

LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

(An Autonomous and Re-Accredited with 'A' Grade by NAAC)
M.C.A II Semester Supply Examinations, January - 2016

Subject : Data Structure Using C++
Sub. Code : MCA 10204

Exam Time : 3 hrs
Max. Marks : 100

(5*20=100M)

Answer the following Questions:

UNIT -I

(10+10)

1. (a) Explain linked list operations.
(b) Discuss about doubly linked list with an example.

(Or)

(20)

2. Write a program to implement circular linked list.

UNIT-II

(10+10)

3. (a) Discuss about sparse Matrices.
(b) Write a C++ program for stack operations.

(Or)

(5+15)

4. (a) What are the applications of stacks.
(b) Write a C++ program for queue operations.

UNIT-III

(20)

5. Write a C++ program for implementing Binary Tree Traversal.
(Or)

(10+10)

6. (a) Explain the operations on AVL Trees.
(b) Explain the operation on B-Trees.

(Or)

(8+12)

UNIT-IV

(5+15)

7. (a) Explain Hashing
(b) Explain Selection sort with example.

(Or)

8. (a) Explain Heap sort with example.
(b) Write a C++ program for Binary Search

(Or)

(8+12)

UNIT-V

(20)

9. Explain Graph Traversals with an example.

(Or)

10. Explain the applications of graphs with an example.

(20)

LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

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MCA (II semester) supplementary Examination, January 2016

**Subject : Accounting & Financial Management
Sub. Code : MCA 10201**

**Exam Time : 3 hrs
Max. Marks : 100**

Answer the following questions

5 x 20M = 100M

UNIT - I

1. Explain principles & functions of Accounting.

(OR)

2. Pass journal entries with the following information. Also prepare ledger accounts and trial balance.

Date	Particulars	Amount in Rs
2007 Jan 1	Pandu started business with cash	20,000
Jan 3	He opened a current account in the bank	5,000
Jan 7	Purchased goods on credit from Shakuni.	4,000
Jan 10	Paid to Shakuni in full settlement	3,900
Jan 13	Machinery purchased	2,000
Jan 16	Goods sold to Bharath	3,000
Jan 18	Amount received from Bharath	1,000
Jan 20	Salaries paid	700
Jan 23	Rent received	300
Jan 28	Goods purchased from Srikanth	4,000
Jan 31	Interest on capital @ 10% for the month.	
Jan 31	Depreciation on machinery	100

UNIT - II

3. How will you prepare P&L and Balance Sheet?

(OR)

4. Prepare Trading, P&L A/c and Balance sheet as on 31-03-2015.

Particulars	Debit	Credit
Opening Stock	15000	
Sales	65000	
Salaries	93500	
Purchase		91500
Capital	3500	
Drawings	65000	
Plant and Machinery		36950
Creditors		
Buildings	150000	
Cash in Hand	5300	
Cash at Bank	15700	
Debtors	35000	
Insurance	1000	
Wages	30000	
Vehicles	50000	
Bills Payable		25000
Furniture & Fixtures	11450	
Loan from Bank		100000
Carriage Inwards	2000	
Carriage Outwards	1000	
Rent, Rates and Taxes	2500	
Returns	5000	2500
Total	550950	550950

Make the following adjustments:

1. Closing Stock for the year Rs.16500
2. Provide Depreciation on Buildings, Plant and Machinery, Vehicles and Furniture & Fixtures @ 5%, 15%, 20% and 10% respectively.
3. Make Provision for Bad Debts @ 2.5%
4. Prepaid Insurance Rs.150 and Salaries Payable Rs.4000 wages paid in advance Rs.2500

UNIT - III

5. Given the balance sheet of Royal ltd. for the year 2015.

Liabilities	Amount (Rs.)	Assets	Amount (Rs.)
Eq. Share capital	4,50,000	Land & Building	5,00,000
10% debentures	2,00,000	Plant & machinery	3,00,000
Long term loan	4,00,000	Stock	1,50,000
Sundry creditors	75,000	Sundry debtors	1,80,000
Bank overdraft	1,00,000	Cash on hand	18,000
Outstanding expenses	25,000	Cash at bank	1,00,000
	12,50,000	Prepaid expenses	2,000
Additional information: Sales 5,00,000 & Purchases 3,00,000			12,50,000

From the information given above, calculate

- | | | |
|------------------------------|----------------------------|------------------------------|
| (a) Current Ratio | (b) Acid test ratio | (c) Absolute liquid ratio |
| (d) Inventory turnover ratio | (e) Debtors turnover ratio | (f) Creditors turnover ratio |

8. A Firm is considering two mutually exclusive projects X and Y. The details are as follows.

	<u>Project X</u>	<u>Project Y</u>
Investment	Rs.50,000	Rs.50,000
Life	5 years	5 years

Cost of capital is 10 % Cash flows after taxes (CFAT) are as follows

Year	1	2	3	4	5
Project-X	20,000	22,000	28,000	25,000	30,000
Project-Y	30,000	27,000	22,000	25,000	20,000

(i) Calculate the NPV and IRR of each project.(ii) State with reasons which project you would recommend.

UNIT-V

9. Define the term budget. Explain various budgets.

(OR)

10. A department of Company X attains sales of Rs.8,00,000 at 60% of its normal capacity and its expenses are given below:

Administration Costs (Fixed) :

Office Salaries	Rs.90,000
General Expenses	2 per cent of sales
Depreciation	7,500
Rates and Taxes	8,750

Selling Costs :

Salaries	8 per cent of sales
Travelling Expenses	2 per cent of sales
Sales Office	1 per cent of sales
General Expenses	1 per cent of sales

Distribution Costs:

Wages (fixed)	15,000
Rent	1 per cent of sales
Other expenses	4 per cent of sales

Draw up flexible administration, selling and distribution costs budget, operating at 90 per cent, 100 per cent of normal capacity.

LOYOLA ACADEMYDEGREE & PGCOLLEGE, OLD ALWAL
 (An Autonomous and Accredited with 'A' Grade by NAAC)
 MCA (II semester) Examinations, July 2016

Subject : Accounting & Financial Management
Sub. Code : MCA 13201

Exam Time : 3 hrs
Max. Marks : 100

Answer the following questions

5 x 20M = 100M

UNIT-I

1. Explain in detail about accounting concepts and conventions.
- (OR)
2. Journalize the following entries in the books of Ashok traders for the year ending 31st December 2015. Post them into ledger and prepare trial balance for the same.

Dec 1	Commenced Business with a Capital of	Rs.50000
Dec 3	Paid into Bank	Rs.20000
Dec 6	Bought Goods from Kiran	Rs. 3000
Dec 12	Cash Sales	Rs. 2000
Dec 15	Paid to Kiran in full Settlement	Rs. 2850
Dec 16	Sold Goods to Vikas on Credit	Rs. 5000
Dec 18	Rent Paid	Rs. 1000
Dec 20	Received from Vikas Rs.4900 and discount allowed to him	Rs. 100
Dec 21	Commission Received	Rs. 500

UNIT-II

3. From the following trial balance of Mr. Ramesh prepare trading account profit and loss account and balance sheet for the year ending 31.3.201.

Particulars	Debit amount	Particulars	Credit amount
Purchases	25200	Sales	61200
Furniture	1600	Capital	35000
Wages	3500	Purchase returns	200
Machinery	20000	Creditors	4400
Opening stock	18000	Bank overdraft	3000
Sales returns	1200	Bills payable	2000
Debtors	10000		
Carriage on purchases	200		
Salaries	10600		
Carriage on sales	500		
Rent and taxes	2000		
Cash	8000		
Drawings	5000		
Total	105800	Total	105800

P.T.O

Adjustments:

- Closing stock Rs. 16800
- Outstanding salaries Rs. 400
- Prepaid rent 200
- Write off bad debts Rs.400
- Depreciation on machinery by 10%

(OR)

4. Write about the importance of financial statements. Explain them with the help of Performa and explain how adjustments are treated.

UNIT-III

5. From the given data calculate :

- | | |
|------------------------------|--------------------------------|
| (i) Gross Profit Ratio | (ii) Net Profit Ratio |
| (iii) Current Ratio | (iv) Quick Ratio |
| (v) Absolute Liquid Ratio | (vi) Inventory Turnover Ratio |
| (vii) Debtors turnover Ratio | (viii) Creditor Turnover Ratio |

Sales	25,20,000
Credit Purchases	16,00,000
Cost of sale	19,20,000
Net profit	3,60,000
Net worth	15,00,000
Debt.	9,00,000
Creditors	4,00,000
Other Current Liabilities	2,00,000
Fixed Assets	14,40,000
Inventory	8,00,000
Debtors	5,00,000
Cash	2,60,000

(OR)

6. Define funds flow statement and list down the steps involved in making funds flow statement.

UNIT-IV

7. Explain in detail about discounting and non-discounting techniques of capital budgeting.

(OR)

8. ManasaPvt. Ltd is considering two mutually exclusive project A and B .The required rate of return is 10%. The investment involved in both the project is Rs. 1Lakh each. The details of cash flow after tax are as follows:

Year	Project - A	Project - B
1	20000	30000
2	22000	25000
3	24000	25000
4	26000	20000
5	28000	20000

Calculate the NPV and IRR of each project and state the reasons which project you would recommend.

Cont..

UNIT-V

9. Write a brief note on

a. CVP Analysis

b. Variable costing and Absorption Costing

(OR)

10. The cost of an article at the capacity level of 5,000 units is given under A below. For a variation of 25 per cent in capacity above or below this level, the individual expenses vary as indicated under B below:

Particulars	Amount (Rs.)	B (per cent)
Material cost	25,000	100 (variable)
Labour cost	15,000	100 (variable)
Power	1,250	80 (semi-variable)
Repairs and maintenance	2,000	75 (semi-variable)
Stores	1,000	100 (variable)
Inspection	500	20 (semi-variable)
Administration overheads	5,000	25 (semi-variable)
Selling overheads	3,000	50 (semi-variable)
Depreciation	10,000	100 (fixed)
Total	62,750	
Cost per unit	12.55	

Prepare the production cost budget at 4,000 units and 6,000 units.

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M.C.A II Semester Examination, July - 2016

**Subject : Principles of Object Orient Prog Using Java Exam Time : 3 hrs
Sub. Code : MCA 10202 Max. Marks : 100**

Answer the Following questions

(5*20M=100M)

UNIT-I

1. a) What is the difference between Java platform and other platforms. (10M)
b) Describe scope and life time of variables. (10M)
- (OR)
2. a) What is difference between static method and instance method. (10M)
b) Explain interfaces. (10M)

UNIT-II

3. Explain about string concept write a java program using string. (20M)
- (OR)
4. Explain reading and writing files with example. (20M)

UNIT-III

5. Explain :
 - a) Legacy classes and interfaces
 - b) Collection classes
 - c) Comparators
 - d) Timer
- (OR)
6. Briefly explain about collections (20M)

UNIT-IV

7. Explain character streams with example (20M)
- (OR)
8. Define java I/O classes and interfaces write a java program using interfaces. (20M)

UNIT-V

9. Explain :
 - a) Menus
 - b) Effective use of nested panels
 - c) GUI components
 - d) Event listeners
- (OR)
10. What is an applet? Write advantages and disadvantages of an applet.
write a java program using applet. (20M)

LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL
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M.C.A II Semester Examination, July - 2016

Subject : Management Information Systems
Sub. Code : MCA 10203

Exam Time : 3 hrs
Max. Marks : 100

Answer the following questions:

(5*20=100M)

UNIT-I

1. Explain different levels of MIS.
- (Or)
2. b) Define System, Sub system and system boundaries.
- c) Distinguish between efficiency and effectiveness.

UNIT-II

3. Explain accounts and finance Information system and production Information System at Operational level.
- (Or)
4. Explain HRIS and Marketing Information system at Tactical and Strategic level.

UNIT-III

5. Explain BSP and Cost –benefit analysis.
- (Or)
6. Explain about Prot folio approach to project Management.

UNIT-IV

7. Explain components, benefits and risks in DSS.
- (Or)
8. a) Explain the models for GDSS.
- b) Explain the role of knowledge work in the organizations.

UNIT-V

9. a) Explain the Ethical issues of Information system.
- b) Define the terms Risks and Vulnerability.
- (Or)
10. What are the common threats and common controls for DBMS.

LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

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M.C.A II Semester Examination, July - 2016

**Subject : Data Structures Using C++
Sub. Code : MCA 10204**

**Exam Time : 3 hrs
Max. Marks : 100**

Answer the following questions:

(5*20=100M)

UNIT-I

1. (a) Define Linear list class with the following member function definitions.
(i) Insert an element at Kth position.
(ii) Find an element present at Kth position
(iii) Search for a given element.
(b) Briefly discuss about double linked lists.
- (Or)
2. (a) Write a program to implement all the operations on linked list.
(b) What are the properties of linked lists?

UNIT-II

3. (a) Discuss in detail about special matrices.
(b) Define queue and list the applications of queue.
- (Or)
4. (a) Write a program to perform all operations on a linked queue.
(b) Discuss about sparse matrices.

UNIT-III

5. (a) Write a program to perform the following operations on Binary tree.
(i) Insert an element.
(ii) In order, pre order & post order traversals.
(iii) Height of the Binary tree
(iv) Count the no: of nodes in a Binary tree.
(b) Briefly explain about B-trees.
- (Or)
6. (a) Explain about LL and LR Rotations of AVL tree insertion with examples.
(b) Write notes on binary search tree.

UNIT-IV

7. (a) Write about the complexity analysis of searching algorithms.
(b) Discuss about Hashing and its techniques.
- (Or)
8. (a) Write a program to perform Heap Sort.
(b) Explain about Binary search techniques with examples.

UNIT-V

9. (a) Define Graph. Explain various graph representations.
(b) Write notes on applications of graphs.
- (Or)
10. (a) Discuss about Minimal spanning tree algorithms.
(b) Explain about DFS with example.

LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

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MCA II semester Supply Examinations, Nov/ Dec - 2016

**Subject : Principles of Object Oriented Prog using Java
Code : MCA10202**

**Exam Time : 3hrs
Max.Marks : 100**

Answer the following questions:

(5*20=100M)

UNIT-I

- 1. Explain the basic concepts of Object – oriented programming? (20M)**
- 2. Explain Java operators? Write a program in java using operators? (20M)**

UNIT-II

- 3. Explain exceptional handling? Write a java program using exceptional handling? (20M)**
- 4. Explain multithreading with example? (20M)**

UNIT-III

- 5. Explain Iterators and random access interface? (20M)**
- 6. Explain java Maps? Write a program in java using maps? (20M)**

UNIT-IV

- 7. What is a Stream? How is the concepts of streams using in java? (20M)**
- 8. Describe in detail about serialization with example? (20M)**

UNIT-V

- 9. What is an applet? Explain the applet life cycle with an example? (20M)**
- 10. Explain events classes and event listener? (20M)**

LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

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M.C.A II Semester Supply Examinations, January - 2016

**Subject : Computer Architecture
Sub. Code : MCA 13205**

**Exam Time : 3 hrs
Max. Marks : 100**

Answer the following Questions:

(5*20=100M)

UNIT -I

1. (a) Discuss about Digital computers and logic gates.
(b) Discuss about Flip-Flops.
2. (a) Explain about Multiplexers.
(b) Define register and discuss about types of registers.

(Or)

3. (a) Discuss about Arithmetic micro operations.
(b) Discuss about register transfer.
4. (a) Discuss about Instruction cycle.
(b) Explain Memory reference instructions.

(Or)

5. What is an assembler? Explain about first pass and second pass of assemblers with the help of flow charts.
6. (a) Discuss about design of control unit.
(b) Write an assembly language program to subtract two numbers.

UNIT-III

7. (a) Discuss about Instruction formats.
(b) Discuss about stack organization.
8. (a) Explain the Booth's multiplication algorithm with an example.
(b) Explain about Instruction pipeline.

(Or)

9. (a) Explain about Input -Output processor.
(b) Define DMA? Explain about DMA transfer with the help of block diagram.
10. (a) Discuss about Memory Hierarchy.
(b) Discuss about main memory.

(Or)

LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

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MCA (II semester) Supply Examinations, Nov/ Dec - 2016

Subject : Management Information System

Exam Time : 3hrs

Code : MCA10203

Max.Marks : 100

Answer the following Questions:

(5*20 = 100M)

UNIT-I

1. (a) Explain different levels of MIS. (08M)
(b) What is Reengineering? What are the principles of Reengineering. (12M)
(Or)
2. (a) What are the five steps in Redesigning business processes. (10M)
(b) What are the five competitive forces that IT can address at firm level. 10M)

UNIT-II

3. Explain Accounting and Financial Information Systems and Production Information System at Operational level. (20M)
(Or)
4. Explain HRIS at Tactical and Strategic level. (20M)

UNIT-III

5. (a) Briefly explain about BSP and CSF. (10M)
(b) Explain about portfolio approach to Project Management. (10M)
(Or)
6. (a) Explain about Cost Benefit Analysis of Information System (10M)
(b) Explain about End/Mean Analysis. (10M)

UNIT-IV

7. (a) Explain about the Development , Benefits and Risks of Decision Support System. (12M)
(b) Explain about Executive Support System. (8M)
(Or)
8. (a) Briefly explain the role of knowledge work in the organization. (10M)
(b) Explain about Group Decision Support System (GDSS) (10M)

UNIT-V

9. (a) Explain about organization of Data Processing. (10M)
(b) Explain about Common Controls. (10M)
(Or)
10. Explain about Common Threats to Information System. (20M)

LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

(An Autonomous and Reaccredited with 'A' Grade by NAAC)

MCA (II semester) Examination, July- 2016

Subject : Computer Architecture
Sub Code : MCA 10205

Exam Time: 3 hrs
Max. Marks: 100

Answer all questions:

UNIT-I

1. a) Explain various Flip-Flops and construct 4 bit shift register using flip-flop (10M)
b) Simplify the Boolean Function using 3variable K-Map $f(x,y,z)=\sum(1,2,3,6,7)$ (10M)
(Or)
2. a) What is register?Draw the logic diagram of 4-bit register with parallel load (10M)
b) Explain about Registers (10M)

UNIT-II

3. a) Discuss about Bus and Memory Transfers. (10M)
b) Discuss about Logic microoperations. (10M)
(Or)
4. a) What is instruction cycle?Draw the flow chart for instruction cycle and Explain. (10M)
b) Explain the functions of the Timing and Control circuits in a computer (10M)

UNIT-III

5. a) Discuss about the Assembler. (10M)
b) Explain about programming Arithmetic and Logic operations (10M)
(Or)
- 6.a) What is control memory?Explain about Address Sequencing (10M)
b) Explain about micro programmed control (10M)

UNIT-IV

7. a) Explain about Instruction Formats. (10M)
b) Discuss about General register organization. (10M)
(Or)
8. a) Explain Booth's multiplication algorithm with an example. (10M)
b) Explain about Floating – Point Arithmetic Operations (10M)

(P.T.O)

UNIT-V

9. What is the Difference between isolated I/O and memory – mapped I/O? What are the advantages and disadvantages of each? **(20M)**
- (Or)**
- 10 .a) What is cache memory? Explain Different Mapping Procedures used in the organization of cache memory. **(12M)**
- b) Discuss about memory Hierarchy **(8M)**

LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

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MCA (II semester) Supply Examinations, November - 2016

Subject : Computer Architecture
Code : MCA10205

Exam Time : 3hrs

Max.Marks : 100

Answer all questions:

(5*20=100M)

UNIT-I

1. a) Simplify the Boolean function using 4-variable K-Map $F(A,B,C,D)=\sum(4,6,7,15)$ (10M)
b) Explain the design of Half – Adder (10M)
- (Or)
2. a) Explain about Memory unit (10M)
b) Convert the following decimal numbers to the bases indicated (6M)
(i) 7652 to octal (ii) 1938 to hexadecimal (iii) 172 to binary
c) Convert the hexadecimal number F3A7C2 to binary and octal. (4M)

UNIT-II

3. a) Discuss about logic Micro operations. (10M)
b) Discuss about logic Arithmetic Micro operations. (10M)
- (Or)
4. a) Explain about computer Register. (10M)
b) Explain about Design of Basic Computers (10M)

UNIT-III

5. Explain Programming Arithematic and Logic Operations. (20M)
- (Or)
6. a) Explain about designing control unit. (10M)
b) Explain about Assembly language program to add two numbers. (10M)

UNIT-IV

7. a) What are addressing modes? Explain with examples. (10M)
b) Explain differences between RISC and CISC computers. (10M)
- (Or)
8. a) Explain Booth's multiplication algorithm with example. (10M)
b) Explain hard ware implementation for signed magnitude Data division Algorithm (10M)

UNIT-V

9. a) What is cache memory? Explain about mapping techniques. (10M)
b) Explain interrupt initiated I/O and also explain daisy chaining priority establishment. (10M)
- (Or)
10. a) Discuss about virtual memory. (10M)
b) Discuss about Memory Hierarchy. (10M)

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M.C.A & M.B.A II Semester Examination, July - 2016

Subject : Value Education

Exam Time : 3 hrs

Sub. Code : MCA 10206/MB 208

Max. Marks : 100

PART-A

I Answer the following:

(5*16=80M)

UNIT-I

- 1) Explain 'Ethical Reflection'. Analyse the ethical reflection involved in the given case.

House Wife hangs self:

Hyderabad: - A 30 year old woman committed suicide allegedly due to harassment by her husband at their house in Srinagar. The deceased identified as Afreen, 30, was the wife of Mohammed Ayub. Police said the couple had frequent disputes. Late on Tuesday Afreen hanged herself. Based on a complaint, cops booked a case of dowry harassment and abetment to suicide.

(Or)

- 2) Explain how ethics is a way for harmonious society.

UNIT-II

- 3) What is prayer? Explain the two types of prayer. Discuss the importance of prayer in your personal life and also explain your Good experience with the help of a personal example.

(Or)

- 4) Discuss arranged marriages and love marriages . What do you prefer and why?

UNIT-III

- 5) What is true -society? Does the Indian society have any resemblance of the true society? Discuss the four symptoms – social desire, social fear, social silence and social indifference – in the context of Indian society.

(Or)

- 6) What is meant by concern? Explain the three demands given in the text to how and why one should have concern? Narrate a personal incident where in you showed concern towards other person.

UNIT-IV

- 7) Differentiate the characteristics of people with high self- esteem and low self-esteem.

(Or)

- 8) List any five characteristics of a weak personality . Suggest the ways to eliminate them.

UNIT-V

- 9) What are the three components of a good relationship? Explain.

(Or)

- 10) Explain various external stressors and external stressors among students.

PART-B

II Answer the following:

(4*5=20M)

- 1) Explain Love and its components.

- 2) What are the characteristics of goals?

- 3) What is prayer? Explain its two types of prayer.

- 4) Define 'accepted norms' and 'counter norms' with examples.