

7. (a) What is an Exception ? Explain different types of Exception. 7
(b) How can you manually throw an exception ? What is its importance ? 8

Unit IV

8. (a) Explain about Threa Life-Cycle. 7
(b) What is AWT ? Discuss about AWT controls. 8
9. (a) Explain process of creating single and multiple threads. 8
(b) Explain the life-cycle of an Applet with the help of java program. 7

20BB741

M.C.A. EXAMINATION, 2022

(Second Semester)

(C Scheme) (Main & Re-appear)

(MCA)

MCA102C

**OBJECT ORIENTED PROGRAMMING
USING JAVA**

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all. Q. No. 1 is compulsory. All questions carry equal marks.

1. (a) What is the difference between string and string buffer class ? 3
- (b) What are byte codes and Java virtual machine ? 2
- (c) What class is the top of the AWT event hierarchy ? 2
- (d) Explain shadow and static variable. 2
- (e) What is the difference between applications and applets ? 2
- (f) What do you understand by Escape Sequence ? 2
- (g) Explain the libraries available in Java. 2

Unit I

2. (a) List and explain Java Buzz Words. 7
- (b) Define an Operator. Explain the type of operators in Java with examples. 8
3. (a) Define is a Data Type ? Give the declaration of variable in Java. Give the rules. 8

- (b) Explain the structure of Java. Explain the type of programs in Java. 7

Unit II

4. (a) Explain classes and objects. What are the rules for the classes ? 8
- (b) What is a Constructor ? Classify the types of Constructors in Java. 7
5. (a) Define a Class, method and object. Write the syntax to define these in Java. 8
- (b) Write a java program to illustrate Constructor Overloading. 7

Unit III

6. (a) What is inheritance ? Discuss different types of inheritance in java with example of each type. 8
- (b) What is an interface ? Give the rules to create an interface in java with examples. 7

No. of Printed Pages : 03

Roll No.

20BB742

M.C.A. EXAMINATION, 2022

(Second Semester)

(C Scheme) (Main & Re-appear)

(MCA)

MCA104C

OPERATING SYSTEMS

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all. All questions carry equal marks.

Unit I

1. (a) What is CPU Scheduling ? Why is it needed ? Explain multiple processor scheduling technique in operating systems. 8
- (b) What is system call ? What are various types of it ? Explain. 7
2. Explain working of Distributed operating systems in detail. 15

Unit II

3. (a) What is Thrashing ? Explain with the help of an example. 8
- (b) Explain concept of Segmentation with paging ? What are the pros and cons of it ? 7
4. Explain the following in terms of operating system : 15
 - (a) Demand Paging
 - (b) LRU Page replacement algorithm
 - (c) Logical vs. Physical Address space.

Unit III

5. What are the Semaphores ? With the help of one example show, how Semaphores can resolve the issue of critical section problem ? 15
6. What are various types of directory structures used in operating systems ? Elaborate with pros and cons of each. 15

Unit IV

7. With the help of a suitable example, discuss algorithm for recovery from deadlock situation. 15
8. Write short notes on the following : 15
 - (a) CSCAN
 - (b) Shell Types.

No. of Printed Pages : 03

Roll No.

20BB743

M.C.A. EXAMINATION, 2022

(Second Semester)

(C Scheme) (Main & Re-appear)

MASTER OF COMPUTER APPLICATIONS

MCA106C

Web Technologies

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all. Q. No. 1 is compulsory. All questions carry equal marks.

(1-21/39) M-20BB743

P.T.O.

MCA 106C
C Scheme
Q Paper

(Compulsory Question)

1. (a) What is the role FTP ? 3×5=15
(b) Write features of a mark-up language.
(c) What do you mean by server side technology ?
(d) Define Cookies.
(e) What do you mean by open source CMS.

Unit I

2. Define and explain in brief the following :
 - (a) Web site
 - (b) DNS
 - (c) URL
 - (d) HTTP
 - (e) Search Engine. 3×5=15
3. Write and explain the tags used for handling image in an HTML document. 15

Unit II

4. What is CSS ? Write and explain types of CSS by considering suitable example. 15
5. How forms are created in JavaScript ? Explain password validation and e-Mail validation used in forms. 15

Unit III

6. What are platforms independent language ? Write the importance of these languages. 15
7. Explain the following :
 - (a) Page life-cycle 8
 - (b) Data Adapter. 7

Unit IV

8. Write features and applications of AJAX. 15
9. Write short notes on the following :
 - (a) Database in WordPress 8
 - (b) SOAP. 7

No. of Printed Pages : 03

Roll No.

20BB745

M.C.A. EXAMINATION, 2022

(Second Semester)

(C Scheme) (Main & Re-appear)

(Master of Computer Applications)

MCA154C

**SOFTWARE TESTING AND QUALITY
ASSURANCE**

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all. All questions carry equal marks.

Unit I

1. Discuss the following parts : **5 each**
 - (a) Test selection and adequacy criteria
 - (b) Test effectiveness and objectives of testing
 - (c) Testing for identifying the defects.
2. Answer the following topics : **7.5 each**
 - (a) Theoretical and practical limitations of software testing
 - (b) Level of software testing.

Unit II

3. Discuss various types of software testing techniques based on nature of the artefact to be tested. **15**
4. Describe the following testing types : **5 each**
 - (a) Mutation testing and Higher order mutants
 - (b) Specification based testing
 - (c) Flow based testing.

Unit III

5. Describe and distinguish the following :
 - (a) Software quality management and quality assurance processes **10**
 - (b) Verification and validation processes. **5**
6. Discuss the following topics in software quality context : **5 each**
 - (a) Cultural issues
 - (b) Cost and benefit trade offs
 - (c) Metrics.

Unit IV

7. Describe ISO 9000 series of software quality standards. **15**
8. Discuss various issues involved in : **15**
 - (a) Software quality planning
 - (b) Software quality control.

20BB749

M.C.A. EXAMINATION, 2022

(Second Semester)

(C Scheme) (Main & Re-appear)

MASTER OF COMPUTER APPLICATIONS

MCA164C

Cyber Security

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory. All questions carry equal marks.

1. Attempt all questions :

- (a) What do you mean by proxy server ?
- (b) Differentiate between hacker and user.
- (c) Discuss some IPR issues related to cyber security.
- (d) What is Phishing ?
- (e) Discuss social media marketing.

Unit I

2. What is Cybercrime ? What are the various types of Cybercrime ? Also discuss issues and challenges associated with it.

3. (a) Discuss the components of digital signature.

(b) Define cybertalking. How can we tackle with this crime ?

Unit II

4. Explain the meaning of cyber attack. What are the methods used by attackers for internally penetrating into system ?

5. Discuss the following :

- (a) Key loggers and Spyware
- (b) Security challenges for wireless devices.

Unit III

6. What is Cyber forensic ? What are its applications ? Explain various phases of cyber forensic investigation.

7. Define computer forensic. Discuss the OSI model to computer forensic. Also explain the challenges in computer forensics and forensic auditing.

Unit IV

8. Discuss the Security and privacy implications for cloud computing.

9. Discuss the following :

- (a) Social Computing and associated challenges for organization
- (b) Media and asset protection.