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DISTANCE EDUCATION

M.C.A. (S) DEGREE EXAMINATION, MAY 2014

First Semester

DIGITAL COMPUTER ORGANISATION

(2010 Academic Year Onwards)

Time : Three hours   Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1.   Explain about 9's and 1's complement method with suitable examples.

2.   Convert the number $(5675.444)_8$ into its decimal and hexadecimal.

3.   Write a short notes on Demultiplexer.

4.   State the basic theorems of Boolean Algebra.

5.   Design half adder using NAND gates.

6.   Explain the operation of D-flip flop.

7.   Explain about BCD counter.

8.   Explain any two peripheral devices.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. (a) Convert the following hexadecimal numbers to decimal numbers.

(i) 15

(ii) B8

(iii) AB4

(iv) 9.B.

(b) Perform the following subtractions in the binary number system, using 2's complements :

(i) 1111 – 110

(ii) 1110 – 1100

(iii) 1011.11 – 101.001

(iv) 111.1 – 110.1

10. Convert the following expressions to sum-of-products form :

(a) $(A + B) \left(\overline{B} + C\right) \left(\overline{A} + C\right)$

(b) $\left(\overline{A} + C\right) \left(\overline{A} + \overline{B} + \overline{C}\right) \left(A + \overline{B}\right)$

(c) $(A + C) \left(A\overline{B} + AC\right) \left(\overline{A}\,\overline{C} + \overline{B}\right)$

11. Draw a circuit for parallel binary adder and explain its functions in detail.

12. Explain the functionality of full adder.

13. Discuss about Random–Access Semiconductor memories.

14. (a) Explain about Magnetic Tape.

(b) Write a short notes on decoders.

15. Explain the block diagram of an I/O interface unit.

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DISTANCE EDUCATION

M.C.A. (S). DEGREE EXAMINATION, MAY 2014

First Semester

C AND DATA STRUCTURES

(2010 Academic Year Onwards)

Time : Three hours   Maximum : 100 marks

PART A — ($5 \times 8 = 40$ marks)

Answer any FIVE questions.

1.   Write short notes on operators and list out its types.

2.   Briefly explain about looping with an example.

3.   Write a C program using gets and puts function.

4.   Write short notes on pass by value and pass by reference in functions.

5.   How getchar and putchar functions can be used to read and write multi character strings?

6.   Define Binary tree and its types.

7.   Write the algorithm to insert and delete an element in the queue.

8.   Write short notes on stack operations.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Explain in detail about the switch statement with an example.

10. Discuss the various operations on double linked list.

11. What is stack ADT? Give any one implementation of the stack.

12. (a) Explain the Advantages of using functions.   (7)

    (b) Write a C program to explain about the built in functions.   (8)

13. Write a C program to convert Decimal number to Octal number.

14. Explain the terms

    (a) Pointers.   (4)

    (b) Operations on a Pointer.   (6)

    (c) Advantages of using pointer.   (5)

15. Explain in detail about two dimensional arrays with an example.

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DISTANCE EDUCATION

M.C.A. (S) DEGREE EXAMINATION, MAY 2014

First Semester

RELATIONAL DATABASE MANAGEMENT SYSTEMS

(2010 Academic Year onwards)

Time : Three hours   Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE of the following questions.

1. Discuss the advantages and disadvantages of DBMS.

2. What do you mean by constraints? Explain with examples.

3. Write short notes on Client/Server systems.

4. Define Query. How it is different from subquery? Explain.

5. Explain the concept of embedded SQL.

6. What are the factors that should be used to evaluate an Indexing technique? Discuss briefly.

7. How data can be manipulated in SQL? Explain.

8. Write short notes on joins in SQL.

PART B — (4 × 15 = 60 marks)

Answer any FOUR of the following questions.

9. Describe various components of DBMS environment and discuss how they relate to each other.

10. Write a note on

    (a) Primary key and foreign key

    (b) Self join and equi join

    (c) Correlated subquery.

11. Explain briefly about oracle database architecture with neat diagram.

12. Write a brief note on various DML commands with neat syntax.

13. Discuss the ways for modifying and renaming the table with suitable syntax.

14. Describe the importance of oracle precompiler with necessary illustrations.

15. What do you mean by RDBMS? Explain with neat sketch about the components of RDBMS.

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DISTANCE EDUCATION

M.C.A. (S) DEGREE EXAMINATION, MAY 2014

First Semester

OPERATING SYSTEMS

(2010 Academic Year onwards)

Time : Three hours　　　　　　　　Maximum : 100 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Briefly explain the operating system concepts.

2. Write a note on process scheduling.

3. Discuss the concepts of interrupt handlers.

4. Explain in detail about device controllers.

5. Draw the structure of process control block and explain.

6. What is meant by mutual exclusion? Explain.

7. Explain the file structure in a file system.

8. Write the merits and demerits of contiguous allocation for disk space.

SECTION B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Briefly explain the operating system structure.

10. Explain in detail about interprocess communication.

11. Write short note on the following :

   (a)   Race condition   (5)

   (b)   Event counters   (5)

   (c)   Message passing.   (5)

12. What do you meant by Deadlock? What are the necessary conditions for occurring deadlock?

13. What is meant by swapping and explain in detail about the analysis of swapping system.

14. What are files and explain the access methods for files.

15. Explain in detail about the security concepts in files.

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DISTANCE EDUCATION

M.C.A. (S) DEGREE EXAMINATION, MAY 2014

Second Semester

OBJECT ORIENTED PROGRAMMING AND C++

(2010 Academic Year onwards)

Time : Three hours　　　　　　　　　Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Compare and contrast object oriented programming language with structured programming language.

2. Define variable. Explain the scope of the variable.

3. Explain the various decision making statements available in C++ with example.

4. Write a short note on Pointers.

5. Describe pass by value and pass by reference with example.

6. Define function. Explain function with and without arguments.

7. How do you define and declare class and object? Explain.

8. Write a C++ program to perform append operation in a text file.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9.   Explain the key concepts of object oriented programming.

10. Define Array. Explain one dimension and multidimension array with example.

11. List and explain any ten library functions available in C++.

12. Write a note on friend function in C++.

13. How do you overload '+' operator in C++? Explain.

14. Explain the hierarchy of stream class.

15. Write a program in C++ to perform push and POP operation of a stack.

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DISTANCE EDUCATION

M.C.A. (S) DEGREE EXAMINATION, MAY 2014.

Second Semester

UNIX AND SHELL PROGRAMMING

(2010 Academic year onwards)

Time : Three hours　　　　　　Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Discuss the Unix directory structure.

2. State the usage of 'awk' command.

3. What is the sequence of shell's treatment of the command line?

4. How splitting and joining of lines is performed in shell programming.

5. Writ short notes on Vi editor commands.

6. How do you process text in Unix? Explain.

7. Write the usage of && and !! operators.

8. What is 'eqn' preprocessor? Explain.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Explain Unix file system. Also mention the usage of following commands with general syntax and example.

    (a) pwd

    (b) cat

    (c) cd*

    (d) tty.

10. Explain about filters and their options with an example.

11. Explain about environment variables.

12. Explain the conditional expression of shell programming.

13. Mention Unix based built-in-functions for string manipulation and explain in detail.

14. Explain text mode and binary mode I/O functions.

15. Describe the Ms Macro Package.

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DISTANCE EDUCATION

M.C.A. (S) DEGREE EXAMINATION, MAY 2014.

Second Semester

COMMUNICATION SKILLS

(2010 Academic Year onwards)

Time : Three hours   Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Explain reading styles and reading techniques.

2. What are the various interview techniques?

3. Why is body language important? Discuss.

4. Write a note on interpersonal behaviour.

5. What are the different types of communication?

6. Differentiate between inter and intra personal communication.

7. How is personality tested through group discussion?

8. How are notes and outlines helpful in a presentation?

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. How can you make your writing effective?

10. Does speaking effectively improve your communication?– Explain.

11. Write an essay on the origin and development of body language.

12. Discuss the significant steps involved in better negotiation.

13. Attempt an essay on the need for a good presentation.

14. What are the strategies involved in arranging a meeting?

15. Write a model presentation.

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DISTANCE EDUCATION

M.C.A.(S) DEGREE EXAMINATION, MAY 2014.

Second Semester

COMPUTER GRAPHICS

(2010 Academic Year onwards)

Time : Three hours   Maximum : 100 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE of the following questions.

1. Write down the various applications of computer graphics.

2. Discuss any three output primitives.

3. What are the basic operations of 2D transformation?

4. Write a brief note on windowing transformation.

5. How translation and rotation can be performed on a three dimensional objects?

6. Explain briefly parallel projection.

7. Discuss about the depth-buffer algorithm.

8. Explain the various file formats.

SECTION B — (4 × 15 = 60 marks)

Answer any FOUR of the following questions.

9. Describe the conceptual frame-work for interactive graphics.

10. Explain the techniques for

    (a) Line clipping.

    (b) Text clipping.

11. Discuss any two 3D display techniques.

12. Explain the Cohen Sutherland algorithm for line clipping.

13. Explain about RGB and YIQ colour models in detail.

14. Discuss in detail about the command language styles.

15. Write a note on
   (a) Raster scan system.
   (b) HSV colour model.

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DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S) (L) DEGREE EXAMINATION, MAY 2014.

Third Semester

DISCRETE MATHEMATICS

(2010 Academic Year onwards)

Time : Three hours　　　　　　　　Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Show that $P \to (Q \to R) \Leftrightarrow \neg P \to (P \to Q)$.

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

3. Define power set. Write the power set of $S = (X, Y, Z)$.

4. If $X = \{1,2,....,7\}$ and $R = \{< x, y > / x - y \text{ is divisible by } 3\}$. Show that R is an equivalence relation. Draw the graph of R.

5. Show that $A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$.

6. For any commutative monoid $< M, * >$, prove that set of idempotent elements of M forms a submonoid.

7. Define ring with an example.

8. Define the following with examples.

   (a) Connected graph

   (b) Weighted graph.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Explain principal disjunctive normal forms with an example.

10. Show that $(x)(P(x) \vee Q(x)) \Rightarrow (x)P(x) \vee (\exists x)Q(x)$.

11. (a) If R and S be two relations on a set of positive integers $I: R = \{< x,2n >/x \in I\}, S = \{< x,7x >/x \in I\}$. Find $R \circ S$, $R \circ R$, $R \circ R \circ R$ and $R \circ S \circ R$.

    (b) If R is a partial ordering relation on a set X and $A \le x$, Show that $R \cap (A \times A)$ is a partial ordering relation on A.

12. If $X = \{1,2,3\}$ and f, g, h and s be function from X to X given by

    $f = \{< 1,2 >,< 2,3 >,< 3,1 >\}$ $g = \{< 1,2 >,< 2,1 >,< 3,3 >\}$

    $h = \{< 1,1 >,< 2,2 >,< 3,1 >\}$ $s = \{< 1,1 >,< 2,2 >,< 3,3 >\}$

    Find $f \circ g$; $g \circ f$; $f \circ h \circ g$; $s \circ g$; $g \circ s$; $s \circ s$ and $f \circ s$.

13. Show that in a group $<G,*>$, if for any $a,b \in G$, $(a*b)^2 = a^2 * b^2$, then $<G,*>$ must be Abelian.

14. Prove that every finite group of order n is isomorphic to a permutation group of degree n.

15. Explain different types of trees with an example.

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DISTANCE EDUCATION

M.C.A.(S)/M.C.A(S)(L) DEGREE EXAMINATION, MAY 2014.

Third Semester

COMPUTER NETWORKS

(2010 Academic year onwards)

Time : Three hours   Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Explain the need for protocols and standards in computer networks.

2. List the important features of ATM.

3. Explain the sequence numbering of frames in sliding window flow control mechanism.

4. Describe the frame format of HDLC data link protocol.

5. Explain the traffic and congestion control framework.

6. Describe fragmentation.

7. List the different types of DNS.

8. Describe Cryptography.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Draw the diagram of the OSI layers with header and explain.

10. Explain the packet switching and circuit switching techniques in data communication.

11. What is protocol performance? Derive the relation for protocol performance for

    (a) Stop and wait flow control mechanism.   (8)

    (b) Sliding – Window – Protocol mechanism.   (7)

12. Explain how mobile IP provides user the freedom to room beyond their home subnet while consistently maintaining their home IP address.

13. What is MPEG? Explain various frames for encoding purpose.

14. Discuss the architecture and services provided by Electronic Mail.

15. Explain domain name system and the message format of DNS and draw the header format.

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DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S) (L) DEGREE EXAMINATION, MAY 2014.

Third Semester

SOFTWARE ENGINEERING

(2010 Academic year onwards)

Time : Three hours   Maximum : 100 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Write a short notes on RAD.

2. Write the necessities for software quality control and assurance.

3. Explain the key elements in the project management process.

4. What are the factors influencing software quality? Explain.

5. Explain the different software quality metrics.

6. Explain about domain analysis.

7. Write a short notes on transform mapping design.

8. Explain black box testing in detail.

SECTION B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Explain the various phases of software engineering life cycle.

10. Discuss about the layered technology.

11. Explain the project estimation in detail.

12. Discuss about relational and state oriented notations.

13. Discuss the methods in object oriented analysis.

14. What is software testing? Explain various testing strategies.

15. Explain integration testing.

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DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S) (L) DEGREE EXAMINATION,
MAY 2014.

Third Semester

VISUAL PROGRAMMING

(2010 Academic Year onwards)

Time : Three hours   Maximum : 100 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. What is an Object? Explain its significance.

2. List the options in the edit menu of VB –IDE.

3. Explain the term : Control array.

4. What is meant by event driven programming?

5. How VBX controls an imported in VC++? Explain.

6. What is a Class? What is an object? Explain the relationship between them.

7. Explain any two common dialog box classes and methods.

8. Write the difference between model and modelers dialog boxes.

SECTION B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Discuss the features of VB-IDE.

10. Explain how database manipulations are performed with VB application.

11. Write a MFC program to maximize and minimize the window by capturing mouse messages.

12. Discuss the various windows controls available in windows programming. Explain any two controls with their properties and methods.

13. Discuss : (a) DLL   (b) OLE.

14. Discuss the design the common dialog controls and its working.

15. Explain : (a) MDI documents   (b) ODBC.

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DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S) (L) DEGREE EXAMINATION, MAY 2014.

Fourth Semester

ACCOUNTING AND FINANCIAL MANAGEMENT

(2010 Academic Year)

Time : Three hours   Maximum : 100 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Give journal entries for the following transactions.

    (a) Machinery of the book value Rs. 3,500 sold Rs. 3,000

    (b) Goods worth Rs. 1,000 taken by the proprietors for his domestic use.

    (c) Lons of stock by fine Rs. 6,200 insurers admit the claim for only Rs. 3,000

    (d) Sales tax paid on goods purchased Rs. 1,250.

2. What are accounting concepts and conventions? And name them and explain only two accounting concepts in detail.

3. Distinguish between budgetory control and standard costing.

4. What are the financial accounting? What purpose to the surve?

5. The following figures are extracted from the balance sheet of X Ltd as on 31ˢᵗ December 2003-2004.

31ˢᵗ December	2003	2004
	Rs.	Rs.
Stock	25,000	40,000
Debtors	10,000	16,000
Cash at bank	5,000	4,000
Creditors	8,000	15,000
Bills payable	2,000	3,000
Provisions for taxes	5,000	7,000
Bank over draft	5,000	15,000

    Calculate current radio and acid test ratio for the two years position of the company.

6. You are given the following data for the your 2009 for a factory.

Output	40,000 units
Fixed expenses	Rs. 2,00,000
Variable expenses per unit	Rs. 10
Selling price per unit	Rs. 10

    How many units must be produced and sold if the selling price is reduced by 10% in order to give the same profit? What will be the new break even point?

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7. From the information calculate

   (a) Material cost variance

   (b) Material usage variance

   (c) Material price variance separately for X and Y.

Material	Standard Quantity kg	Price Rs.	Actual Quantity	Actual price Rs.
X	10	4	12	3.75
Y	15	5	18	4.50
Total	25	Total	30	

8. Explain the importance of working capital management.

SECTION B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Prepare trading and profit and loss account for the year ended 31st December 2011 and balance sheet as at the date from the following trial balance of "A".

	Debit Rs.	Credit Rs.
Capital	–	1,60,000
Drawings	45,000	–
Bills payable	–	33,800
Goodwill	90,000	–
Creditors	–	70,000
Land and buildings	60,000	–
Plant and machinery	40,000	–
Loose tools	3,000	–
Bills receivable	3,000	–
Carriage outwards	500	
Carriage inwards	1,000	–

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	Debit Rs.	Credit Rs.
Purchase	51,000	–
Purchase returns	–	2,650
Sales	–	2,18,000
Sales returns	2,000	–
Stock (1-1-2011)	40,000	
Wages	20,000	
Salaries	35,000	
Rent and taxes	2,800	
Discount	1,500	
Cash at bank	25,000	
Cash in hand	400	
Sundry debtors	45,000	
Printing and stationary	500	
Bad debts	1,200	
Advertisement	3,500	–
Furniture	1,200	–
General expenses	5,250	–

Adjustments :

(a) Closing stock 31-2-2011 Rs. 35,000

(b) Depreciation plant and machinery, tools and furniture by 10% each land and buildings by 2%

(c) Provide Rs. 1,500 for wages

(d) Advertisement prepaid Rs. 500

(e) Provide 5% on debtors against bad debts and 2% against discount.

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10. Following is the balance sheet of A and Co.

Liabilities	1-1-2012	31-12-2012	Assets	1-1-2012	31-12-2012
	Rs.	Rs.		Rs.	Rs.
Creditors	36,000	41,000	Cash	4,000	3,600
Loan from " P "	–	20,000	Debtors	35,000	38,400
Loan from			Stock	25,000	22,000
bank	30,000	25,000	Land	20,000	30,000
Capital	1,48,000	1,49,000	Buildings	50,000	55,000
			Machinery	80,000	86,000
	2,14,000	2,35,000		2,14,000	2,35,000

During the year partners withdrew Rs. 26,000 for domestic expenses. The provision for depreciation against machinery as on 1-1-2012 was Rs. 27,000 and 31-12-2012 Rs. 36,000. Prepare cash flow statements.

11. Write short notes on :

    (a) Master budget

    (b) Zero base budgeting

    (c) Sales budget.

12. For production 10,000 electrical automatic irons the following are budgeted expenses :

	Per Unit
	Rs.
Direct material	60
Direct Labour	30
Variable Overheads	25
Fixed overheads (Rs. 1,50,000)	15
Variable expenses (direct)	5
Selling expenses (10% fixed)	15

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	Per Unit
	Rs.
Admin expenses	
(Rs. 50,00 right for all levels of	5
production	
Distribution expenses (20% fixed)	5
Total cost of sales per unit	160

Prepare a flexible budget for the production 6000; 7000; 8000 irons showing distinetly the marginal cost and total cost.

13. From the following particulars calculate prime cost, factory cost, cost production and cost of sales.

	Rs.
Raw materials	66,000
Productive wages	70,000
Direct expenses	6,000
Factory rent and taxes	15,000
Factory lighting	4,400
Factory heating	3,000
Motive power	8,800
Office stationary	1,800
Directors fees (works)	2,000
Directors fees (office)	4,000
Factory cleaning	1,000
Sundry office expenses	400
Estimating	1,600
Factory stationary	1,500

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	Rs.
Factory insurance	2,200
Office insurance	1,000
Legal expenses	800
Rental ware house	600

14. Discuss in detail the functions of financial management.

15. Explain the factors determining the working capital.

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DISTANCE EDUCATION

M.C.A (S)/M.C.A. (S)(Lateral) DEGREE EXAMINATION,
MAY 2014.

Fourth Semester

INTERNET PROGRAMMING

(2010 Academic Year onwards)

Time : Three hours   Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. How does e-mail works? Explain.

2. Illustrate the use of packages in Java.

3. Explain the for… Next loop in VB script with example.

4. How arrays are handled in Java Script? Explain.

5. Give the text formatting tags in HTML.

6. Explain the various built in functions and events available in VB script and Java Script.

7. Write a short note on Active X control.

8. Explain the use of web graphic.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Explain the terms internet, intranet and extranet.

10. Discuss in detail about exception handling in Java.

11. (a) Compare and contrast between VB Script and Java Script.

    (b) Discuss about the file handling objects in VB Script.

12. Discuss table and forms in HTML.

13. Explain the file menu and favorties menu options in internet explorer.

14. Write short notes on

    (a) VDO live technology.

    (b) Plugin.

15. Explain the method of adding images to web page with an example.

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DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S) (L) DEGREE EXAMINATION, MAY 2014.

Fourth Semester

OBJECT ORIENTED ANALYSIS AND DESIGN

(2010 Academic Year onwards)

Time : Three hours   Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Explain the evolution of object model.

2. Explain the applications and benefits of object model.

3. Write a brief note building quality classes and objects.

4. Explain use case diagram with suitable illustration.

5. What is metaclass? Explain with an example.

6. Explain CRC with suitable illustration.

7. Discuss on the use of deployment diagram.

8. Explain package diagram with a suitable example.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Explain the interplay of classes and objects with suitable illustration.

10. Explain the relationships among objects with suitable examples.

11. Explain the different methods of classification of objects and classes.

12. What is a key abstraction? Explain how key abstractions are identified and refined.

13. Discuss the stages in object oriented development process.

14. What is a statechart diagram? Explain the functionalities that can be represented in a statechart diagram.

15. Draw an UML diagram which depicts the relationship between company, employee, and manager. Depict the processing of payroll, reporting for the employees.

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DISTANCE EDUCATION

M.C.A.(S)/M.C.A.(S)(L). DEGREE EXAMINATION,
MAY 2014

Fourth Semester

COMPILER DESIGN

(2010 Academic Year Onwards)

Time : Three hours   Maximum : 100 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1.   Explain the role of lexical analyzer.

2.   Write short notes on NFA. Give an example.

3.   What does LR parser mean? Give its advantages over other parsers.

4.   Explain briefly three address code.

5.   Show the quadruples and triples for the assignment statement A : = –B *(C + D).

6.   Write short notes on contents of a symbol table.

7.   What is meant by ambiguous grammar? Give an example.

8.   Explain the problems in code generation.

SECTION B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Explain in detail phases of a compiler.

10. (a) Write short notes on compiler writing tools. (7)

    (b) Construct NFA and its transition table for the regular expression (abc)*. (8)

11. Explain in detail Top down parsing.

12. Explain synthesized attributes in syntax directed translation and how it can be evaluated by Bottom up parser for the input 3 * 5 + 4n.

13. Explain the different data structures using for storing the contents of a symbol table.

14. Explain in detail :

    (a) Syntactic Phase Errors. (8)

    (b) Semantic Errors. (7)

15. Discuss the different peephole optimization that can be done on a source program.

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DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S) (L) DEGREE EXAMINATION, MAY 2014

Fifth Semester

DISTRIBUTED COMPUTING

(2010 Academic Year Onwards)

Time : Three hours   Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Define Distributed Systems. Explain with examples.

2. What are the various networking issues for Distributed Systems?

3. List down the general characteristics of Inter Process Communication.

4. Explain Remote Procedure Call.

5. Write short notes on Invocation Performance.

6. Bring out the significance of DNS.

7. Explain Logical time and Logical clock.

8. Give a brief description on optimistic concurrency control.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Give a detailed note on the challenges of Distributed System.

10. Explain Network Principles for Distributed Systems.

11. Write in detail about External data representation and marshalling.

12. Bring out the significance of Events and Notification.

13. Explain the concept of threads in detail with suitable diagram.

14. Give a detailed note on Distributed Debugging.

15. Explain the implementation of locks in Transactions.

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502

DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S) (Lateral) DEGREE EXAMINATION,
MAY 2014.

Fifth Semester

WEB TECHNOLOGY

(2010 Academic Year Onwards)

Time : Three hours   Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Explain case coding style sheets with suitable example.

2. Describe using bound properties.

3. Explain JSDK with suitable example.

4. Explain the life cycle of a servelet.

5. Discuss the JSP applications.

6. Write short notes an error handling and debugging.

7. Explain the structure of JDBC.

8. What is struts frame work? Explain their features.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. What is scripting? Discuss the application of JavaScript in HTML?

10. Describe the DHTML event handling procedure with suitable example.

11. Explain the Java beans and form processing.

12. Disucss the following

    (a) Bean info interface. (5)

    (b) Constrained properties. (5)

    (c) Persistance. (5)

13. Explain the following

    (a) Handling HTTP request and response. (5)

    (b) Cookie attributes. (5)

    (c) Draw backs of cookies. (5)

14. Explain about user passing control and data between pages.

15. Explain any three struts components in detail.

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DISTANCE EDUCATION

M.C.A.(S)/M.C.A.(S) (L) DEGREE EXAMINATION,
MAY 2014.

Fifth Semester

.NET FRAME WORKS

(2010 Academic year onwards)

Time : Three hours   Maximum : 100 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1.   List the advantages of common language runtime environment.

2.   Write a note on common type system and common language specification.

3.   Describe the WINCV tool.

4.   Briefly discuss the string class in .NET.

5.   What is multithreading? Write a program in any one of .NET programming language to explain the multithread concept.

6.   Explain the VS .NET IDE.

7.   What is dataset? How do you cache data in dataset? List the methods of datasets in .NET.

8.   Describe the web services in .NET.

SECTION B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Explain the architecture of .NET framework.

10. Describe the marshalling and remoting.

11. Define ADO .NET. Explain the ADO .NET data objects.

12. Write a note on WSDL and SOAP.

13. Discuss the collection class in .NET.

14. Define synchronization. How synchronization is achieved in .NET?

15. Explain the CLR debugger.

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DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S) (L) DEGREE EXAMINATION, MAY 2014.

Fifth Semester

DATA MINING AND WAREHOUSING

(2010 Academic year onwards)

Time : Three hours   Maximum : 100 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. What is data mining? Describe the evolution of data mining?

2. Discuss briefly about concept learning.

3. Explain enrichment in knowledge discovery process.

4. Write the functions of

   (a) Query tools.   (4)

   (b) OLAP tools.   (4)

5. Briefly explain about schema and instances.

6. Explain how security is implemented in data warehouse?

7. Discuss briefly about operating the data warehouse.

8. Write brief notes on tuning the data warehouse.

SECTION B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Explain information and production factor in detail.

10. Explain preliminary analysis of the data set using traditional query tools in detail.

11. Explain visualization technique in data mining.

12. Explain in detail about metadata repository.

13. Discuss operational design of data warehouse in detail.

14. Explain the process of backup and recovery in data warehouse.

15. Explain the features of data warehouse in detail.

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DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S) (L) DEGREE EXAMINATION, MAY 2014.

Sixth Semester

MOBILE COMMUNICATIONS

(2010 Academic Year onwards)

Time : Three hours   Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1.   Discuss about UMTS system Architecture.

2.   Briefly explain about satellite system.

3.   Write short notes on Location Management.

4.   Briefly explain about Bluetooth.

5.   Write a short notes on Reverse Tunneling.

6.   Explain traditional TCP.

7.   List out the advantages of mobile TCP.

8.   What is datagram protocol? Explain.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9.   Explain different TDMA schemes in detail.

10.   Discuss about digital audio broadcasting.

11. Explain IEEE 802.11 standard for WLAN in detail.

12. Explain Access point control protocol in detail.

13. Explain various issues and challenges in security of Ad hoc Network.

14. List out the advantages and disadvantages of Indirect TCP.

15. List out the various applications of wireless telephony.

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DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S)(L) DEGREE EXAMINATION,
MAY 2014.

Sixth Semester

MIDDLEWARE TECHNOLOGY

(2010 Academic Year Onwards)

Time : Three hours   Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. What are the components of Client-Server environment? How these components interface with one another?

2. Explain in detail about JDBC Result set interface.

3. Write short notes on entity beans and explain when to use entity beans?

4. Discuss in brief about core CORBA interfaces.

5. Write down the steps to create and access a web service in ASP.NET.

6. Explain Range Validator Control and Custom Validator Control.

7. Explain the Security features in ASP .NET.

8. How do you access data using ADO.NET? Explain with an example.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Write a note on n-tier architecture. Explain in detail about J2EE architecture.

10. Discuss about CORBA facilities and services in detail.

11. Discuss about various types of session bean and its life cycle in detail.

12. What are the steps involved in the creation and consumption of web services? Explain with an example.

13. Design a Form and write ASP.NET program for the following

   (a) Add a new record

   (b) Delete a record

   (c) Edit a record

   (d) Use gridview to display records

   (e) Use disconnected architecture

   (f) Name of the database Company

   (g) Name of the Table: Employee

      (EmpNo, EmpName, DOB, Salary)

   (h) Backend: SQL server.

14. Explain in detail about the various Provider and Consumer Objects with suitable examples.

15. Explain the use of WSDL and SOAP in describing web services.

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DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S) (L) DEGREE EXAMINATION, MAY 2014.

Sixth Semester

AGENT BASED INTELLIGENT SYSTEM

(2010 Academic Year onwards)

Time : Three hours   Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1.   Define agents. Explain rational agents.

2.   Give a brief note on optimal decision in games.

3.   Write short notes on first order logic inference.

4.   Explain about resolution strategies.

5.   Bring out the significance of continuous planning.

6.   How the Agents handle uncertain knowledge?

7.   What is the significance of knowledge in learning? Explain.

8.   Give a brief note on reinforcement learning.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9.   Give a detailed description on the structure of agents.

10. Explain in detail about the A^* search.

11. Describe the syntax and semantics of first order logic.

12. Bring out the significance of backward chaining.

13. Discuss the need for multi agent planning.

14. Explain Bayesian networks in detail.

15. Write in detail about the importance of communication for agents.

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604

DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S) (L) DEGREE EXAMINATION,
MAY 2014.

Sixth Semester

OPEN SOURCE ARCHITECTURE

(2010 Academic Year onwards)

Time : Three hours   Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Distinguish between Unix and Linux.

2. Explain : PAM authentication.

3. Difference between setting up email server and setting up web server.

4. Explain : GNU.

5. How does the I/O facilities in C differ from that in C++.

6. Write short notes on debugging using gdb.

7. Write a GKT program which contains a button and when we press the same it display "Hello word".

8. Write a python program to print the given number is palindrome or not.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

9. Describe in detail about Unix disk drives, partition and file systems.

10. Explain the process of CUPS installion and configuration in detail.

11. Explain the detailed analysis of compilation process.

12. What is link libraries and linker and explain in detail.

13. Explain the X windows server architecture in detail.

14. Write the GKT program for what color will be displayed for a given values of R,G and B,R,G and B values can be adjusted through scrollbars or directly entering them.

15. What are the commands which can be used at gdb prompt in GNU debugger with an examples.

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DISTANCE EDUCATION

M.C.A. (S) DEGREE EXAMINATION, MAY 2014.

First Semester

DATA STRUCTURE AND USING C LAB

(2010 Academic year onwards)

Time : Three hours   Maximum : 100 marks

Examiner has to select ONE question by the lot system
and give it to the student.

1. (a) Write a C program to sort a set of numbers in ascending order using heap sort.

    (b) Write a C program to evaluate a prefix expression using stack.

------------------------ Cut here -------------------------

2. (a) Write a C program to sort a set of elements using selection sort.

    (b) Write a C program to add two polynomials represented as linked list.

------------------------ Cut here -------------------------

3. (a) Write a C program to implement a binary search tree and perform the following traversals.

        (i)   Inorder

        (ii) Preorder

        (iii) Postorder.

    (b) Write a C program to implement a stack ADT.

4. (a) Write a C program to convert an expression in infix to postfix form.

    (b) Write a C program for addition, subtraction, multiplication operations using function.

    ------------------------- Cut here -------------------------

5. (a) Write a C program to copy content from one file to another file.

    (b) Write a C program to implement a double ended queue (deque) and perform the operations.

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DE–8830	**106**

DISTANCE EDUCATION

M.C.A. (S) DEGREE EXAMINATION, MAY 2014.

First Semester

RELATIONAL DATABASE MANAGEMENT SYSTEMS LAB

(2010 Academic Year Onwards)

Time : Three hours Maximum : 100 marks

Examiner has to select ONE question by the lot system and give it to the student.

1. (a) Create a table Employee to store the following information :

   Empcode

   Employee name

   Designation

   DOB

   Sex

   Basic pay.

   Write query to do the following :

   (i) Display empcode and designation of all the employees.

   (ii) Display the names of female employees who are getting basic pay greater than 6000.

   (iii) Display the names and designation of employees having age greater than 50.

   (iv) Add a new column departments in the above table and insert values in that column.

   (v) Give a 5% increment to the basic pay of employees whose designation is 'manager'.

(b) Consider the following database of student enrollment in courses and books adopted for each course.

STUDENT (regno, name, major, bdate)

COURSE (Course #, Cname, dept)

ENROLL (regno, course, sem, marks)

BOOK-ADOPTION (Course, sem, book-ISBN)

TEXT (Book-ISBN, book-title, publisher, author)

(i) Create the above tables by properly specifying the primary keys and the foreign keys.

(ii) Enter atleast five tuples for each relation.

(iii) Demonstrate how you add a new text book to the database and make this book be adopted by some department.

(iv) Produce a list of text books (include course #, Book ISBN, Book-title) in the alphabetical order for courses offered by the 'CS' department that use more than two books.

------------------------- Cut here -------------------------

2. (a) Consider the insurance database given below. The primary keys are underlined and the data types are specified.

PERSON (driver-id, name, address)

CAR (Regno, model, year)

ACCIDENT (report-number, acc-date, location)

OWNS (driver-id #, Regno)

PARTICIPATED (driver-id#, regno, report-number, damage amount)

2   **DE–8830**

(i) Create the above tables by properly specifying the primary keys and the foreign keys.

(ii) Enter atleast five tuples for each relation.

(iii) Find the total number of people who owned cars that were involved in accidents in 2010.

(iv) Find the number of accidents in which cars belonging to a specific model were involved.

(v) Generation of suitable reports.

(b) Create the following table named customer :

Customer id

Name

Area

Phone

Insert the appropriate data into table.

(i) Update phone numbers of all customers to have a prefix as your city STD code.

(ii) Print the entire customer table.

(iii) List the names of those customers who have 'e' as second letter in their names.

(iv) Display all records in increasing order of name.

(v) Display all those records from customer table where name starts with 'a' or area is "abc".

(vi) Display all records of those where name starts with 'a' and phone exchange is 55.

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3. (a) Create the following tables with the constraints specified

   BOOK (book-id, book name, author-id, publisher-id, pub-date, category and price)

   AUTHOR (author-id, name, city, state)

   PUBLISHER (pub-id, name, city, state)

   Write SQL to do the following

   (i) Display the books in the category 'Computer Sciene'.

   (ii) List the count of books in each category.

   (iii) List of books published after 2006.

   (iv) List the names of book having highest price.

   (v) List the average price of each category of the books.

   (vi) Display the medical books having price greater than the price of the category 'Computer science'.

   (b) Create the table NEWEMP stores empcode and bp of employees. Prepare a salary bill of all the employees with BP, DA, HRA, PF and NETPAY.

   DA = 60% of BP   PF = 12% of BP

   HRA = 20% of BP NET = BP + DA + HRA – PF

   Prepare the bills in a neat format.

------------------------- Cut here -------------------------

4. (a) Create a table Marks contains :

   Rollno

   Name

   Mark 1

   Mark 2

   Mark 3

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Using the marks table do the following.

(i) Search a Rollno and display total marks and grade.

(ii) For a pass subject minimum is 40. For the failed students grade is "F". For the passed student grade is set as

'A' if total > 240

'B' if total between 180 and 240

'C' if total between 150 and 180

'D' otherwise exception must be raised if Rollno could not find.

(b) Create a table to represent Saving bank account of a bank consisting of account-no, customer-name, balance-amount. Write a program to implement deposit and withdraw. Withdraws should not be allowed if the balance goes below Rs.1,000.

------------------------- Cut here -------------------------

5. (a) Create the following tables :

Student (roll-no, name, category, district, state, DOB, course-id)

Student-rank (roll no, marks, rank)

Course (course-id, name, fee, duration)

Write query to do the following :

(i) List names of the students who are having same rank but they should reside in different districts.

(ii) List details of students they belongs to same category with same rank.

(iii) List all those students who are between 18-19 years of age and have opted for MCA course.

(iv) List all those courses in which numbers of students are less than 10.

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(b) Create the following tables :

Student (roll-no, name, date-of-birth, course-id)

Course (Course-id, name, fee, duration)

Write query to do the following :

(i) List all those students who are greater than 18 years of age and have opted for MCA course

(ii) List all those courses whose fee is greater than that of MCA course.

(iii) Find the number of students who have enrolled for the subject "DBMS".

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DISTANCE EDUCATION

M.C.A. (Sem) DEGREE EXAMINATION, MAY 2014.

Second Semester

C++ AND GRAPHICS LAB

(2010 Academic year onwards)

Time : Three hours   Maximum : 100 marks

Examiner has to choose ONE question for each candidate by lot system.

Each subdivision carries 50 marks.

1. (a) Write a C++ program to draw a straight line using simple DDA algorithm.

    (b) Develop a C++ program to simulate an analog clock.

------------------------- Cut here -------------------------

2. (a) Write a C++ program to perform scaling transformation on a rectangle.

    (b) Write a C++ program to draw a straight line using Breshnham's algorithm.

------------------------- Cut here -------------------------

3. (a) Develop a C++ program to draw two circles and connect the centers of the circles using a straight line.

    (b) Write a C++ program to draw an ellipse using Breshnham's algorithm.

4. (a) Write a C++ program to perform scaling and rotation on two dimensional objects.

   (b) Develop a C++ program to draw a circle with in a square touching the four sides of the square.

-------------------------- Cut here ---------------------------

5. (a) Develop a C++ program to draw a circle using the Breshnham's algorithm.

   (b) Write a C++ program to manipulate the graphical object using SHADING technique.

-------------------------- Cut here ---------------------------

6. (a) Develop a C++ program to draw a ball and perform animation on it.

   (b) Write a C++ program to draw a straight line using simple DDA technique.

-------------------------- Cut here ---------------------------

7. (a) Write a C++ program to draw non-linear objects arcs and curves.

   (b) Develop a C++ program to draw a circle divide it into four quadrants and fill up different colors in each quadrant.

-------------------------- Cut here ---------------------------

8. (a) Write a C++ program to implement polygon clipping algorithm.

   (b) Develop a C++ program to draw a circle using Breshnham's algorithm.

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9. (a) Write a C++ program to draw non-linear objects circles and three concentric circles.

    (b) Develop a C++ program to draw a cube.

--------------------------- Cut here --------------------------

10. (a) Write a C++ program to show graphical transformation on three dimensional objects.

    (b) Develop a C++ program to draw a circle and fill it with any color.

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3   **DE–8831**

DE–8832

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DISTANCE EDUCATION

M.C.A.(S) DEGREE EXAMINATION, MAY 2014.

Second Semester

UNIX AND SHELL PROGRAMMING LAB

(2010 Academic Year onwards)

Time : Three hours   Maximum : 100 marks

Examiner has to choose ONE question for each candidate by lot system.

Each subdivision carries 50 marks.

1. (a) Write a menu driven shell program to perform the following:

    (i)   Display the current directory

    (ii) Display the access permissions of a particular file

    (iii) Display the current date and time of the system.

    (b) Write a shell program to find the given string is Palindrome or not.

------------------------ Cut here -------------------------

2. (a) Write a menu driven program to perform the following:

    (i)   Copy the contents from one to another.

    (ii) Rename the destination file

    (iii) Delete the source file.

    (b) Write a shell program to reverse the given string without using built–in functions.

3. (a) Write a shell program to perform the following:

    (i)   Read any text file

    (ii) Print its contents without using 'cat' / 'pr commands.

    (b) Write a shell program to concatenate and copy two strings without using built-in functions

------------------------ Cut here ------------------------

4. (a) Write a shell program for the following

    (i)   Enter any ten numbers into the file

    (ii) Sort them in ascending order

    (iii) Display the contents using cat' command.

    (b) Write a shell program to count the number of characters in the given string without using built-in functions.

------------------------ Cut here ------------------------

5. (a) Write a shell program to accept a file as an input and perform the following:

    (i)   Count and display the number of lines in that file.

    (ii) Print lines not matching the given pattern.

    (b) Write a shell program to display the prime numbers between 1....100.

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6. (a) Write a shell program to create a text file with any ten flower names and also perform the following:

   (i) Open the file in write mode

   (ii) Arrange the words in ascending order

   (iii) Create a new file and direct the output as its content.

   (b) Write a shell program to count the occurrences of the character 'a' in the given string without using built-in functions.

------------------------- Cut here -------------------------

7. (a) Write a shell program to create a text file with any twenty integer values and also perform the following:

   (i) Sort the integers in descending order

   (ii) Append the output with the content of an existing file.

   (b) Write a shell program to count the digits of a given integer without using built-in functions.

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DISTANCE EDUCATION

M.C.A.(S)/ M.C.A.(S) (Lateral) DEGREE EXAMINATION,
MAY 2014.

Third Semester

NETWORK — LAB

(2010 Academic Year onwards)

Time : Three hours   Maximum : 100 marks

Break up marks :

Record Note Book : 5

Algorithm/Flow chart : 15

Program : 35

Debugging and Execution : 35

Result : 10

Total : 100

Examiner has to choose ONE question for each candidate by LOT system.

1.   (a)   Write a Java program to add 2 numbers using RMI client /server techniques.

     (b)   Write a java program to read a file from a remote system.

------------------------   Cut here   --------------------------

2.   (a)   Write a java program for finding the factorial of a given number using RMI client/server technique.

     (b)   Write a java program to send message from one system to another system.

3. (a) Write a java program to find the factorial of a given number using INTERFACE technique.

   (b) Write a java program to set up a time server and time client.

-------------------------- Cut here --------------------------

4. (a) Write a java program to set up a chat server and chart client.

   (b) Write a java program to encrypt a given word.

-------------------------- Cut here --------------------------

5. (a) Write a java program to setup echo server and echo client.

   (b) Write a java program to display the users and their IP addresses logged in the network.

-------------------------- Cut here --------------------------

6. (a) Write a java program to subtract 2 numbers using RMI client/server technique.

   (b) Write a java program to read a file from a remote system.

-------------------------- Cut here --------------------------

7. (a) Write a java program to multiply two numbers using RMI client /server technique.

   (b) Write a java program to send a message from one system to another system.

-------------------------- Cut here --------------------------

8. (a) Write a java program to find the largest of 2 numbers using RMI client/server techniques.

   (b) Write a java program to setup time server and time client.

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DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S) Lateral DEGREE EXAMINATION, MAY 2014.

Third Semester

VISUAL PROGRAMMING LAB

(2010 Academic Year Onwards)

Time : Three hours   Maximum : 100 marks

One question to be selected by lot system.

1. (a) Write a VB project for Bank Operations using current account database with the following features.

    (i)   Add New Account

    (ii) Deposit Amount

    (iii) Withdraw Amount (with minimum balance condition).

    (b) "WELCOME TO MCA" wherever the user clicks the mouse button on the client area.

------------------------ Cut here ---------------------------

2. (a) Write a program using Data Control to display

    (i)   A person's Address and name if the phone number is given.

    (ii) Display all the data for a given condition entered in Text Box.

    (b) Write a Visual C++ program to create application for user can draw circle and save the circle to a file.

3. (a) Write a function procedure to find the Fibonacci series upto 200.

    (b) Write a visual C++ program to calculate simple interest and compound interest.

------------------------ Cut here --------------------------

4. (a) Write a VB program to insert five students records with fields SName, SNo, AGE, SEX, COURSE and retrive a particular records by getting the student number.

    (b) Write a visual C++ program using MFC they creates OK and CANCEL buttons.

------------------------ Cut here --------------------------

5. (a) Write a VB project whether the given number is Armstrong or not.

    (b) Write a visual C++ program create a list box display name of the districts in Tamil Nadu.

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| DE–8835 | | 405 |

DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S) (Lateral) DEGREE EXAMINATION,
MAY 2014.

Fourth Semester

INTERNET PROGRAMMING LAB

(2010 Academic year onwards)

Time : Three hours   Maximum : 100 marks

One question is to be given by the examiner to each
candidate by lot system.

Each subdivision carries 50 marks.

1. (a) Write a java script to create a color palet and show
the rectangle shape color changes choosen from the
color palet.

   (b) Write a java program using applet to display one
image and two shapes.

------------------------ Cut here ------------------------

2. (a) Write a VB script to create a calendar given month
and year.

   (b) Write a java program using JDBC to display
student id card details for a given roll number.

3. (a) Write a detailed VB script to create a login screen with validations.

    (b) Write a java program to change the background color using button click.

----------------------- Cut here -------------------------

4. (a) Create a web page for newspaper front page includes text, image and table.

    (b) Write applets to draw the following shapes :

        (i)   Cone

        (ii)   Cube

        (iii) Square inside a circle

        (iv)   Ellipse inside a square.

----------------------- Cut here -------------------------

5. (a) Develop a web page for job recruitment in software industry.

    (b) Write a swing program to create the tabbed panels.

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DISTANCE EDUCATION

M.C.A.(S)/M.C.A.(S)(L) DEGREE EXAMINATION,
MAY 2014.

Fourth Semester

LAB X — COMPILER DESIGN

(2010 Academic year Onwards)

Time : Three hours　　　　　　　Maximum : 100 marks

Examiner should select and give ONE question to each
candidate by lot system.

Break-Up of Marks

Record Note Book	:	5
Algorithm/Flowchart	:	15
Program	:	35
Debugging & Execution	:	35
Result	:	10
Total	:	100

1.　(a)　Write a C program for DFA to accept the regular expression $(0/1)^*$.

　　(b)　Write a C program to recognize identifier in the given source code.

------------------------ Cut here ------------------------

2.　(a)　Write a C program to convert the given infix $(a+b)*(b-c)$ into positive.

　　(b)　Write a C program to draw the transition diagram for DFA by accepting regular expression $(a/b)(a/b)$.

3. (a) Write a C program to construct left most derivations to derive word $(a,(a,a))$ using the grammar.

$$T \to S, S \to a, S \to (T), T \to T, S$$

   (b) Write a C program to remove spaces in a given source code.

------------------------ Cut here ------------------------

4. (a) Write a C program to check the production rule whether it is an operator grammar or not.

$$E \to E + E / E * E / (E) / id$$

   (b) Write a C program to remove comment lines in a given source code.

------------------------ Cut here ------------------------

5. (a) Write a C program by sing ambiguous grammar to accept a sting and check whether it satisfies the following production rule.

$$E \to E + E / E - E / E * E / E / E / id / Const / CE$$

   (b) Write a C program to remove new lines in a given source code.

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6. (a) Write a C program to construct a canonical CR parsing table for the grammar $S \to CC, C \to C / d$.

   (b) Write a C program to recognize constant in the given source code.

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7. (a) Write a C program to translate the expression $(a - b)/(b + c)$ into quadruples triples and indirect triples.

   (b) Write a C program to check the production rule whether it is an operator, grammar or not
$$E \to E OP E E \to (E), E \to id, OP \to + / - / * / 1$$

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8. (a) Write a C program to draw the transition diagram for DFA by accepting regular expression $(1/0)1 + 10(1/0) *$.

(b) Write a C program to find the TRAINLING set for the grammar $S \rightarrow a, S \rightarrow (T), T \rightarrow T, S, T \rightarrow S$.

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DISTANCE EDUCATION

M.C.A. (S)/ M.C.A. (S). (Lateral) DEGREE EXAMINATION, MAY 2014.

Fifth Semester

.NET LAB

(2010 Academic Year onwards)

Time : Three hours   Maximum : 100 marks

Examiner should select and give ONE questions to each candidate by LOT system.

Each subdivision carries 50 marks.

1. (a) Create an application that modifies and removes student information from student table when the uses clicks the modify and delete button (using disconnected access)

    (b) Create table called customer with the fields customer Id, name, age, sex, address and mail id then insert few customer information into customer table.

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2. (a) Develop an application that displays the information of all students in a data grid control. The displayed information should be in ascending order and the pages must have page numbers.

    (b) Create an application that displays the information of all students without selection, edition and sorting options.

3. (a) Create a currency converter applications in ASP.NET with two input text boxes named US dollar and Indian rupees and a submit button named convert.

    (b) Create a simple web page which provides a list of computer languages from the database and indicates which selections the user made when the ok button is clicked.

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4. (a) Create the dynamic e-card generator, application. The application page is divided into two regions. On the left hand side, a set of web controls should be used for specifying card options. Right hand should be used to display the configurable picture and text.

    (b) Develop an application to list all files in a directory on a web form. The files must be displayed in a grid view control. The name of the file, size of the file, file created date and time must be displayed.

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5. (a) Develop a web service to fetch data from a table and send it across to the client.

    (b) Write a web application to develop a login web page (use user control) in web page).

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6. (a)   Design a simple web site that makes use of master pages.

    (b)   Create an advertisement link to another web page using Ad rotator.

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7. (a)   Make use of image control involving two hot spots in a web page.

    (b)   Design a web page involving multiview or wizard control.

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DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S) (Lateral) DEGREE EXAMINATION,
MAY 2014.

Fifth Semester

WEB TECHNOLOGY LAB

(2010 Academic Year Onwards)

Time : Three hours　　　　　　　　Maximum : 100 marks

Examiner should select and give ONE question to each
candidate by lot system.

Break-Up of Marks

Record Note Book　　　:　　5

Algorithm/Flowchart　　:　　15

Program　　　　　　　:　　35

Debugging & Execution :　　35

Result　　　　　　　　:　　10
　　　　　　　　　　　　　　────
Total　　　　　　　　　:　　100

1.　(a)　Write an ASP program to prepare Electricity bill
　　　　using JavaScript.

　　(b)　Write a Servelet program to display "Happy
　　　　Pongal".

2. (a) Create a web page in the format of front page of Bank information. Align the text with colors. Use the links with various pages.

   (b) Write an ASP program to prepare students sports list using JavaScript.

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3. (a) Write a servelet program to display your university name.

   (b) Write a JavaScript code to flip between two different fonts using on mouse over and on mouse out event.

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4. (a) Write a XML document to display your favourite Indian Singers. Write a XSL style sheet and attach that to the XML document validate the document using XSD.

   (b) Write a servelet program to send MMS.

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5. (a) Write an ASP program to invoice bill using JavaScript.

   (b) Write a JavaScript code to display a gif image. (Use a suitable gif image).

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6. (a) Write a function in JavaScript to find the cube of a given number.

   (b) Write a CSS code which places text over an image.

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7. (a) Write a HTML program which redirects a user from the current page to Microsoft home page after five seconds.

   (b) Write a JSP program to display students enroll number, students name, students address course name and district name using JDBC.

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8. (a) Write a XML document to display your's favourite author name, Date of Birth, Books name address and mobile number. Write a XSL sheet and attach to the XML document. Validate the document using DTD.

   (b) Write a servelet program to display your greetings.

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DISTANCE EDUCATION

M.C.A.(S)/M.C.A.(S)(L) DEGREE EXAMINATION, MAY 2014.

Sixth Semester

OPEN SOURCE PROGRAMMING LAB

(2010 Academic Year Onwards)

Time : Three hours   Maximum : 100 marks

Examiner has to select ONE question by the lot system and give it to the student.

1.   (a)   Write a PHP program to find leap year calculation for given a variable called $ year. Create a program that will print out "<xxxx>" is a leap year "or" "<xxxx>" is not a leap year "(where <xxxx> is the value of $ year)". Use the following rules to determine if a year is a leap year. If the year is divisible by 4 then it is a leap year, unless if also divisible by 100 (in which case it is not a leap year), unless it is divisible by 400 (in which case it is a leap year)

     (b)   Write a shall script for the following conversion:

           (i)   Binary to hexadecimal

           (ii)   Binary to octal.

2. (a) Write a PHp program to create a program that will print out a Fibonacci series eg:

1 1 2 3 5 8 13 21 34.

   (b) Write a shell script for the following conversion

   (i) decimal to binary

   (ii) Octal to hexadecimal

   (iii) Count all hidden files in a current working directory.

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3. (a) Write a PHP program to find Mean, Max, Min and create a given array called $ the array will calculate and output its mean, largest, and smallest values.

   (b) Write a PHP program to create Euclid's algorithms (GCD–Greatest common divisor)

   Assume you wish to find the GCD fo 2047 and 391.

   (i) Divide the larger by the smaller and note the remainder: 2047/391=(391×5)+92

   (ii) Divide the remainder (92) into the previous divisor (391): 391/92 =(92×4)+23

   (iii) Repeat step 1 and 2 until the remainder 1 or zero.

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4. (a) Write a PHP program to find reverse an array for ex: if $ the array originally contains (1,0,5,12,8), your program should create $ reverse containing (8,12,5,0,1). Don't use any built–in PHP functions.

   (b) Write a shell script to find how many days and weeks remaining in a current year.

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5. (a) Write a PHP program to find compare arrays forex:
        Compare a given array, called $ the array, with a
        possibly reversed version, called $ reverse output
        "True" it if is a correct reversal and output "False"
        otherwise. Don't use any built –in PHP function.

    (b) Write a shell script to check whether given number
        is even or odd using positional parameter.

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DISTANCE EDUCATION

M.C.A. (S)/M.C.A. (S) Lateral DEGREE EXAMINATION,
MAY 2014.

Sixth Semester

MULTIMEDIA TOOLS LAB

(2010 Academic year onwards)

Time : Three hours   Maximum : 100 marks

Break-Up of Marks

Record Note Book	:	5
Algorithm/Flowchart/	:	15
Program	:	35
Debugging & Execution	:	35
Result	:	10
Total	:	100

Examiner has to select ONE question and given it to the student by the LOT system.

1. (a) Develop an animation to rising the sun in the sea.

    (b) Animate your name such that only one character is highlighted at one time.

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2. (a) Develop an animation in flash to tween the shapes.

    (b) Animate your own text to create the magnifier effect.

3. (a) Develop an animation in flash to create the morphing effect.

   (b) Implement a program in Maya to create living room using rendering.

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4. (a) Develop an animation to show a growing plant.

   (b) Develop a home page using dream viewer for your favourite textile show room.

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5. (a) Create a movie such that the text "FLASH" moves along with the mouse cursor.

   (b) Draw a circle and animate with multiple circles like spring action.

------------------------ Cut here ------------------------

6. (a) Develop an animation to move a car on the road.

   (b) Animate your own text to create the vertical flipping effect.

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7. (a) Implement a program in flash to represent the animation in timeline.

   (b) Implement a program to create the chess board using Maya.

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8. (a) Animate your own text to create rotating effect in the anti-clock wise direction and print in reverse format.

   (b) Develop a home page using dream viewer for your favourite shopping mall.

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