D–7554	Sub. Code
	31511

DISTANCE EDUCATION

M.C.A. DEGREE EXAMINATION, DECEMBER 2022.

First Semester

Computer Application

DIGITAL COMPUTER ORGANIZATION

(CBCS 2018 – 2020 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. State the steps involved in Gray to binary conversion.

2. Subtract 111001_2 from 101011_2 using 2's complement method.

3. What is priority encoder?

4. Write the operations of RS flip flop.

5. What are computer registers?

6. Define the term Accumulator.

7. List any four peripheral devices.

8. Define the term shift register.

9. What is read and write operation?

10. What is virtual memory?

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Describe the fundamental concepts of Boolean algebra.

Or

(b) Write about Quine - McKluskey method.

12. (a) With a neat sketch, explain Multiplexer.

Or

(b) What is counter? Explain BCD counter.

13. (a) Discuss on instruction codes.

Or

(b) Give a brief account on memory reference instructions.

14. (a) Briefly explain about stack organization.

Or

(b) List and explain the various modes of transfer.

15. (a) Write a note on auxiliary memory.

Or

(b) Give a brief account on associative memory.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Simplify the following boolean expression using K-map:

$F(A,B,C,D) = \sum(0,1,2,3,4,5,10,11,15)$

17. With a neat sketch, explain half adder and full adder.

18. Explain the various phases of instruction cycle.

19. Explain the DMA transfer with necessary diagrams.

20. Write detailed notes on cache memory.

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D–7555	Sub. Code
	31512

DISTANCE EDUCATION

M.C.A. DEGREE EXAMINATION, DECEMBER 2022.

First Semester

Computer Application

OBJECT ORIENTED PROGRAMMING AND C++

(CBCS 2018 – 2020 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

All questions carry equal marks.

1. What is object oriented programming?

2. What are input and output streams?

3. Write the general form of a class definition.

4. Write the format of a friend function.

5. Define the term abstract class.

6. What is the need for virtual function?

7. What is the need for template function in C++? List its advantages?

8. Write the general form of a class template with multiple parameters.

9. What are exceptions?

10. What is uncaught Exception?

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

All questions carry equal marks.

11. (a) Write short notes on evolution of object oriented languages.

Or

(b) Briefly explain about various stream classes for console operations.

12. (a) Write a program to illustrate the use of objects as function arguments.

Or

(b) Write short notes on dynamic constructor. Illustrate with an example.

13. (a) Define the term inheritance. Explain multiple inheritance with an example.

Or

(b) Explain different types of type conversion with an example program.

14. (a) Describe various classes available for file operations.

Or

(b) Briefly explain about class template with an example.

15. (a) Explain how to catch exceptions in base and derived classes. Give a suitable example.

Or

(b) How to catch exceptions in constructors? Explain with an example.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

All questions carry equal marks.

16. Discuss in detail about the basic concepts of object oriented programming.

17. What are the ways to define a member function? Explain with examples.

18. Explain briefly about operator overloading with suitable example.

19. How to handle data files? Explain with suitable example.

20. Explain the use of try, catch and throw exception handling keywords in C++. Illustrate them with an example program.

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D–7556	Sub. Code
	31513

DISTANCE EDUCATION

M.C.A. DEGREE EXAMINATION, DECEMBER 2022.

First Semester

Computer Application

DATA STRUCTURE AND ALGORITHMS

(CBCS 2018 – 2020 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

All questions carry equal marks.

1. Define the term Space Complexity.

2. What do you mean by array?

3. Write postfix form of the expression – A+B-C+D?

4. How do you test for an empty queue?

5. Define the term non-linear data structure.

6. What is complete Binary Tree?

7. What is meant by linear search?

8. What are the advantages of using Binary search?

9. Compare and contrast internal and external sorting.

10. What is the advantage of tree sorting method?

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

All questions carry equal marks.

11. (a) Define the term algorithm. Explain time complexity of an algorithm.

Or

(b) Explain the following with suitable example:

(i) Array initialization

(ii) One dimensional Array

12. (a) Explain the various applications of stack.

Or

(b) Write short notes on merging lists.

13. (a) Write short notes on hashing.

Or

(b) Explain the different ways of representing a binary tree.

14. (a) Write and explain non-recursive algorithm for binary search.

Or

(b) Write an algorithm for linear search.

15. (a) Explain Bubble Sort with illustrations.

Or

(b) Write the algorithm for Insertion Sort. Explain with a suitable example.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

All questions carry equal marks.

16. Explain in detail about various types of data structure.

17. Explain in detail about doubly linked list.

18. Define binary search tree. Explain the various operations on it.

19. Discuss on various searching techniques.

20. Explain quick sort with a suitable example.

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D–7557	Sub. Code
	31521

DISTANCE EDUCATION

M.C.A. DEGREE EXAMINATION, DECEMBER 2022.

Second Semester

Computer Application

SOFTWARE ENGINEERING

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. What is CMMI? Give an example.

2. List out the disadvantages of Waterfall Model.

3. What are the advantages and disadvantages of Object oriented Analysis?

4. What is requirement Validation in Software Engineering?

5. What is Data design?

6. What are the types of Architectural Style?

7. What are the types of Metrics in Software Engineering?

8. What is Integration Testing?

9. What is FTR in quality management?

10. What are reactive risk strategies?

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) What is Maturity? Explain briefly about it in CMMI.

Or

(b) Discuss about software engineering layered Technology.

12. (a) Write short notes on class based modeling.

Or

(b) Explain in brief about flow oriented modeling.

13. (a) What is User Interface Analysis? List out the Golden Rules.

Or

(b) Discuss about system design and explain its types.

14. (a) Write a brief notes on metrics for Software maintenance.

Or

(b) Discuss about the metrics for Analysis model.

15. (a) Write short notes on Statistical Software Quality Assurance.

Or

(b) Discuss about RMMM plan.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Describe in detail about process patterns and their Assessments.

17. Discuss in detail about behavioral modeling and scenario based modeling.

18. Describe in detail about Architectural design with its structure.

19. Discuss in detail about validation testing and system testing.

20. Explain the following

    (a) Software Reviews

    (b) Software reliability.

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D–7558	Sub. Code
	31522

DISTANCE EDUCATION

M.C.A. DEGREE EXAMINATION, DECEMBER 2022.

Second Semester

Computer Application

RELATIONAL DATABASE MANAGEMENT SYSTEMS
(RDBMS)

(CBCS 2018 – 2020 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. Define the terms instance and schema.

2. Expand the term DBA and write a note on it.

3. What is SELECT operation?

4. What is the use of rename operation?

5. List the set operations in SQL.

6. Write the desirable properties of decomposition.

7. What are committed transaction and rollback?

8. Why serializability is used?

9. What are block and a block number?

10. Define the term rotational latency time.

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Compare Database system with file system.

Or

(b) Write short notes on query processor.

12. (a) Explain how DBMS enforces integrity constraints.

Or

(b) Describe join operations with an example.

13. (a) With examples, explain the use of group by and having clauses.

Or

(b) Illustrate multi valued dependency with an example.

14. (a) Give a brief account on ACID properties.

Or

(b) Discuss on log based recovery.

15. (a) Compare different file organizations.

Or

(b) Describe briefly about the term ISAM.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. What are ER diagrams? Write in detail about their components and its use with illustrations.

17. Discuss on Relational calculus.

18. Explain 2NF,3NF and 4NF through examples.

19. Describe Lock based protocol.

20. Explain B+ tree index in detail.

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D–7559	Sub. Code
	31523

DISTANCE EDUCATION

M.C.A. DEGREE EXAMINATION, DECEMBER 2022.

Second Semester

Computer Application

COMPUTER GRAPHICS

(CBCS 2018 – 2020 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. What is the importance of computer graphics in education?

2. What are the two types of Graphics?

3. What are the four types of transformations?

4. What do you mean by the term clipping?

5. What are the different types of curves?

6. What do you understand by polygon rendering?

7. What is 3D transformation in Computer graphics?

8. Define the term 3D Shearing.

9. What is meant by frame buffer?

10. Define the term keyframing?

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Discuss briefly about the working procedure of Liquid crystal display.

Or

(b) What are flood fill techniques? Explain the algorithmic steps with an example.

12. (a) What is reflection? Explain with its types.

Or

(b) What is text clipping? Explain with its structure.

13. (a) Discuss on illumination models to calculate the intensity of light.

Or

(b) What is phong shading? Explain.

14. (a) Give a brief account on shear transformation of a 3D object.

Or

(b) What is orthographic projection? Explain its types.

15. (a) Discuss briefly about animation functions and explain how they are used?

Or

(b) What are the computer animation languages? Explain.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. What is midpoint circle drawing algorithm? Explain the steps with its structure.

17. Explain in detail about cohen Sutherland line clipping algorithm.

18. What are Bezier curves? List out its properties.

19. What is viewport transform? Explain with an example.

20. Discuss in detail about Z-buffer method with its structure.

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D–7560

Sub. Code
31531/ 34031

DISTANCE EDUCATION

M.C.A./ M.C.A. (Lateral Entry) DEGREE EXAMINATION, DECEMBER 2022.

Third Semester

Computer Applications

DISCRETE MATHEMATICS

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. Construct the truth table for $(P \wedge (P \vee Q)$.

2. Negate the statement "For all x, If $x > 4$ then $x^2 < 16$.

3. Give the matrix form of the relation R on the set A, where $A = \{a, b, c, d\}$.
   $R = \{(a,b),(b,b),(a,c),(b,c),(c,d),(d,d),(d,a)\}$.

4. Draw the Hasse diagram of $D_{36} = \{1, 2, 3, 4, 6, 9, 12, 18, 36\}$.

5. Give an example of onto function but not one-one.

6. Define Hashing function.

7. Give an example of a not group.

8. Define coset.

9. Define Path.

10. If X takes the value 1, 2, 3, 4, 5, 6 with probability $\frac{1}{6}$ for each value find $E(X)$.

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Show that $(P \to Q) \wedge (R \to Q) \Leftrightarrow (P \vee R) \to Q$.

Or

(b) Show that $R \wedge (P \wedge Q)$ is a valid conclusion from the premises $P \vee Q, Q \to R, P \to M$ and $7M$.

12. (a) Draw the directed graph representing each of the relations from

(i) $\begin{bmatrix} 1 & 0 & 1 \\ 0 & 1 & 0 \\ 1 & 0 & 1 \end{bmatrix}$

(ii) $\begin{bmatrix} 0 & 1 & 0 \\ 0 & 1 & 0 \\ 0 & 1 & 0 \end{bmatrix}$

(iii) $\begin{bmatrix} 1 & 1 & 1 \\ 1 & 0 & 1 \\ 1 & 1 & 1 \end{bmatrix}$

Or

(b) Draw the Hasse diagram of the set of partitions of 5.

13. (a) Explain the different types of functions.

Or

(b) Prove that $\psi_{A\cup B}(x)=\psi_A(x)+\psi_B(x)-\psi_{A\cap B}(x)$.

14. (a) Show that the set of all idempotent elements of a commutative monoid $(M,*)$ forms a submonoid of $(M,*)$.

Or

(b) If $(G,*)$ is an abelian group. Show that $(a*b)^n = a^n * b^n$ for all $a,b\in G$, where n is a positive integer.

15. (a) Show that the maximum number of edges in any simple graph with n vertices is $\frac{n(n-1)}{2}$.

Or

(b) A is known to hit the target in 2 out of 5 shots whereas B is known to hit the target in 3 out of 4 shots. Find the probability of the target being hit when they both try?

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. With out using the truth table obtain the PCNF and PDNF of the formula $(7P \rightarrow R) \wedge (Q \leftrightarrow P)$.

17. Let $X=\{1,2,\ldots 7\}$ and $R = \{(x,y)/\, x-y \text{ is divisible by } 3\}$, Show that R is an equivalence relation. Draw the graph of R.

18. Using characteristic function, Show that $(A\cup B)^c = A^c \cap B^c$.

19. (a) Show that the group homomorphism preserves identity and inverse.

(b) Show that every element in a group is its own inverse, then the group must be abelian.

20. The first bag contains 3 white, 2 red and 4 black balls. Second bag contains 2 white, 3 red and 5 black balls and third bag contains 3 white, 4 red and 2 black balls. One bag is chosen at random and from it 3 balls are drawn. Out of three balls two balls are white and one red. What are the probabilities that they were taken from first bag.

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D–7561

Sub. Code
31532/34032

DISTANCE EDUCATION

M.C.A./ M.C.A. (Lateral Entry) DEGREE EXAMINATION, DECEMBER 2022.

Third Semester

Computer Application

OPERATING SYSTEM

(CBCS 2018 / 2020 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. What is meant by the basic organizations of a computer system?

2. How does a kernel provide service to OS?

3. List out the different types of schedulers in OS.

4. What is the main purpose of locking scheme in a multiprocessor system?

5. What are the different types of Semaphores?

6. How deadlock can be prevented?

7. What is the difference between swapping and paging?

8. Why do we need segmentation in OS?

9. What is meant by mounting in OS?

10. List down different file allocation methods.

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Describe computer system organization with necessary diagrams.

Or

(b) What are system programs in OS? Explain.

12. (a) How does round robin scheduling algorithm works? Illustrate.

Or

(b) Discuss briefly about different scheduling criteria.

13. (a) What are the different types of classical problems that depicts flaws in synchronization? Explain.

Or

(b) Bring out the characteristics of deadlock.

14. (a) List out the advantages and disadvantages of contiguous memory allocation.

Or

(b) What are the advantages and disadvantages of segmentation? Explain.

15. (a) Discuss in brief about the structure of a file system with a neat diagram.

Or

(b) Write short notes on file protection.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. List out the common services provided by an OS. Explain each of them in detail.

17. How does a communication between two processes takes place with message passing method? Elaborate with its structure.

18. What are the two approaches to deadlock recovery? Discuss each with its structure.

19. Discuss in detail about Segmentation with neat sketch.

20. Explain in detail about free space management of files in OS.

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D–7562

Sub. Code
31533/34033

DISTANCE EDUCATION

M.C.A./M.C.A. (Lateral Entry) DEGREE EXAMINATION, DECEMBER 2022.

Third Semester

Computer Application

OBJECT ORIENTED ANALYSIS AND DESIGN

(CBCS 2018-2019 Academic Year onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What are orthogonal views of software?

2. Differentiate between an object's methods and its attributes.

3. Name the five Booch diagrams.

4. What are the forms of associations?

5. What are concepts classes?

6. Define the term Generalization.

7. Write the two design axioms.

8. What are public and private protocols?

9. Expand and define the term GUI.

10. What is the importance of developing a test case?

PART B — (5 × 5 = 25 marks)

Answer ALL questions. Choosing either (a) or (b).

11. (a) How does the object-oriented approach differ from the traditional top-down approach?

Or

(b) Write about object nature.

12. (a) Discuss on Rumbaugh object modeling technique.

Or

(b) Describe the static and dynamic model.

13. (a) Why analysis is a difficult activity? Explain.

Or

(b) Describe the noun phrase strategy to identify tentative classes in a problem domain.

14. (a) Describe single and multiple inheritances.

Or

(b) Describe the macro and micro processes of view layer design.

15. (a) Write the UI design rules.

Or

(b) What is client-server computing? Explain.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. What is object oriented SDLC? Explain.

17. Discuss in detail about unified approach in system development.

18. Why documentation is an important part of analysis? Write the guidelines for developing effective documentation.

19. Write the activities involved in object oriented design process.

20. Explain about Foundation class library.

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D–7563

Sub. Code
31541/34041

DISTANCE EDUCATION

M.C.A./ M.C.A. (Lateral Entry) DEGREE EXAMINATION, DECEMBER 2022.

Fourth Semester

Computer Application

ACCOUNTING AND FINANCIAL MANAGEMENT

(CBCS 2018-2019 Academic Year onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is business entity concept?

2. What is capital gearing ratio?

3. List out the functions of management accounting.

4. What is Break-even Point?

5. What is labour efficiency variance?

6. What are the objectives of budgetary control?

7. What is payback period?

8. State the types of working capital.

9. What is dividend decision?

10. What is cost of capital?

PART B — (5 × 5 = 25 marks)

Answer ALL questions. Choosing either (a) or (b).

11. (a) Explain the accounting conventions

Or

(b) Compute Cash from operations from the following:

Net Profit for the year 2003-04	Rs.80,000
Depreciation written off on Fixed Assets	Rs.11,000
Profit on Sale of Building	Rs.22,000
Loss on Sale of Machine	Rs.13,000
Increase in Current Assets (except cash)	Rs.46,000
Increase in Current Liabilities	Rs.29,000

12. (a) "Cost Volume Profit Analysis" is helpful for profit planning – Explain.

Or

(b) From the following particulars, calculate the sales required to earn a profit of Rs. 1,20,000.

Sales	-	Rs. 6,00,000
Variable Costs	-	Rs. 3,75,000
Fixed Costs	-	Rs. 1,80,000

13. (a) State the process, advantages and limitations of Zero Base Budgeting.

Or

(b) From the following information, compute different direct material variances:

	Standard			Actual		
	Qty. Kgs.	Unit Price	Total	Qty. Kgs.	Unit Price	Total
		Rs.	Rs.		Rs.	Rs.
Material A	10	2.00	20.00	5	3.00	15.00
Material B	20	3.00	60.00	10	6.00	60.00
Material C	20	6.00	120.00	15	5.00	75.00
Total	50		200.00	30		150.00

14. (a) What is working capital? What are its types?

Or

(b) ABC Ltd., has Rs. 80,000 to invest. It has two attractive proposals at hand for consideration. The alternatives are:

	Product X	Product Y
	Rs.	Rs.
Investment Outlay	80,000	80,000
Cash inflows:		
Year 1	32,000	20,000
Year 2	32,000	20,000
Year 3	24,000	24,000
Year 4	Nil	32,000

PV Factor @ 10%	1	2	3	4	5
	0.91	0.83	0.75	0.68	0.62

Which investment proposal would you recommend under the payback approach?

15. (a) What are the different types of dividend policies?

Or

(b) Explain the concept and method of calculating the weighted average cost of capital

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Distinguish between Financial Accounting and Management Accounting.

17. The following particulars are taken from M/s. Kumarasamy & Co. Prepare Trading, Profit and Loss account and Balance Sheet as on 31.3.2005.

	Debit	Credit
Capital		1,10,000
Bank	5,000	
Plant & Machinery	35,000	
Land & Building	42,000	
Debtors	11,500	
Cash	2,500	
Purchases & Sales	20,000	75,000
Purchase returns & Sales returns	2,000	1,500

	Debit	Credit
Bills receivable	1,500	
Bills payable		2,000
Wages	24,000	
Creditors		6,500
Salaries	12,000	
Discount (cr.)		1,000
Stock on 1.4.2004	7,000	
Furniture	5,000	
Carriage inwards	1,000	
Carriage outwards	2,000	
Advertising	1,500	
Travelling expenses	500	
Loans		27,000
Vans & Trucks	50,000	
Telephone	500	
Total	2,23,000	2,23,000

Adjustments:

(a) Stock on 31.3.2005 was valued at Rs. 15,000

(b) Wages outstanding Rs. 1,000

(c) Salaries prepaid Rs. 2,000

(d) Provide depreciation on furniture by 10%

18. Prepare a Flexible Budget for overhead expenses on the basis of the following data and determine the overhead rates at 70%, 80% and 90% plant capacity.

	Capacity Level 80%
Variable overheads:	Rs.
Indirect labour	12,000
Stores including spares	4,000

	Capacity Level 80%
Semi-variable overheads:	
Power (30% fixed, 70% variable)	20,000
Repairs and Maintenance (60% fixed, 40% Variable)	2,000
Fixed overheads:	
Depreciation	11,000
Insurance	3,000
Salaries	10,000
Total overheads	62,000
Estimated direct labour hours	1,24,000 hrs

19. The financial manager of company has to advise the Board of Directors on choosing between two competing project proposals which require an equal investment of Rs. 1,00,000 and are expected to generate net cash flows as under:

	Project I	Project II	PV factor @ 10%
End of Year	Rs.	Rs.	Re.
1	48,000	20,000	0.909
2	32,000	24,000	0.826
3	20,000	36,000	0.751
4	Nil	48,000	0.683
5	24,000	16,000	0.621
6	12,000	8,000	0.564

Assume cost of capital to be 10% p.a. Which project should be recommended and why?

20. Describe the determinants of capital structure.

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D–7564

Sub. Code
31542/34042

DISTANCE EDUCATION

MCA / MCA (Lateral Entry) DEGREE EXAMINATION,
DECEMBER 2022.

Fourth Semester

COMMUNICATION SKILLS

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define Communication.

2. Write an example for extra personal communication.

3. Distinguish between Soft Skills and Hard Skills.

4. How do you introduce yourself while Telephone Conversation.

5. How do you analyze the audience before your presentation?

6. What do you mean Proximics?

7. Write note on the purpose of Group Discussion.

8. How do you start writing official meetings notice?

9. Find the difference between resume and Curriculam Vitae.

10. How do you improve English Language writing?

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) What makes communication important?

Or

(b) Discuss the barriers to Communication?

12. (a) Write down the special features of verbal and Non-verbal communication.

Or

(b) List out the Do's and Don't's while telephone conversation.

13. (a) What is presentation? What are the various tips for powerful presentation?

Or

(b) How do you prepare yourself before your presentation in a meeting?

14. (a) Why Group discussion is important? And what are the different types of GD?

Or

(b) What are the different types of interviews? Mention the etiquette and manners one should adhere during the interviews.

15. (a) How do you develop creative writing skills?

Or

(b) What are the symbols and signs are called the mail magic?

PART C — (3 × 10 = 30 marks)

Answer any THREE of the following :

16. Write an essay on various levels of communication.

17. What are the soft Skills? Mention the important of Soft Skills? How do you sell your Soft Skills?

18. How Audio – Visual aids helpful for the effective presentation?

19. What are the areas to be concentrated while preparing for a GD? Mention Non-verbal Communication in GD.

20. Find the distinction between Minutes and Memos. How do you writing up the minutes for the official meeting.

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D–7565

Sub. Code
31543/34043

DISTANCE EDUCATION

M.C.A./M.C.A. (Lateral Entry) DEGREE EXAMINATION, DECEMBER 2022.

Fourth Semester

Computer Application

INTERNET AND JAVA PROGRAMMING

(CBCS 2018-2019 Academic Year onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define the term: IRC.

2. How to do chatting in internet?

3. What is meant by Typecasting in Java?

4. What is associativity operator in Java?

5. Define the term Constructor.

6. Write the syntax to define interface in Java.

7. What does the term synchronization referred to in Java?

8. Write down the code to create polygon using Graphics class.

9. What are byte stream classes?

10. What is Input Output Exception in streams?

PART B — (5 × 5 = 25 marks)

Answer ALL questions. Choosing either (a) or (b).

11. (a) How to create a newsgroup? Explain.

Or

(b) Explain the role of variety of conferencing tools in Internet.

12. (a) Write in detail about features of Java.

Or

(b) Write a Java program to display factorial of a given number.

13. (a) Explain string buffer functions through examples.

Or

(b) Write a Java program to search for an element in an array.

14. (a) Discuss about (i) throw (ii) finally giving examples.

Or

(b) Briefly explain about the use of control loops in an applet.

15. (a) Write in detail about Filtered Streams in Java.

Or

(b) Write short notes on Random access files in Java.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. How to establish client server communication? Explain Domain Name System.

17. Illustrate method overloading in Java with an example.

18. Write short notes on the following string handling functions.

    (a) substring(m) (b) substring(m,n)

    (c) index Of() (d) compare To()

    (e) equals()

19. Explain how to design a webpage in applet.

20. Explain about interactive input and output using streams with an examples.

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D–7566

Sub. Code
31551/34051

DISTANCE EDUCATION

M.C.A./M.C.A. (Lateral Entry) DEGREE EXAMINATION, DECEMBER 2022.

Fifth Semester

Computer Application

COMPUTER NETWORKS

(CBCS 2018-2019 Academic Year onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What are the two types of transmission technology available?

2. What is frame relay? In which layer it comes?

3. What is the purpose of flow control?

4. Compare the performance of one-persistent and non-persistent CSMA.

5. What is packed switching?

6. Define the term Virtual circuit.

7. Which protocol resolves an IP address to a MAC address?

8. Differentiate TCP and UDP.

9. What are the types of security attacks?

10. What is a Cipher?

PART B — (5 × 5 = 25 marks)

Answer ALL questions, Choosing either (a) or (b).

11. (a) Write short notes on LAN.

Or

(b) Briefly describe the various transmission media.

12. (a) Discuss the mechanism for Error Detection and correction.

Or

(b) Give a brief account on slotted ALOHA.

13. (a) Explain shortest path routing algorithm.

Or

(b) Compare and Contrast Multicast and Broadcast routing mechanism.

14. (a) Explain the steps in TCP connection establishment.

Or

(b) Write short notes on Remote Login.

15. (a) Discuss about transposition ciphers.

Or

(b) Write short notes on RSA.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Describe the various network topologies with neat sketch.

17. Explain CSMA/CA and CSMA/CD.

18. Describe the Dynamic routing algorithm.

19. Explain the following.

    (a) HTTP

    (b) SNMP

    (c) DNS

20. Describe the DES algorithm in symmetric key cryptography.

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D–7567

Sub. Code
31552/34052

DISTANCE EDUCATION

M.C.A./M.C.A. (Lateral Entry) DEGREE EXAMINATION,
DECEMBER 2022.

Fifth Semester

Computer Applications

DATA MINING AND WAREHOUSING

(CBCS 2018-2019 Academic Year onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is a Data warehosue?

2. What is called KDD?

3. What is called association rule in data mining?

4. What is prediction in data mining?

5. What is meant by clustering in data mining?

6. What is called supervised learning in neural network?

7. What is meant by web mining?

8. What is called spatial data?

9. What is the purpose of Hadoop?

10. Expand and write a note on the term HDFS.

PART B — (5 × 5 = 25 marks)

Answer ALL questions. Choosing either (a) or (b).

11. (a) Explain about Warehouse schema.

Or

(b) Describe the process of data selection in data mining.

12. (a) Write any two methods to discover association rule giving an example.

Or

(b) Explain about Bayesian classification with suitable example.

13. (a) Explain about any one of the clustering techniques with suitable example.

Or

(b) Describe the types of learning methods with suitable examples.

14. (a) Explain about Text retrieval methods.

Or

(b) Give an overview on visual data mining.

15. (a) Write short notes on the core components of Hadoop.

Or

(b) Explain about current trends in data analytics approach.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain in detail about the techniques of data mining.

17. Discuss on the classification methods in data mining.

18. Properties of neural network and its types - Discuss.

19. Explain in detail about the various types of text mining approach.

20. Why we need big data analytics? Traditional versus Big data approach - Discuss.

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D–7568

Sub. Code
31553/34053

DISTANCE EDUCATION

M.C.A./M.C.A. (Lateral Entry) DEGREE EXAMINATION, DECEMBER 2022.

Fifth Semester

Computer Application

VISUAL PROGRAMMING WITH .NET

(CBCS 2018-2019 Academic Year onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is called IDE?

2. What is the use of visual studio 2010?

3. What do you mean by the term snippet?

4. What is namespace?

5. What is meant by event in C#?

6. Write down the steps to rebuild the solution.

7. Explain the term LINQ.

8. What is meant by Stored Procedure?

9. Expand the terms WPF and MFC.

10. How to bind the data in ItemSource property of combobox?

PART B — (5 × 5 = 25 marks)

Answer ALL questions. Choosing either (a) or (b).

11. (a) Write short notes on environmental settings of visual studio.

Or

(b) Describe the features of work area in visual studio.

12. (a) Explain about code expression and statements.

Or

(b) Explain about branching statements in C# with suitable examples.

13. (a) How to create interface in C#? Explain the suitable code example.

Or

(b) Write short notes on Assembly.

14. (a) Describe the handling of data with LINQ to SQL.

Or

(b) List out the configuration of Database options. Explain the usages of them.

15. (a) Describe the properties of WPF.

Or

(b) Describe the features of Datagrid control.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss about Visual studio project types.

17. Describe the features of VS code Editor.

18. How to examine the property settings of a project? Explain in detail.

19. Explain in detail about setting debugging mode configuration of a project and its usages.

20. Explain in detail about the layout types and its features.

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D–7569

Sub. Code
31561/ 34061

DISTANCE EDUCATION

M.C.A./ M.C.A. (Lateral Entry) DEGREE EXAMINATION, DECEMBER 2022.

Sixth Semester

Computer Application

CLOUD COMPUTING

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. List the components of Cloud Computing.

2. What are the benefits of Migrating to Cloud Computing?

3. What do you mean by "Virtual Communities" in Cloud?

4. How will the Cloud Services collaborate on To-Do Lists?

5. What types of Calendars can you create with Google Calendar?

6. Define Contact Management in Cloud.

7. What are the federation levels considered in Cloud Paradigm?

8. What are the risks associated with using Cloud Storage Services?

9. Define the Eucalyptus Open Source Cloud Platform.

10. What are the Web-based office suites available in Cloud?

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Describe Cloud Architecture in brief with neat Sketch.

Or

(b) Writes short notes on the History of Cloud Computing.

12. (a) How will the Cloud Services Collaborate on Business Project Management?

Or

(b) Write short notes on collaborating on Expense Reports and Budgets with Cloud Applications.

13. (a) Analyze the working procedure for Collaborating on Word Processing using Cloud with Suitable illustration.

Or

(b) List the Online Scheduling Applications available in the Cloud Computing in brief.

14. (a) Explain the working procedure of Aneka neat Sketch.

Or

(b) Write short notes Cloud storage Providers.

15. (a) Describe in brief about various Open Source Platforms using Cloud.

Or

(b) Describe in detail, the use of mobile enterprise application platform.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. What is Cloud Computing? Write Short notes on Deployment models of Cloud Computing.

17. Elucidate the centralization of Email Communication using the Cloud with suitable application example.

18. Describe in detail, the use of Cloud Storage and evaluating Online file-storage and sharing services.

19. Discuss in detail, the Service Level Agreements of Cloud Platform.

20. Elaborate the working of Open source Nebula for Cloud applications with suitable example.

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D–7570

Sub. Code
31562/34062

DISTANCE EDUCATION

M.C.A/M.C.A.(Lateral Entry) DEGREE EXAMINATION, DECEMBER 2022.

Sixth Semester

Computer Application

SOFT COMPUTING

(CBCS 2018-2019 Academic Year onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Distinguish between Soft and Hard Computing.

2. What do you mean by Linear Separability?

3. Define the term Supervised Learning.

4. What is Associative Memory network?

5. List the properties of Fuzzy sets.

6. Define the term Defuzzification.

7. What are Fuzzy Proportions?

8. Define the term Expert System.

9. Write the meaning of the terms Mutation and Crossover operations.

10. List the classification of Genetic Algorithm.

PART B — (5 × 5 = 25 marks)

Answer ALL questions. Choosing either (a) or (b).

11. (a) Summarize the characteristics and applications of Soft Computing.

Or

(b) Write short notes on Artificial Neural Network.

12. (a) Write short note on Adaline and Madaline Network.

Or

(b) Discuss on Counter Propagation Network.

13. (a) What are Fuzzy sets? Bring out various operations on Fuzzy sets.

Or

(b) Describe briefly about the Fuzzy Equivalence and Tolerance Relation.

14. (a) Write short notes on Fuzzy Measures.

Or

(b) Explain briefly about Approximate Reasoning.

15. (a) Distinguish between Traditional Vs Genetic Algorithm.

Or

(b) Write short note on Genetic Programming.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the Fundamental models of Artificial Neural Network with neat sketch.

17. Elaborate on the working of Unsupervised Learning Networks with suitable example.

18. Discuss in detail about Fuzzy Relations.

19. Discuss in detail about Fuzzy logic Control System with proper illustration.

20. Describe the basic terminologies and elements of Genetic Algorithm.

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D–7571

Sub. Code
31563/34063

DISTANCE EDUCATION

M.C.A./M.C.A.(Lateral Entry) DEGREE EXAMINATION,
DECEMBER 2022.

Sixth Semester

Computer Application

BIG DATA ANALYTICS

(CBCS 2018-2019 Academic Year onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is Big Data?

2. Define the term VVV.

3. What is called Map Reduce?

4. What is meant by NNS?

5. Write down the types of queries and their uses?

6. What is meant by decaying window?

7. Define the term Page Rank.

8. What is called link spam?

9. How to represent the social network as a graph?

10. What is called SimRank?

PART B — (5 × 5 = 25 marks)

Answer ALL questions. Choosing either (a) or (b).

11. (a) Write short note on HDFS.

Or

(b) Describe the core components of Hadoop.

12. (a) Explain about Reduce task in MapReduce.

Or

(b) Write short note on Filtering.

13. (a) Explain about Biased Reservoir sampling.

Or

(b) Write short note on cost of exact counting.

14. (a) Write short notes on Collaborative filtering System.

Or

(b) Write short notes on applications of social networking mining

15. (a) Explain about collaboration and information linkage graphs.

Or

(b) How measure the cluster? Explain briefly.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain in detail about Eco system of Hadoop.

17. How MapReduce is used to process the relational data? Explain in detail.

18. Explain the issues in Data Stream Query processing.

19. Explain about Top-sensitive page rank. How it is used by search engine.

20. How social network relates to social network graphs? Explain with necessary diagrams.

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