

**M.C.A. (Sem - IV)**  
**Java Programming**  
**(May-2017)**

**Q.P. Code :02544**

**[Time: Three Hours]**

**[ Marks:100]**

Please check whether you have got the right question paper.

- N.B: 1. Question.No.1 is **compulsory**.  
2. Attempt any **four** from the remaining **six** questions.

- Q.1) a) Explain features of java language. Differentiate between C++ and Java. (10)  
b) What is exception? How are exceptions handled in java. (10)
- Q.2) a) Explain MVC architecture with respect to swing component. (10)  
b) Write a program to demonstrate any five methods of String class. (10)
- Q.3) a) Explain Applet Lifecycle. Write applet to demonstrate 2D Graphics. (10)  
b) Explain card Layout manager in java with suitable example. (10)
- Q.4) a) Write a JDBC program to create table Employee and add 2 records in it. (10)  
b) What is an Abstract class and Abstract method. Differentiate between abstract class and interface. (10)
- Q.5) a) Explain use of Wrapper Classes with suitable java program. (10)  
b) Create a package named PK1 with one class having 2 member variables and member functions. (10)
- Q.6) a) Write a multi-threading program where one thread displays the even numbers from 1 to 10 and other thread displays odd numbers from 10 to 1. (10)  
b) How event handling is implemented in java. Write a program to demonstrate itemEvent. (10)
- Q.7) Write Short Notes on **any four**:- (20)  
a) static keyword  
b) object Serialization  
c) this keyword  
d) Final keyword  
e) Jdbc drivers

**M.C.A. (Sem - IV)**  
**Object Oriented Modeling and Design**  
**Using UML**  
**(May-2017)**

**Q. P. Code : 08682**

**(3 Hours)**

**( Total Marks : 100**

**1 is compulsory.**

**Four out of remaining six.**

3. Elaborate **each** answer with the help of **an example**.

1. (a) Draw a Use Case Diagram for a video store kiosk system. The software can be used for looking up movies and actors by keywords, as well as usable to check out movies from the kiosk to known customers, without a cashier present. A customer can check out up to 3 movies at a time, for up to 5 days each. If a movie is returned late, late fees can be paid at the time of return or time of next checkout. The data is stored internally in a database system, which communicates with the kiosk. The manager of the store can log in to update employee data. **(10)**
- (b) Explain the following concepts : **(10)**
  - (I) Activity
  - (II) Event
  - (III) UMI
  - (IV) Actors
2. (a) Describe “ Architectural patterns” and “Design patterns” **(10)**
- (b) Differentiate between : **(10)**
  - (I) Specialization / Generalization
  - (II) Aggregation / Composition
3. (a) Draw a activity diagram to model flow for “Goods returning System” **(10)**
- (b) Explain reuse of classes and component. **(10)**
4. (a) Explain with example composite states and parallel states of state diagram. **(10)**
- (b) Explain three tiered logical Architecture. **(10)**
5. (a) How can you show the following in class diagram? **(10)**
  - (I) Ternary Association
  - (II) Qualified Association
  - (III) Constraint
  - (IV) Abstract Class
  - (V) Actor Class
- (b) Explain functional Modeling and object Modeling. **(10)**
6. (a) Explain the top down approach for dynamic system. **(10)**
- (b) Draw a sequence diagram for “Appointment of patient” of Hospital management system. Hospital management system helps in registering information about patients and handles patient’s query. A unique ID is generated for each patient after registration. This helps in implementing customer relationship management and also maintains medical history of patient. This system also monitors the doctor appointments, when the ID is generated the patient receives the appointment time and number from the receptionist and accordingly visit the doctor. This system also deals with testing appointments as and when ID is generated the patient receives the appointment time and number and accordingly undergoes the test. **(10)**
7. Write Short Notes on **any four** :- **(20)**
  - (I) Collaboration Diagram
  - (II) Inheritance
  - (III) Cohesion
  - (IV) Swim lanes
  - (V) Noun Phrases

**M.C.A. (Sem - IV)**  
**Network Security**  
**(May-2017)**

**Q.P. Code :02180**

**[Time: 3 Hours]**

**[ Marks:100]**

Please check whether you have got the right question paper.

1. Question No. 1 is Compulsory.
2. Attempt any four from the remaining six questions.
3. Assume a suitable data whenever required, clearly state the assumptions.

- Q.1** a) Explain in detail the DES algorithm and a DES Round. **10**  
 b) Explain SSL Architecture. **10**
- Q.2** a) What is hash function? How is MAC different from HMAC? **10**  
 b) Explain the different categories of Passive and Active Security Attacks? **10**
- Q.3** a) Discuss the various pitfalls in security handshake or authentication. **10**  
 b) Discuss E-mail Security in detail. **10**
- Q.4** a) What is Firewall? Explain different configurations of Firewalls. **10**  
 b) What is security policy? Explain different security policies. **10**
- Q.5** a) Explain Diffie – Hellman key distribution algorithm with example. And list the disadvantages of Diffie-Hellman key distribution algorithm? **10**  
 b) Explain in detail PGP. **10**
- Q.6** a) What is Public-Key Cryptography? Explain RSA asymmetric key cryptographic algorithm with suitable example? **10**  
 b) What is a digital Signature? Explain El-Gamal Signature? **10**
- Q.7** Write short note on **any four**: **20**  
 a) Kerberos V5  
 b) Reflection Attack  
 c) Triple DES  
 d) ECB and CBC  
 e) Stream Cipher and Block Cipher.

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# M.C.A. (Sem - IV)

## Advance Database Techniques

### (May-2017)

Q.P. Code :02875

[Time: Three Hours]

[ Marks:100]

Please check whether you have got the right question paper.

- N.B:
1. Question.No.1 is compulsory.
  2. Attempt any four from the remaining six questions.
  3. Use of calculators is allowed.

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|-----|--|----|
| Q.1 | Write short note on the following (any four)   | 20 |
|     | <ol style="list-style-type: none"> <li>1) Pipelined parallelism</li> <li>2) Data Quality</li> <li>3) Phantom deadlock</li> <li>4) Classification</li> <li>5) Polyinstantiation</li> </ol>  |    |
| Q.2 | Differentiate between the following (any four)   | 20 |
|     | <ol style="list-style-type: none"> <li>1) Star Schema and Snowflake Schema</li> <li>2) Two phase commit and Three phase commit</li> <li>3) Semi join and Bloom join</li> <li>4) ROLAP and MOLAP</li> <li>5) OLTP and Data Warehouse</li> </ol> |    |
| Q.3 | A) Explain the architectures of parallel database system with neat diagram.  | 10 |
|     | B) What is clustering? Explain K-means clustering algorithm with suitable example.   | 10 |
| Q.4 | A) What is Association rule mining? Explain the applications of association rule mining with example.  | 10 |
|     | B) Explain Bell-LaPadula Model. What type of security is implanted by it?  | 10 |
| Q.5 | A) Why recovery in a distributed DBMS is more complicated than in a centralised system? Explain.   | 10 |
|     | B) How do warehousing, OLAP and mining complement each other? Explain extraction, transformation and loading process in data warehousing.  | 10 |
| Q.6 | A) Explain OLAP operations with suitable example.  | 10 |
|     | B) What are the components of decision tree? How decision trees are constructed?   | 10 |
| Q.7 | A) How is an object identifier different from a record id in RDBMS and an URL? Explain inheritance and how new types (subtypes) extend existing types (supertypes)?  | 10 |
|     | B) Explain in brief parallel query evaluation.   | 10 |

**M.C.A. (Sem - IV)****Elective I : Customer Relationship  
Management  
(May-2017)****Q.P. Code : 01523****al. Marks: 100****Time: 3 Hrs****NOTE:**

- I. Question No. 1 is **Compulsory**.
- II. Attempt any four out of remaining six
- III. Elaborate each answer with the help of an **example**

1. (A) What are business analytic tools? What does a business analytic application do? **10**  
(B) Explain with example how web enabling call Centre helps in business to serve customer. **10**
2. (A) Give the differences between CRM and E-CRM. **10**  
(B) Define CRM and describe purpose of a CRM System in detail? **10**
3. (A) What is an ASP? Explain advantages and disadvantages of ASP. **10**  
(B) Explain Data synchronization in detail. **10**
4. (A) Explain briefly obstacles to SFA functionalities with example. **10**  
(B) What is the factors affecting CRM through traditional marketing channel. **10**
5. (A) Explain in detail Sale Force Automation. **10**  
(B) Discuss different types of CRM technology in details. **10**
6. (A) Explain in detail interactive voice response. **10**  
(B) Describe Collaborative CRM with Example. **10**
7. Explain any four of the following terms : **20**
  - (A) Prototyping.
  - (B) Automatic Call Distribution.
  - (C) Power user beta Test.
  - (D) IVR System.
  - (E) Enterprise Marketing Analysis.

**[Time : 3 Hours]**

**[ Marks : 100**

Please check whether you have got the right question paper.

- N.B:**
1. Questions **No.1** is **compulsory**.
  2. Attempt **any four** questions from remaining **six** questions.

1. (a) Explain different approaches of Project Implementation processes in detail. **10**  
(b) What is Project Management Framework? Explain with suitable diagram. **10**
2. (a) What is a role of Project Manager in IT project? What are the skills required to be a good project Manager. **10**  
(b) Discuss in detail procurement management. **10**
3. (a) What is Leadership? Explain different approaches of leadership. **10**  
(b) What are the main processes in Communication Management? **10**
4. (a) What are Conflicts? Explain different type of conflicts. **10**  
(b) Explain common sources of risk of Information technology Projects. **10**
5. (a) What are different types of contract? Explain in detail. **10**  
(b) Explain schedule development tools: Gnatt, CPM with example. **10**
6. (a) Explain three sphere model for systems management. **10**  
(b) Explain different ways to close out a project with an example. **10**
7. Write short notes on following (**Any 4**) : **20**
  - (a) Ethics in Project
  - (b) Outsourcing in Project Management
  - (c) Matrix Organization
  - (d) Make Buy decision
  - (e) Stakeholder Management