Maturity Model Integration (CMMI) improve the business process in an IT Company ? 8

EITHER

2. (A) What is Requirements Engineering process ? List and explain any two requirements engineering process. 8

(B) How the architectural design can be represented in software engineering ? Explain. 8

OR

(C) What is system model ? Explain context models and behavioural models in detail. 8

(D) What is design quality ? How do you maintain quality of design ? 8

EITHER

3. (A) What is testing ? Explain Black Box Testing and White Box Testing in detail. 8

(B) Explain the objectives of software quality metrics. 8

OR

(C) What are the metrics used for software maintenance ? Explain. 8

(D) What is the art of debugging in software engineering ? Explain. 8

EITHER

4. (A) Write notes on :

   (i) Reactive risk strategies

   (ii) Proactive risk strategies.

   (B) What is meant by software quality assurance ? Explain.

   OR

   (C) Explain risk management in software production.

   (D) Explain the following :

   (i) Risk projection

   (ii) Risk refinement.

5. (A) Explain software evolution.

   (B) Write a note on object model.

   (C) Explain user-interface design.

   (D) What is technical review ? Explain.