

PART-A

I Complete the sentences with the correct form of the verb given in brackets: - (10M)

1. Yesterday our teacher _____ five minutes late. (arrive)
2. Our newspaper _____ by over 1 million people every day. (read)
3. Last night I was watching an interesting programme. But it _____ by power failure. (interrupt)
4. Is this your book? No, it _____ to Louise. (belong)
5. Do you know that the 'h' in "honourable" _____ (pronounce, not)
6. A bad accident _____ on Vijayawada highway early morning today. (happen)
7. Yesterday I _____ about Vijay's driving test failure. (hear)
8. I _____ by the news. (surprise)
9. A new apartment _____ next to ours, which _____ our apartment dark. (build, make)

II Correct the following sentences: - (10M)

1. Pawan is resembling his father.
2. I was working in the company for five years.
3. Ram has seen the movie yesterday.
4. How long are you here?
5. I have a news for you.
6. What you want to do after dinner?
7. My children go to the school everyday.
8. One of my teachers are from IIT, Kanpur.
9. They came here by foot.
10. She enjoys to listen to music.

(P.T.O)

PART-B

(5*16=80M)

I Answer any five of the following:-

1. What is Oral Communication. Write its Merits & Demerits.
2. Discuss the various barriers to Communiiction.
3. Draft a covering letter with a resume for the position of 'Java' programmer at WIPRO, Gachi Bowli, Hyderabad-500022.
4. Write an essay on "Hereditary in Politics in India -Pros & Cons".
5. Write a report on "Installation of Air conditioners and Computers" in your office.
6. Explain the following idioms
 - (a) To bury the hatchet.
 - (b) Bone of contention
 - (c) Every cloud has a silver lining

LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

(An Autonomous and Affiliated to Osmania University)

M.C.A I Semester Final Examinations, December - 2018

Subject: Probability & Statistics
Sub Code: MCA16102

Exam Time: 3 hrs
Max Marks: 100 M

Answer any one from each unit: (5* 20 = 100 M)

UNIT-I

1. What is data? Write in detail about primary and secondary data collection. (20M)

(Or)

2. (a) What is classification of data? What are the objectives of classification of data?
Mention the types of classification. (15M)

(b) Represent the following data using the multiple bar diagram. (5M)

Category	Shop A	Shop B
A	4	50
B	50	0
C	75	700
D	50	3000
E	10000	17000

UNIT-II

3. (a) Write a note on measures of dispersion (10M)

(b) Define Mean, Median and Mode. (4 M)

(c) According to a Statistics institute, the crude oil prices (in dollars) for each month of the year in 2017 were as follows, rounded to the nearest hundredth of a decimal:

1.30, 1.37, 1.54, 1.51, 1.50, 1.62, 1.59, 1.51, 1.58, 1.56, 1.56, 1.49.

Compute mean median and mode for the prices. (6 M)

(Or)

4. (a) Explain the term random variable differentiate between discrete and continuous random variable. (6M)

(b) Explain about the expected value of a random variable along with its properties. (8 M)

(c) The monthly demand for transistors is known to have the following probability distribution. Determine the expected demand for transistors. Also obtain the variance. (6 M)

Demand	1	2	3	4	5	6
Probability	0.10	0.15	0.20	0.25	0.18	0.12

(P.T.O)

UNIT-III

5. (a) Are coefficient of correlation and coefficient of regression related? Explain about the properties of correlation coefficient and regression coefficient (10M)
 (b) In an IQ test was administered to five persons before and after they were trained. The results are given below. Test if the training was efficient using paired t test. (10 M)

Candidates	I	II	III	IV	V
I Q. Before training	110	120	123	132	125
IQ after training	120	118	125	136	121

(Or)

(8M)

6. (a) List down the steps in Hypothesis testing.
 (b) Genetic theory states that children having one parent of blood group M. and other of blood group N. will always be one of the three types, that is M., MN or N. The proportion of these three types theoretically is in the ratio 1:2:1. A survey of 300 children of one parent M. and the other parent N has 30 percent of type M. 45 percent of type MN and the remaining of type N. Test the goodness of fit at 5 % level of significance. (12M)

UNIT-IV

7. (a) State and Prove Additional theorem of Probability for n events. (10M)
 (b) State and Prove Multiplication theorem of Probability for n events. (10 M)
 (Or)
8. (a) write a detailed notes on Poisson distribution and its properties (12M)
 (b) In a certain town, males and females each account for 50% of the population. It is known that 20% of the males and 5% of the females are unemployed. A research student studying the employment situation selects an unemployed person at random. What is the probability that the person selected is
 (i) A Male (ii) A Female (8M)

UNIT-V

9. (a) Define Normal Distribution. List down its characteristics (14M)
 (b) In a factory of 15000 workers if the salary of workers is assumed to follow a Normal distribution with a mean of Rs. 500 and a Standard Deviation of Rs.100, find Number of workers whose salary vary:
 - between Rs. 400 and Rs. 650,
 - Less than 400
 - Greater than 650
 (6M)
10. (a) Find the first four non-central moments of Rectangular distribution. (10M)
 (b) What is beta distribution Find the mean and variance of Beat distribution of First kind. (10M)

(Or)

(6M)

(10M)

(10M)

LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

(An Autonomous and Affiliated to Osmania University)

M.C.A I Semester Final Examinations, December - 2018

Subject: Management Organizational Behavior

Exam Time: 3 hrs

Sub Code: MCA16103

Max Marks: 100 M

Answer the following:

(5*20=100M)

UNIT-I

1. Define Scientific Management. Discuss the contributions made to the field of Scientific Management. Also discuss how the principles of Scientific Management have been criticized.
(Or)
2. Define Management. What are the different levels of Management? Discuss the various Managerial roles.

UNIT-II

3. Define Organizational Behavior? Explain the features of Organizational Behavior.
(Or)
4. Define Perception. Examine the major factors which influence the interpretation of data and information in the perception process.

UNIT-III

5. What is planning? Differentiate planning from forecasting."Planning is the primary function of management" Critically comment.
(Or)
6. What is Organizational Culture? Explain the different approaches to describe Organizational Culture?

UNIT-IV

7. "A good leader is not necessarily a good manager" Discuss this statement and state the differences between a leader and a manager.
(Or)
8. What is motivation? Explain the various kinds of motives. Explain briefly Maslow's theory of motivation.

UNIT-V

9. Define Power. Explain the various sources of Power. Explain the positive and negative consequences of Power.
(Or)
10. What is Communication? Explain the process of Communication. Suggest the measures to make communication effective.

Answer the following:

(5*20=100M)

UNIT-I

1. a) i) Construct the truth table for $(P \rightarrow Q) \wedge (Q \rightarrow P)$.
ii) Show that $\sim(P \wedge Q) \Leftrightarrow \sim P \vee \sim Q$.
b) Construct the truth table for $[(P \vee Q) \wedge (\sim R)] \leftrightarrow Q$.
(Or)
2. a) Obtain the PDNF of i) $\sim P \vee Q$ ii) $(P \wedge Q) \vee (\sim P \wedge R) \vee (Q \wedge R)$.
b) Obtain PCNF of the formula given by $\sim(P \vee Q)$.

UNIT-II

3. a) Define Equivalence relation. Verify whether $R_1 = \{(1,2), (2,3), (1,3), (2,1)\}$ is transitive or not?
b) Write the relation matrix for the relation $R = \{(x, y) / x > y\}$ on $X = \{1, 2, 3, 4\}$
(Or)
4. a) Let $< L, \leq >$ be a lattice. For any $a, b, c \in L$ the following properties called isotonicity hold.
$$\{a * b \leq a * c \text{ and } b \leq c \Rightarrow \{a \oplus b \leq a \oplus c\}$$

b) Obtain the sum of products canonical form of the Boolean expression $x_1x_2' + x_3$

UNIT-III

5. a) Show that every cyclic group of order n is isomorphic to the group $(Z_n, +_n)$.
b) State and prove Lagrange's theorem.
(Or)
6. a) Find all the sub groups of $< Z_{12}, +_{12} >$.
b) Let $< G, * >$ and $< H, \Delta >$ be groups and $g: G \rightarrow H$ be a homomorphism. Then the Kernel of g is a normal subgroup?

UNIT-IV

7. a) Solve the recurrence relation
$$2a_n = 7a_{n-1} - 3a_{n-2}, a_0 = 2, a_1 = 5$$

b) Solve the recurrence relation $a_n - 3a_{n-1} + 2a_{n-2} = 5n + 3$
(Or)
8. a) Solve the recurrence relation.
$$a_n - 3a_{n-1} + 2a_{n-2} = 3$$

b) Find out the solution of the following recurrence relation using the substitution method.
$$f_n = f_{n-1} + 5 \text{ for } n \geq 2$$

and $f_n = 3 \text{ for } n = 1$.

(P.T.O)

=:2:=

UNIT-V

9. a) Show that in any non directed graph there is an even number of vertices of odd degree and also show that $\sum_{i=1}^n \deg(v_i) = 2|E|$
- b) Is $K_{3,3}$ a planar graph? Explain
- (Or)
10. a) Prove that a tree with n vertices has exactly $n-1$ edges.
- b) Explain Kruskal's Algorithm for finding a minimal spanning tree.

**LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL
(Autonomous University)**

(An Autonomous and Affiliated to Osmania University) No. 2018

MCA I Semester Final Examinations, December - 2018

Subject: Computer Programming & Prob Solving Using C Exam Time: 3 hrs
Sub Code: MCA16105 Max Marks: 100 M

Answer any one from each unit: (5* 20 = 100 M)

UNIT-I

1. a) With an example explain Flowcharts and Algorithms (10M)
b) Write the rules used for C identifiers (05M)
c) Explain different computer Languages with examples. (05M)

(Or)

2. a) Explain different operators in C. (10M)
b) Explain variables, constants and Data types in C. (10M)

UNIT-II

- 3 a) Explain Break, Continue and goto in C with examples. (10M)
b) Write a C program to add two matrices. (10M)

(Or)

- 4 a) Explain for and while loops with examples (10M)
b) Write a C Program to sort –using Bubble sort (10M)

UNIT-III

- 5 a) Explain storage classes in C. (10M)
b) Explain string Manipulation functions. (10M)

(Or)

- 6 a) Explain Quick Sort Technique (10M)
b) Write a C Program to find the sum of n natural numbers using Recursion (10M)

UNIT-IV

- 7 a) Explain Memory allocation functions in C. (10M)
b) Explain briefly i) Arrays and pointers ii) L value and R value. (10M)
(Or)

(OF)

- 8 a) Explain call by value and call by reference with an example. (10M)
b) Explain i) Pointers to void ii) pointers to functions. (10M)

UNIT-V

- 9 a) What are nested structures explain with an example. (10M)
b) Explain standard library functions in files. (10M)

(Or)

- 10 a) Explain unions with an example. (10M)
b) Write a C Program to create a file that displays students information. (10M)

JOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

(An Autonomous and Affiliated to Osmania University)

M.C.A I Semester Final Examinations, December - 2018

Subject: Computer Architecture

Exam Time: 3 hrs

Code: MCA16106

Max Marks: 100 M

Answer any one from each unit:

(5* 20 = 100 M)

UNIT -I

1. a) Explain about digital computer with the help of block diagram
- b) What are logic gates? Explain different logic gates available with symbols and truth tables.

(Or)

2. a) What is a decoder? Explain 3-to-8 line decoder with the truth table.
- b) What is demorgan's theorem ? Explain with suitable combinations

(8+12M)

(12+8M)

UNIT-II

3. a) What is micro operation? Explain briefly about register transfer language.
- b) Explain how accumulator logic is designed .

(Or)

4. a) Explain briefly about computer instructions with instruction cycle.
- b) Explain about shift micro operations

UNIT-III

5. a) What is a assembler? Explain with flowchart one pass assembler.
- b) Explain about micro programmed control organization.

(Or)

6. a) Explain about machine language and assembly language and its rules.
- b) Explain address sequencing for control memory and how instructions are mapping

UNIT-IV

7. a) What are the data transfer instructions.
- b) Explain the algorithm for floating point arithmetic operation

(Or)

8. a) Explain about Stack Organization.
- b) Explain the algorithm for multiplication with flow chart.

UNIT-V

9. a) Explain about Direct Memory Access.
- b) Explain about memory hierarchy with neat diagram.

(Or)

10. a) What are peripheral devices? List and explain some peripheral devices,
- b) Explain about cache memory?

LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

(An Autonomous and Affiliated to Osmania University)

M.C.A I Semester Supplementary Examination, December - 2018

Subject : Comp Prog & Prob Solving C & C ++
Sub. Code : MCA 13103

Exam Time : 3 hrs
Max. Marks : 100

Answer the following questions.

(5*20=100M)

UNIT-I

1. a) Explain different conditional statements in 'C' language. (10M)
b) Write a C program for finding GCD of 2 numbers. (5M)
c) Explain type casting in C-language. (5M)

(Or)

2. a) Differentiate while and do- while loops. (10 M)
b) Explain if – else –if with the help of syntax and example. (10M)

UNIT-II

3. a) Explain the following storage classes in 'C' language (12M)
(i) Auto (ii) Register (iii) static (iv) Extern
b) Explain Pass –by-value and Pass by address with example (8M)

(Or)

4. a) Write a program for bubble sort. (10 M)
b) Explain string manipulation functions with examples. (10 M)

UNIT-III

5. a) What is the difference between structure and union. Explain with an example. (15M)
b) List the various stream handling functions in C. (5M)

(Or)

6. a) Write a C-program to copy the contents of one file to another file. (10M)
b) What are standard library functions in files? Explain converting file type. (10M)

UNIT-IV

- 7.a) Explain OOPS Concepts in C++ (10 M)
b) What is function overloading? Explain with example. (10 M)

(Or)

8. a) Describe Access Specifiers in C++. (10 M)
b) Write a C++ Program to find sum of digits of a given integer. (10 M)

UNIT-V

9. a) Explain the following (5*4=20M)
(a) Constructor (b) Virtual function (c) Class
(d) Dynamic polymorphism (e) Access specifiers of a class.

(Or)

10. a) What is inheritance ? Explain the difference types of inheritance. (12M)
b) What is abstract class? Give example. (8M)

LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

(An Autonomous and Affiliated to Osmania University)

MCA II Semester supplementary Examination , January-2019

Subject : Accounting & Financial Management

Sub Code : MCA 16202

Exam Time : 3 hrs

Max. Marks: 100

Answer any one from each unit:

(5 * 20 =100M)

UNIT-I

1. List down the concepts and conventions of accounting

(OR)

2. Journalize the following entries in the books of Kapoor and Sons Ltd for the year ending 31st December 2017. Post them into ledger and prepare trial balance for the same.

Dec 1	Commenced business with a capital of	Rs.500000
Dec 3	Paid into bank	Rs.200000
Dec 6	Bought goods from Rajat	Rs.30000
Dec 12	Cash sales	Rs.20000
Dec 15	Paid to Rajat in full settlement	Rs.30000
Dec 16	Sold goods to vikram on credit	Rs.50000
Dec 18	rent paid	Rs.10000
Dec 20	received from Vikram and discount allowed to him	Rs.49000 Rs.1000
Dec 21	Commission received	Rs.5000

UNIT-II

3. What are final statements? Explain the importance of final statements,

(OR)

4. Given the following balances on 31 December 2018 of Sharma Ltd. Prepare Final accounts

Particulars	Debit	Credit
Opening stock	250000	
Capital		1000000
furniture	75000	
Buildings	150000	
plant and Machinery	250000	
Drawings	180000	
Debtors	281000	
Bank	200000	
Creditors		250000
Rent paid	9000	
Purchases	750000	
Sales		1000000
Admin Expenses	150000	
Wages	20000	
insurance	10000	
Rent received	45000	

Interest received 30000

Adjustments:

- Closing stock 450000
 - Bad debts 31000
 - Provide 10% of debtors as provision for bad and doubtful debts
 - Outstanding wages 20000

UNIT-III

5. Write in detail about funds flow statement.

(OR)

6. 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

UNIT-IV

7. Write detailed notes on capital budgeting techniques.

OR

8. An investment proposal would initially cost Rs. 250000. The required rate of return is assumed to be 10%. Calculate Net present value and IRR given the following information about the cash inflow generated by the project

Year	Cash flows
1	Rs.90000
2	Rs.80000
3	Rs.70000
4	Rs.60000
5	Rs.50000

UNIT-V

Write in detail about

- CVP Analysis
- Variable costing and Absorption Costing
(OR)

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

Particulars	Amount in Rupees	(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.

JOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

(An Autonomous and Affiliated to Osmania University)

M.C.A II Semester Supplementary Examination, January- 2019

Subject: C++ & Data Structures

Exam Time: 3 hrs

Sub Code: MCA 16204

Max Marks: 100 M

Answer one from each unit.

(5*20=100M)

UNIT - I

1. Explain basic concepts of oops in c++ **(20M)**
(Or)
2. a) Write a program to implement all the operations on Circular linked list. **(12M)**
b) What are the properties of linked lists? **(8M)**

UNIT - II

3. Define constructor. Explain it with a program **(20M)**
(Or)
4. a) Write a program to perform all operations on a linked queue. **(10M)**
b) Discuss about sparse matrices. **(10M)**

UNIT - III

5. What is inheritance? Explain different types of inheritance. **(20M)**
(Or)
6. a) Explain AVL tree insertion with examples. **(10M)**
b) Explain exception handling mechanism with a program **(10M)**

UNIT - IV

7. a) Define Linked list. Explain different operations of a Linked list **(10M)**
b) Explain stack using array representation **(10M)**
(Or)
8. a) What is a stack? What are the operations performed on a stack? **(12M)**
b) What are the applications of a stack? **(8M)**

UNIT - V

9. a) Define a Binary tree? What are the properties of binary tree. **(10 M)**
b) Write short notes on hashing. **(10 M)**
(Or)
10. a) Explain DFS with an example **(10M)**
b) Explain different operations on B- trees **(10M)**

YOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

(An Autonomous and Affiliated to Osmania University)
M.C.A II Semester Supplementary Examination, January - 2019

Exam Time: 3 hrs
Max Marks: 100 M

: Operating Systems
ode: MCA 16205

(5*20=100 M)

er the following:

UNIT - I

1. a) Explain the role of Operating System in regard to process management and memory management?
b) Explain briefly about the following
(i) System Calls (ii) Threads
2. a) Explain about Multithreading.
b) What is IPC? Explain with the help of an example.

UNIT - II

3. a) What is contiguous memory location? Explain with the help of hardware structure.
b) Explain LRU page replacement method with example.
4. a) What is paging? Explain its hardware structure elements.
b) What is thrashing? Explain its causes.

UNIT - III

5. a) What is critical section problem? Explain 3 requirements to implement.
b) Explain different deadlock recovery methods when system went into deadlock state.
6. a) What is a Semaphore? How to implement it?
b) Explain different methods available for deadlock handling.

UNIT - IV

7. a) Explain SCSI controllers and SANs with implementation examples.
b) What is boot-block? Explain Mass-storage structure.
8. a) Write short notes on Kernel I/O Sub System?
b) Write short notes on DMA.

UNIT - V

9. a) What is Linux kernel? Explain the components of Linux system.
b) What is UNIX security mechanism? Explain different classifications of security groups.
10. a) Explain about Windows XP structure in detail.
b) Explain about goals for the Windows files system.