

MCA (SEM- IV)
Java Programming
(OCT-16)

Q.P. Code : 511900

(3 Hours)

[Total Marks : 100

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

(2) Attempt **any four** questions out of the remaining questions 2 to 7.

1. (a) What are layout managers in java? Explain with suitable example. **10**
(b) Explain difference between C++ and java language. **10**
 2. (a) What is the difference between an applet and an application? Explain life cycle of an applet. **10**
(b) Explain use of super keyword with suitable example. **10**
 3. (a) What is Exception handling in Java? Write program to handle Number format exception. **10**
(b) Explain program to create GUI using Swing components. **10**
 4. (a) Explain constructor overloading and function overloading with an example. **10**
(b) What is Inner Class in Java? Write a program to implement inner classes in java. **10**
 5. (a) Explain multithreading concept in Java. Write a program showing multiple threads working upon single object using synchronized keyword. **10**
(b) Explain wrapper class in Java. Explain the concept Boxing and unboxing. **10**
 6. (a) Explain the different types of drivers in JDBC. **10**
(b) What is serialization and deserialization? Write a program to implement it in Java. **10**
 7. Write short note on (**any four**) : **10**
 - (a) Data types supported in Java
 - (b) Interface in Java
 - (c) Statics keyword
 - (d) Package in Java
 - (e) Input stream classes
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MCA (SEM- IV)
Object Oriented Modeling and
Design Using UML
(OCT-16)

QP CODE : 512100

[Total Marks : 100

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

1. (a) A college offers different courses in academic year. College (10)
conducts CET to give admission to different courses. Student can
apply for various courses after getting CET score. With
application form student have to submit required documents to
registrar. Registrar will verify the documents and will allow
student to take admission in the college. After document
verification student can pay annual fees to clerk. Clerk will
generate receipt and id card of the student.

Draw a use case diagram and Class diagram for above case study.
(b) Draw state diagram for fully automatic washing machine where (10)
machine can restore history state.
 2. (a) Explain bottom up approach for software system design with (10)
suitable example
(b) List and explain various relationships used in Class diagram. (10)
 3. (a) Explain Process Architecture with Example. (10)
(b) Write a short note on Activity diagram with example. (10)
 4. (a) Explain Aggregation and Composition with suitable example. (10)
(b) Draw a state chart diagram for dialling a telephone number (10)
 5. (a) What is composite state and parallel state? Explain with example. (10)
(b) Write a short note on Reuse of patterns: Architectural pattern and (10)
Design pattern
 6. (a) Write a short note on Noun phrase approach for identifying (10)
classes.
(b) Explain Sequence diagram with suitable example. (10)
 7. Write Short Notes on **any four** :- (20)
 - a) Type Promotion
 - b) Qualified Association
 - c) Booch Methodology
 - d) Ternary and Reflexive Association
 - e) Realisation
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MCA (SEM- IV)
Advance Database Techniques
(OCT-16)

QP CODE: 512200

[Total Marks: 100

(3 Hours)

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

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| Q.1 | (a) | Write short note on (any 2) | 10 |
| | | 1. KDD process | |
| | | 2. OLAP architecture | |
| | | 3. Architecture of parallel databases | |
| | (b) | Compare between (any 2) | 10 |
| | | 1. Two phase and three phase commit | |
| | | 2. OODBMS vs. ORDBMS | |
| | | 3. Classification vs. clustering | |
| Q.2 | (a) | Describe features and functions of OLAP | 10 |
| | (b) | What is metadata? Explain types of metadata | 10 |
| Q.3 | (a) | Explain how inheritance is supported in object-database systems | 10 |
| | (b) | Explain the concept of parallel query evaluation | 10 |
| Q.4 | (a) | Explain fragmentation with example | 10 |
| | (b) | Explain in brief dimensional analysis | 10 |
| Q.5 | (a) | Explain in brief search engine architecture | 10 |
| | (b) | Explain the new challenges in implementing ORDBMS Storage & access methods | 10 |
| Q.6 | (a) | Explain ETL process in data warehousing | 10 |
| | (b) | Explain with example concept of decision trees | 10 |
| Q.7 | (a) | Explain star schema and snow flake schema with example | 10 |
| | (b) | Explain in brief database security | 10 |

MCA (SEM- IV)
Network Security
(OCT-16)

QP CODE : 512000

(3 Hours)

[Total Marks: 100

N.BB: 1) Question No. 1 is compulsory

2) Attempt any four questions from remaining six questions

3) Illustrate answers with sketches wherever required and use of pencil should be done for drawing sketches

- 1 (a) Explain in detail DES algorithm with reference to its overview and a DES round [10]
(b) What is hash algorithm. Discuss MD5 and compare it with SHA-1 [10]
 - 2 (a) Explain RSA with suitable example. [10]
(b) What is network security? Explain different types of attacks in network security [10]
 - 3 (a) Explain Diffie Hellman key exchange protocol with a suitable example. How can this mechanism be foiled by an attacker?. [10]
(b) Explain different modes of algorithm with diagram. [10]
 - 4 (a) Explain working of Kerberos. How is Kerberos V5 differ from V4? [10]
(b) What is a firewall? Explain different types of firewall. [10]
 - 5 (a) Explain in detail Email Security [10]
(b) Explain mutual authentication and reflection attack with the help of diagram. [10]
Suggest two methods to fix it.
 - 6 (a) What do you mean by KDC? Explain multiple domain KDC. [10]
(b) What is a digital Certificate? In what circumstances it should be revoked. Explain revocation process [10]
 7. Write short notes on any four [20]
 - a. Biometrics
 - b. Digital Signature
 - c. Vernam Cipher(one-time pad)
 - d. PKIX
 - e. IP Security
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MCA (SEM- IV)
Elective - I
Customer Relationship Management
(OCT-16)

Duration: 3 Hours.

QP CODE : 512501

Total Marks :100

NOTE:(1) Question No. 1 is compulsory

(2) Answer any four questions from Question No.2 to 7

(3) All questions carry equal marks.

1. (A) Explain the role of ASP? What are the advantages and disadvantages of implementing ASP? 10
(B) Explain briefly the CRM technology components? 10
 2. (A) Differentiate between CRM and eCRM and also write the features of eCRM? 10
(B) Explain automated intelligent call routing? 10
 3. (A) What is IVR? What are inbound and outbound IVR?. 10
(B) What is EMA? Explain EMA components? 10
 4. (A) What is Beta test? Why is data import important in Beta test? 10
(B) What is SFA? Why is it necessary in CRM? 10
 5. (A) How does the traditional distribution channel structure support customer relationship? 10
(B) Explain G-Spot? 10
 6. (A) Which are the concepts of web enabling the call center. Explain? 10
(B) What is customer life cycle? Explain? 10
 7. Write Short notes on: Any Four 20
 - (i) Kick off meeting
 - (ii) Automatic call distribution
 - (iii) Customer retention
 - (iv) Logging and Monitoring
 - (V)MIS
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MCA (SEM- IV)
Software Project Management
(OCT-16)

QP CODE : 511802

Max Marks: 100

Time: 3 hrs

N.B. 1.Question 1 is compulsory.

2. Attempt any Four out of remaining six Questions.

3. Answers to questions should be grouped and written together.

4. Draw the diagrams whenever required.

Q1a): What is WBS dictionary? What are the different approaches to develop WBS? Explain Mind Mapping Approach to develop WBS? (10)

Q1 b): What does it mean to take a systems view of a project? Also explain how four frames of organizations help project managers to understand the organizational context for their project. (10)

Q2a): Differentiate Project and Operation. What are the characteristic of a Project? What is the role of a Project Manager? (10)

Q 2b): What are different Project phases? Explain PLC (Project Life Cycle) and how it is matched with traditional Project life cycle? (10)

Q 3a): Explain importance of planning contracting and selecting sellers in project procurement management. (10)

Q3b): What is outsourcing? What are the different types of outsourcing? What are the advantages and disadvantages of it? (10)

Q4a): What is project implementation? Explain all approaches for the project Implementation. (10)

Q4b): What is multicultural project? Explain different challenges in international projects. (10)

Q5 a): What are the different kinds of Risk involved in IT project? Discuss common sources of risk on IT projects. (10)

Q5 b): How do Network Diagrams help in Project Planning? Define predecessor, successor and parallel activities. Give a real world example of each. (10)

Q6 a): What is a project budget? Explain different steps in cost estimation. What are the different types of cost need to be considered in cost estimation?. (10)

Q6 b): What are the different kinds of Organization Structure? Explain Matrix and Product Organization in detail. (10)

Q7: Write short notes on any four--- (20)

(a): Change Management

(b): Types of Contracts

(c): Stakeholder's management.

(d): Factors responsible for project failure.

(e): Importance of ethics in a project.

(f): Administrative closure