Subject Code: RCAI301

PAPER ID-410011

Roll No: | | | | | | | | | | | | | |

MCA (INTEGRATED)
(SEM III) THEORY EXAMINATION 2021-22
OBJECT ORIENTED PROGRAMMING IN C++

Time: 3 Hours ***Total Marks: 70***

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 7 = 14

a.	Differentiate between meta class and abstract class?
b.	Define generic class and namespace?
c.	Explain Access Modifier?
d.	Define new and delete operator?
e.	WAP for scope resolution operator in C++?
f.	What do you meant by Aggregation and Association?
g.	Define streams in C++?

SECTION B

2. Attempt any *three* of the following: 7 x 3 = 21

a.	Discuss the various concept of OOPs?
b.	Explain constructor and its properties? WAP for parameterized constructor in C++?
c.	Explain Polymorphism? WAP for function overloading in C++?
d.	WAP for multi-level inheritance in C++?
e.	WAP for array of object in C++?

SECTION C

3. Attempt any *one* part of the following: 7 x 1 = 7

(a)	WAP for virtual function in C++?
(b)	WAP for using string function in C++?

4. Attempt any *one* part of the following: 7 x 1 = 7

(a)	WAP for friend function in C++?
(b)	What do you mean by class declaration in C++? Explain Destructor with program?

5. Attempt any *one* part of the following: 7 x 1 = 7

(a)	WAP for unary operator overloading and binary operator overloading in C++?
(b)	WAP for hybrid inheritance in C++?

6. Attempt any *one* part of the following: 7 x 1 = 7

(a)	What do you meant by Constructor Overloading? WAP for constructor overloading in C++?
(b)	WAP for function overriding in C++?

7. Attempt any *one* part of the following: 7 x 1 = 7

(a)	Discuss the concept of Exception Handling with suitable program?
(b)	Explain the various File Handling operation?

PAPER ID-410083

Subject Code: RCAI302

Roll No: | | | | | | | | | | | | | |

MCA(INTEGRATED)
(SEM. III) THEORY EXAMINATION 2021-22
INTRODUCTION TO WEB DESIGNING

Time: 3 Hours ***Total Marks: 70***

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 7 = 14

a.	What do you mean by Hub & Switches?
b.	What is Internet Protocols?
c.	What is homepage?
d.	What is Editor ? Explain different types of editors to create HTML page.
e.	What are the limitations of HTML?
f.	Explain the Marquee Tag with example.
g.	How to set CSS height and width?

SECTION B

2. Attempt any *three* of the following: 7 x 3 = 21

a.	Explain different types of network cables. List out advantages and disadvantages for each of them.
b.	What is Internet? Explain the advantages and disadvantages of internet.
c.	What is tag in HTML? How many types of tags are available in HTML? Also explain List in HTML.
d.	What is Table? Write a code in html for creating a Table with Rowspan and Colspan by taking at least four content.
e.	What is XML? How to create a valid XML document? How does HTML differ from XML? Explain with the help of an example.

SECTION C

3. Attempt any *one* part of the following: 7 x 1 = 7

(a)	What do you mean by term "Topology". Explain the various topology in detailed with suitable diagram.
(b)	What is OSI/ISO model? Explain the several layers of OSI model with proper diagram.

4. Attempt any *one* part of the following: 7 x 1 = 7

(a)	What is Web browser? Explain different types of browser in detail.
(b)	Explain the following protocol : i) Telnet ii) TFTP iii) SMTP iv) HTTP

5. Attempt any *one* part of the following: 7 x 1 = 7

(a)	What is HTML? Explain the features and structure of HTML with example.
(b)	What do you mean by Form in HTML? Write a code in html for creating a form of University Enrolment.

6. Attempt any *one* part of the following: 7 x 1 = 7

(a)	What do you mean by Frames and how to create a Column & Row frame in HTML explain with example.
(b)	What is Hyperlink? Write a code in HTML by linking one page to another.

7. Attempt any *one* part of the following: 7 x 1 = 7

(a)	What is DHTML? Explain its advantages and disadvantages.
(b)	What is CSS? What are the different ways to apply CSS to HTML? Give some examples.

PAPER ID-410265

Roll No: | | | | | | | | | | | | | |

MCA (INTEGRATED)
(SEM III) THEORY EXAMINATION 2021-22
ACCOUNTING AND FINANCIAL MANAGEMENT

Time: 3 Hours ***Total Marks: 70***

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 7 = 14

a.	Explain the term "Accounting".
b.	Explain the concept of Journal Folio.
c.	Explain the concept of Current Assets.
d.	What is a Trial balance?
e.	What do you mean by liquidity ratios.
f.	List out the causes for charging depreciation.
g.	What do you mean by flow of funds?

SECTION B

2. Attempt any *three* of the following: 7 x 3 = 21

a.	What do you mean by journal? Clearly Explain the basic thumb rules for journalizing the transactions.
b.	Clearly discuss the steps for preparing Schedule of working capital changes.
c.	What do you mean by depreciation? Clearly Explain various uniform charges methods of charging depreciation.
d.	Clearly discuss the concept of classification of ratios.
e.	What is fund flow Analysis? How it differs from Cash Flow analysis? Clearly discuss.

SECTION C

3. Attempt any *one* part of the following: 7 x 1 = 7

(a)	Clearly discuss various Accounting concepts.
(b)	What do you mean by accounting standards? What are the objectives for establishing accounting standards.

4. Attempt any *one* part of the following: 7 x 1 = 7

(a)	Clearly discuss various declining charges methods for charging depreciation with examples.
(b)	Clearly discuss the concept of Common Size Statement and Trend Analysis.

5. Attempt any *one* part of the following: 7 x 1 = 7

(a)	Clearly draw the format of Final Accounts.
(b)	Clearly discuss the Procedure for computing "Fund From operations".

6. Attempt any *one* part of the following: 7 x 1 = 7

(a)	Clearly draw the format of "Cash Flow Statement" as per AS-3.
(b)	Journalize the following Transactions. April 1 Purchased goods for cash from Rajesh Rs. 15,000 April 2 Purchased furniture from Manav Rs. 1000 April 5 Goods sold Rs. 5000 April 6 Goods sold to Vikas on credit Rs. 6000 April 10 Purchased goods from Prafulla Rs. 12,000 April 14 Goods returned to Prafulla Rs.3000 April 18 Goods withdraw for personal use Rs. 2000 April 30 Received from Vikas infull settltment Rs. 5700

7. Attempt any *one* part of the following: 7 x 1 = 7

(a)	Rajesh & Co. Ltd. Purchased a plant on 1st January 2001 for Rs. 5,40,000. The useful life was estimated 10 years with a salvage value of Rs. 45,000. Calculate the amount of depreciation for each year by sum of year's digits method.
(b)	Clearly Explain the treatment for any five adjustment entries in relation to the preparation of Final Account.

Subject Code: RCAI304

PAPER ID-410771

Roll No: | | | | | | | | | | | | | |

MCA (INTEGRATED)
(SEM III) THEORY EXAMINATION 2021-22
INFORMATION SYSTEMS

Time: 3 Hours ***Total Marks: 70***

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 7 = 14

a.	What do you mean by Systems Approach?
b.	What are different Management functions?
c.	Differentiate between MIS and DSS.
d.	"Computer based information system is another name for MIS". Justify
e.	How Structured decisions differ from Unstructured decisions?
f.	What do you mean by Electronic Data Interchange?
g.	What do you mean by Strategic Information Systems?

SECTION B

2. Attempt any *three* of the following: 7 x 3 = 21

a.	Explain how an Information System supports business Organizations.
b.	Discuss the various components and framework for understanding MIS.
c.	What is the role of information in decision making? Discuss the four stages of decision making?
d.	Describe the Enterprise resource planning (ERP)?
e.	How can companies use Internet technology for Supply chain management?

SECTION C

3. Attempt any *one* part of the following: 7 x 1 = 7

(a)	Describe the Emerging concepts and issues in information system.
(b)	What are three levels of management and outline the objectives each level of management.

4. Attempt any *one* part of the following: 7 x 1 = 7

(a)	Describe the concept of Managerial Control. What are the benefits of an effective Managerial Control System?
(b)	What is understood by term MIS? Discuss various activities performed by MIS in an organization.

5. Attempt any *one* part of the following: 7 x 1 = 7

(a)	Describe the Role of Information Systems in Business.
(b)	How Decision Support System (DSS) helps in taking right decision? Explain with example.

6. Attempt any *one* part of the following: 7 x 1 = 7

(a)	Explain in detail the various categories of E-Commerce with suitable example.
(b)	How the Strategic Necessary for organization. Explain it

7. Attempt any *one* part of the following: 7 x 1 = 7

(a)	What is Supply Chain Management? How do information systems facilitate supply chain management?
(b)	What do you mean by Business Process Reengineering?

PAPER ID-410505

Subject Code: RAS307

Roll No: 2 0 0 0 0 5 0 0 6 0 0 5 4

MCA (INTEGRATED)
(SEM. III) THEORY EXAMINATION 2021-22
APPLIED LINEAR ALGEBRA

Time: 3 Hours *Total Marks: 70*

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. **Attempt *all* questions in brief.** **2 x 7 = 14**

a.	Define Integral Domain.
b.	What do you mean by Linear Combination of vectors ?
c.	Write down the Standard Basis of Vector space R^3.
d.	Define the Range and Nullity of Linear Transformation.
e.	What do you mean by Null space Linear Transformation?
f.	Define Inner product space.
g.	What do you mean by Linear functional of vector space?

SECTION B

2. **Attempt any *three* of the following:** **7 x 3 = 21**

a.	Prove that the set of integers under addition and multiplication is a commutative ring with unity.
b.	Show the mapping $T: R^2 \rightarrow R^3$ defined by $T(x,y) = (x+y, x-y, x)$ is a linear Transformation of the vector space $R^2(R)$ *into* $R^3(R)$
c.	If $T: R^3 \rightarrow R^3$ be a linear transformation defined by $T(x,y,z) = (3x, x-y, 2x+y+z)\ \forall\ x,y,z \in R$. Then prve that: T is invertible .
d.	If x *and* y are vectors in a real inner product space and if $\|x\| = \|y\|$ then prove that $x+y$ *and* $x-y$ are orthogonal.
e.	If $U(F)$ be a vector space over F and $T: U \rightarrow F$ defined as: $T(\alpha) = 0,\ \forall\ \alpha \in V$, then show that T is a linear functional. IF $B = \{(2, 1), (3, 1)\}$ is a basis of $R^2(R)$, Then find the Dual basis of B.

SECTION C

3. **Attempt any *one* part of the following:** **7 x 1 = 7**

(a)	Show that the set of vectors $\{(1,2,-3), (1,-3,2), (2,-1,5)\}$ in $V_3(R)$ are linearly independent.
(b)	Prove that : The Union of two subspaces is a subspace if and only if one is contained in the other.

4. **Attempt any *one* part of the following:** **7 x 1 = 7**

(a)	If $T: U \rightarrow V$ is linear transformation from the vector space $U(F)$ to the vector space $V(F)$, then prove that: i) $T(-\alpha) = -T(\alpha), \alpha \in U$ ii) $T(\alpha - \beta) = T(\alpha) - T(\beta), \forall\ \alpha, \beta \in U$
(b)	Find the Matrix representation of the linear transformation $T: R^3 \rightarrow R^3$ defined by $T(x,y,z) = (2x+z, x-4y, 3x)$, with respect to the basis $B = \{(1,1,1), (1,1,0)(1,0,0)\}$.

Roll No: 2 0 0 0 0 5 0 0 6 0 0 5 4

5. **Attempt any *one* part of the following:** 7 x 1 = 7

(a)	If $T: R^2 \rightarrow R^2$ and $S: R^2 \rightarrow R^2$ are two Linear transformations defined by: $T(x_1, x_2) = (x_1 + x_2, 0)$ and $S(x_1, x_2) = (2x_1, 3x_1 + 4x_2)$ then determine the Linerat transformation $3S + 7T$.
(b)	If T is an Invertible linear transformation on a vector space $V(F)$. Then Prove that T possesses unique inverse.

6. **Attempt any *one* part of the following:** 7 x 1 = 7

(a)	If u, v *are vectors in an inner product space and* $u, v \in V(F)$, then prove that: $\|u+v\|^2 = \|u\|^2 + \|v\|^2$, u *and* v are orthogonal.
(b)	If $\alpha = (x_1, y_1)$, $\beta = (x_2, y_2) \in V_2(R)$ *defined by* $\langle \alpha \mid \beta \rangle = (x_1 y_1 - x_2 y_1 - x_1 y_2 + 4x_2 y_2)$, then prove that $V_2(R)$ is an inner product space with the inner product $\langle \alpha \mid \beta \rangle$.

7. **Attempt any *one* part of the following:** 7 x 1 = 7

(a)	Find the eigen values and eigin vectors of matrix $\begin{bmatrix} 3 & 4 \\ 4 & -3 \end{bmatrix}$.
(b)	What do you mean by Dual space? Let V be finite dimensional vector space over the field F, then prove that: If $dim\ V^* = \dim V$