

Answer the following, all units carry equal marks.(5 x 20 = 100)

UNIT - I

1. Explain the nature and scope of managerial economics.
- (OR)
2. Explain the following fundamental concepts of Managerial Economics?
 - a) Time perspective
 - b) Equi-Marginal Principle
 - c) Risk and uncertainty
 - d) Opportunity cost

UNIT - II

3. What are the determinants of demand? Why does a demand curve slope down wards from left to the right?
- (OR)
4. Explain the different methods of measurement of demand elasticity.

UNIT - III

5. Explain the law of supply with the help of suitable graph.
- (OR)
6. What is monopoly? How price and output is determined in the short and long run in monopoly competition.

UNIT - IV

7. Define National Income? Discuss the different methods of estimation of National Income.
- (OR)
8. What is planning? Discuss the salient features of India's five year plans.

UNIT - V

9. Give an overview of Indian Financial System.
- (OR)
10. Examine the role of RBI in the economic development of the country.

LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

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

MCA (I semester) Supplementary Examination, August 2015

Subject : Modern Economic Analysis
Sub. Code : MCA 10105

Exam Time : 3 hrs
Max. Marks : 100

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M.C.A I Semester Supply Examinations, August - 2015

**Subject : Comp Programming Problem solving C++ Exam Time : 3 hrs
Sub. Code : MCA 10103 Max. Marks : 100**

Note: Answer all questions.

Each question carries equal marks

(5*20=100M)

UNIT-I

1. (a) Write the structure of a C program. Explain about C Compiler process. (10M)
(b) What is the role of Control statements in the execution of a C program .Explain. (10M)
(Or)
2. (a) Explain about the system development environment. (10M)
(b) How C complier uses expression evaluation .Briefly explain with suitable examples. (10M)

UNIT-II

3. Write the algorithm of Insertion sort and also write the C program for the algorithm. (20M)
(Or)
4. (a) Explain about memory allocation functions. (5M)
(b) List the string manipulation functions in C languages. Briefly explain functionality of each function. (15M)

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) Compare text streams with binary streams. (5M)
(b) What is the role of typedef statement in C.? Also explain how typedef is useful in declaring structures. (15M)

UNIT-IV

7. (a) What is function .Explain the usage of functions with suitable examples. (10M)
(b) How C++ supports call by value .Differentiate between call by value and call by reference. (10M)
(Or)
8. (a) What is inline functions .Write a program to demonstrate this feature. (10M)
(b) What is function templet.What are the uses of function of template. (10M)

(P.T.O)

UNIT-V

9. (a) What is operator overloading? Write a C ++ program using operator overloading to demonstrate like string copy, string concatenation, and string comparison. (20M)
- (Or)
10. (a) Explain the role of inheritance in OOP. How C++ supports this feature. (10M)
- (b) What is constructor .Explain the various types of constructor. (10M)

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MCA (I semester) Pre-final Examination, February 2015

**Subject : P&S
Code : MCA 10102**

**Exam Time : 3 hrs
Max. Marks : 80**

Answer the following questions

UNIT-I

1. a) Distinguish between diagrams and graphs 8M
- b) Construct a frequency table for following data regarding annual profits, in thousands of rupees in 30 firms. Construct less than ogive curve. Find number of firms having profit between 37000 and 58000 28, 35, 61, 29, 36, 48, 57, 67, 69, 50, 48, 40, 47, 42, 41, 37, 51, 62, 63, 33, 31, 32, 35, 40, 38, 37, 60, 51, 54, 56. 8M

(or)

2. a) What are the different method of collecting statistical data. 8M
- b) In a study on causes of strikes in mills, an experiment collected the following data. Represent the data by a suitable chart. 8M

| | | | | | |
|---------------|----------|---------|-----------|----------|--------|
| Causes | Personal | Rivalry | Political | Economic | Others |
| Occurrence | 21 | 4 | 12 | 53 | 10 |
| In percentage | | | | | |

UNIT-II

3. a) Define Binomial distribution and derive the mean and variance of Binomial distribution. 8M
 - b) Define Poisson distribution, obtain its moment generating function. 8M
- (or)**
4. a) State and prove Baye's theorem. 10M
 - b) A coin is tossed 6 times. What is the probability of obtaining 4 or more heads? 6M

UNIT-III

5. Obtain moment generating function of gamma, variate with one parameter and derive mean, variance from mgf of gamma variate with one parameter. 16M
- (or)**
6. a) Define rectangular distribution and derive its mean and variance. 10M
 - b) If x is uniformly distributed with mean 1 and variance $4/3$. Find $P(x<0)$ and $P(x>0)$. 6M

UNIT-IV

10M

7. a) Derive first four central moments and hence find β_1 , β_2 , γ_1 and γ_2 .
b) In a certain distribution the first four moments about the point 4 are 1.5, 17, -30 and
108. Find Kurtosis of frequency curve and comment on its shape.

6M

(or)

8. a) Define mathematical expectation. State and prove addition theorem of expectation.
b) From the following data find Karl Pearson's coefficient of Skewness.

10M

6M

| | | | | | | |
|-----|----|----|----|----|----|----|
| x : | 10 | 11 | 12 | 13 | 14 | 15 |
| f : | 2 | 4 | 10 | 8 | 5 | 3 |

UNIT-V

9. a) Define regression. Write the equations for Lines of regression. Calculate regression lines for the following data.

8M

| | | | | | | | |
|-----|---|---|---|----|----|----|----|
| x : | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| y : | 7 | 8 | 9 | 11 | 10 | 13 | 12 |

- b) Explain chi square test for goodness of fit, significance of attributes in an $r \times s$ contingency table.

8M

(or)

10. a) Explain i) F-test ii) t-test for single mean.

10M

- b) Two random samples gave following results.

| Sample | Size | Mean | Sum of squares of deviation from mean |
|--------|------|------|---------------------------------------|
| 1 | 10 | 15 | 90 |
| 2 | 12 | 14 | 108 |

Test whether two population variances are equal at 5% level of significance given

$$F_{0.05}(9, 11) = 2.90$$

$$F_{0.05}(9, 11) = 3.10$$

LOYOLA ACADEMY DEGREE & PG COLLEGE, OLD ALWAL

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MCA (I semester) Semester Examination, February 2015

**Subject : Computer Programming & Problem Solving Exam Time : 3hrs
Code : MCA 10103 Max. Marks : 100**

Answer the following questions

5×20M=100M

UNIT – 1

1. (a) Explain various control statements in C language.
(b) List some computer languages and their purposes.

OR

2. (a) List the operators in C language and their precedence in evaluating an expression
(b) Write a C program to display the factorial of the given number.

UNIT – II

3. (a) How do you design a structured program? Explain
(b) Write an algorithm to sort the given numbers using selection sort.

OR

4. (a) How do you pass an array into function? Write a program to demonstrate this.
(b) What is an array of strings? Write various string manipulation functions.

UNIT – III

5. (a) What is preprocessor directive in C language? Explain with suitable example.
(b) Explain about character I/O functions in C language.

OR

6. (a) List the various formatting I/O Functions in C language
(b) Explain about enumerations and unions

UNIT – IV

7. (a) What are the basic elements of C++? Explain
(b) What are the various parameter passing mechanism explain.

OR

8. (a) Compare between call by value and call by reference.
(b) What is the use of an inline function? Explain

UNIT – V

9. (a) Explain the various types of inheritance.
(b) How do you use an operator overloading in C++ explain

OR

10. (a) What is an abstract class? Explain the use of this class in inheritance.
(b) What is polymorphism? Explain its use in C++ language.

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MCA Examination, Jan/Feb 2015

Subject : English
Sub. Code : MCA10106

Exam Time : 3 hrs
Max. Marks : 100

Answer the following questions

5 x 16M = 80M

PART – A

I. Write any five of the following

1. What is Non-verbal Communication? How different is it from Verbal Communication? Support your statements with examples.
2. What are the guidelines to be followed for an E-mail Communication? Mention the format of an E-mail?
3. What are objectives of Performance Appraisal? Write the Advantages of having a Performance Appraisal?
4. What is the structure of Informative Presentation? Write a brief note on each of them.
5. State the differences between Spoken and Written Communication. Elaborate on the features of written communication.
6. Write notes on a) Format of a Business Letter b) Memo
7. Prepare a C.V. with your up-dated qualifications and write a Cover Letter for a job application.

Part – B

II. Correct the following sentences

(5 x 1 = 5M)

1. She likes dogs, but she don't like cats.
2. Me and my friend are going to the beach next weekend.
3. We going to the super market?
4. We are going to there house.
5. Inspite of the curfew still the college was working.

III. Check the spelling

1. IRRESTIBLE
2. A COMODATE
3. SAPERATE
4. DEFINATLY
5. MAINTAINANCE

(5 x 1 = 5M)

IV. Fill in the blanks with the appropriate tenses.

1. _____ at school yesterday? (you, be)
2. The fire _____ at six in the morning. (still burn)
3. They _____ their homework. (already finish)
4. The Earth _____ here for billions of years. (be)
5. She _____ very well in school these days. (not, do)

V. Fill in the blanks with appropriate prepositions.

(5 x 1 = 5M)

1. The restaurant was opened _____ Dick and Mac McDonald.
2. _____ 1927, 15 million T cars had been manufactured in the Ford Company.
3. We can only get to the camp _____ foot.
4. Please write _____ ink.
5. It's _____ time you tell him the truth.

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MCA (I semester) Semester Examination, February 2015

Subject : Discrete Mathematics
Code : MCA 13101

Exam Time : 3hrs
Max. Marks : 100

Answer the following questions

5×20M=100M

1. a) Define tautology? Show that $((P \vee Q) \wedge \neg(\neg P \wedge (\neg Q \vee \neg R))) \vee (\neg P \wedge \neg Q) \vee (\neg P \wedge \neg R)$ is a tautology? (10M)
 b) Obtain principal descriptive normal form of $(P \wedge Q) \vee (\neg P \wedge R) \vee (Q \wedge R)$? (10M)
 (OR)
2. a) Explain functionally complete set of connectives and equivalence of formulas? (10M)
 b) Define power set of a set with an example if $A \subseteq B$ then $A^B = B^A$? (10M)
3. a) Define symmetric , anti symmetric properties of binary relation in a set and give an example of a relation which is both symmetric and anti symmetric? (10M)
 b) Draw hasse diagram of $(x \leq)$ if $x = \{2, 3, 6, 12, 24, 36\}$ and \leq is a relation divides such that $x \leq y$ if x is divisible by y ? (10M)
 (OR)
4. a) Define injective and surjective functions with an examples? Find f^{-1} if $f: R \rightarrow R$ is a function given $f(x) = 2x+3$? (10M)
 b) Define lattice explain the types of lattices? (10M)
 Show that $[a * (b^1 \oplus C)]^1 * [b^1 \oplus (a * c^1)]^1 = a * b * c^1$?
5. a) Define group, subgroup and group isomorphism? Let $(G, *)$ be group and $a, b \in G$, then $(a^{-1})^{-1} = a$. (10M)
 b) Prove that a subset S of G is a subgroup of $\langle G, *\rangle$ iff for any pair of elements $a, b \in S$, $a * b^{-1} \in S$? (10M)
 (OR)
6. a) Define normal subgroup and field? Show that in a group $(G, *)$ $a, b \in G$, $(a * b)^2 = a^2 * b^2$ iff $(G, *)$ is an abelian? (10M)
 b) Show that every subgroup of cyclic group is normal? With an examples? (10M)
7. a) Find the unique solution for the recurrence relation $3a_{n+1} = 4a_n$, $n \geq 0$, $a_1 = 5$. (10M)
 b) Solve the recurrence relations $a_n - 9a_{n-1} + 20a_{n-2} = 0$ for $n \geq 2$ and $a_0 = -3, a_1 = -10$. (10M)
 (OR)
8. a) Solve the $a_n + 5a_{n-1} + 6a_{n-2} = 3n^2 - 2n + 1$. (10M)
 b) Solve the $a_n - 2a_{n-1} - 3a_{n-2} = 5^n$, $n \geq 2$, given $a_0 = -2, a_1 = 1$. (10M)
9. a) Define Isomorphism ,complete graph and bipartite graph with an examples? (10M)
 b) Explain Kruskal's algorithm for constructing minimal spanning tree? (10M)
 (OR)
10. a) Define Hamiltonian graph and graph coloring ? What are Hamiltonian graph? Explain briefly with an Example? (10M)
 b) Show that $K_{3,3}$ is non planar with an example? (10M)

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MCA (I semester) Semester Examination, Feb/Mar-2015

**Subject : Elements of IT
Code : MCA 13104**

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

Answer the following questions

5×20M=100M

Unit-I

1. (a) Explain about five generation of programming languages
(b) What is a booting process? Explain about DOS features

OR

2. (a) What is communication technology? Explain about the latest developments in this technology.
(b) What is a computer? Explain about five kinds of computer.

UNIT - II

3. (a) Explain about the various data representation techniques
(b) What are the various input and output devices used in this generation? Briefly explain their features.

OR

4. (a) How a magnetic tape is different from magnetic disk. Explain
(b) What are the components in a microcomputer unit? Explain the role of each unit.

UNIT - III

5. (a) What are the features of World wide web explain
(b) What are the factors affecting communication among devices. Explain

OR

6. (a) Explain about (i) Audio communication (ii) Internet technologies
(b) What are the various communication channels? Explain

UNIT - IV

7. (a) What is HTML? List the various tags in HTML
(b) Explain the features of DBMS

OR

8. (a) Compare between file organizations with database organization.
(b) What are the tags used in head section of HTML. Explain

UNIT - V

9. (a) Explain the importance of information system in the present technology
(b) Explain about the six phases of system analysis and design.

OR

10. (a) How many steps involved in software development? Explain each step
(b) What are the various levels of management? Explain

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1. Define managerial economics? Explain the salient features of managerial economic.

OR

2. Explain the following concepts:-
 - a) Opportunity cost.
 - b) Discounting Principle.
 - c) Incremental principle.

3. What is demand and explain the factors influencing demand.

OR

4. Define elasticity of demand and differentiate cross elasticity of demand from price elasticity of demand.

5. Define production function.Explain the nature and various types of production functions?

OR

6. Distinguish between:
 - a) Long run and short run costs.
 - b) Fixed and variable costs.
 - c) Incremental and sunk cost.

7. What is national income? Explain the difficulties in the estimation of national income.

OR

8. What are the objectives of five year plans in India? How far they are achieved?

9. Discuss the role and functions (traditional and modern) of RBI in India?

OR

10. Briefly explain the role of conventional banks in the development of industrial sector in India?

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