M.C.A. DEGREE EXAMINATION — JUNE, 2018.

Second Year

COMPUTER GRAPHICS

Time : 3 hours   Maximum marks : 75

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1.   What are the input devices?

2.   Explain Line drawing algorithm.

3.   Write short notes on two dimensional transformation.

4.   What is Matrix representation?

5.   Write down Cohen Sutherland algorithm.

6.   Explain about styles Command Language.

7.   Explain User interface design.

SECTION B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Describe the Bresenham's in detail.

9. Explain in detail Video Display Generation.

10. Describe about the 2-D Transformation Principles in detail.

11. Discuss Basic Transformations, Translation, Scaling, Rotation in detail.

12. Discuss about the Hidden surface Algorithm in 3-D Transformation.

13. Explain in detail Z-Buffer Algorithm.

14. Describe about Components of User Interface.

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MCA–112	MCA–12

M.C.A. DEGREE EXAMINATION — JUNE, 2018

Second Year

DESIGN AND ANALYSIS OF ALGORITHM

Time : 3 hours   Maximum marks : 75

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. What is an algorithm?

2. Write short note on Isomorphism.

3. Explain about top-down structured program.

4. Explain recursion.

5. Define a linked list. Write an algorithm to delete a cell from a linked list.

6. Define a heap. Give an example.

7. Explain an algorithm for quick sort.

SECTION B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Briefly explain about the steps to develop the algorithm.

9. Explain about the program testing and documentation in detail.

10. Describe about the performance analysis of straight insertion sort.

11. Explain briefly about algorithm in queues with neat sketch.

12. Write an algorithm for Back Track programming also explains in detail.

13. Explain in detail about Travelling Salesman Problem for five city network.

14. Describe about the Binary tree search and insertion with neat sketch.

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MCA–113   MCA–13

M.C.A. DEGREE EXAMINATION — JUNE, 2018.

Second Year

ACCOUNTING AND FINANCE ON COMPUTERS

Time : 3 hours   Maximum marks : 75

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Define Principles of Accounting.

2. What is Trail balance?

3. Explain Ratio analysis.

4. What is profit volume ratio?

5. What are the classification of costs?

6. Define cash budget?

7. What is Breakeven point?

SECTION B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Are adjustments necessary for the preparation of final accounts? If yes why?

9. What are the advantages of cost accounting?

10. From the following Balance sheet as on 31-12-2017 and 31-12-2016. Prepare a Cash flow statement. Balance Sheets.

Liabilities	2017	2016	Assets	2017	2016
Share Capital	1,50,000	1,00,000	Fixed Assets	1,50,000	1,00,000
Profit & loss A/c	80,000	50,000	Good will	40,000	50,000
General Reserve	40,000	30,000	Stock	80,000	30,000
6% Debentures	60,000	50,000	Debtors	80,000	50,000
Creditors	40,000	30,000	Bills Receivable	20,000	30,000
Outstanding Expenses	15,000	10,000	Bank	15,000	10,000
	3,85,000	2,70,000		3,85,000	2,70,000

11. Discuss briefly about the applications of Break even analysis.

12. With the following data for 60% activity prepared a budget for 80% activity.

Materials   Rs. 10 per unit

Wages   Rs. 6 per unit

Factory overheads   Rs. 6000 (20% fixed)

Administration overhead   Rs.   2,400   (10% variable)

Assume the production at 60% activity is 240 units.

13.   Explain the importance of budgets.

14.   Explain in detail about the Limitations of budgeting.

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M.C.A. DEGREE EXAMINATION — JUNE, 2018.

Second Year

COMMUNICATION SKILLS

Time : 3 hours   Maximum marks : 75

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. List out the types of Communication.

2. Explain Linear reading.

3. Explain arts of listening with its merits.

4. Write a brief storming method.

5. List out the interview techniques.

6. How to analyze one's attitude with the body language?

7. Bring out the required communication skill for meeting.

SECTION B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Elaborate the ways of effective communication with its types.

9. Bring out the barriers of communication.

10. Explain short notes on art of conversation.

11. Write down types of interviews.

12. List out the various types of group discussion.

13. State the origin and developments of body language.

14. Write down the negotiation techniques with its ways.

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MCA–115	MCA-15

M.C.A. DEGREE EXAMINATION – JUNE, 2018.

Second Year

COMPUTER NETWORKS

Time : 3 hours   Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. List the uses of computer networks in detailed way.

2. Sketch the structure of telephone system.

3. Briefly explain protocol using selective repeat.

4. Compare virtual-circuit and datagram networks.

5. Explain broadcast routing.

6. Diagramatically explain IPV6 header.

7. Expand RPC and give short notes on it.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8.   With neat sketch, explain OSI reference model.

9.   Detail it – communication satellites.

10. Discuss :
     (a)   Sliding window protocol
     (b)   One-bit sliding window protocol.
     (c)   Protocol using Go-back N.

11. Describe World Wide Web.

12. Narrate JPEG standard.

13. Briefly describe IPV4 protocol with diagram.

14. Give detailed explanation on HTML.

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MCA–116	MCA–16

M.C.A. DEGREE EXAMINATION — JUNE, 2018.

Second Year

OPERATIONS RESEARCH

Time : 3 hours   Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Describe different phases of operation research study.

2. Compare between Assignment problem and Transportation problem.

3. Explain the graphical method of solving given LPP.

4. Compare simplex method and dual simplex method.

5. Explicate the basic characteristics of a queuing system.

6. At a railway station, only one train is handled at a time. The railway yard is sufficient only for two trains to wait while other is given signal to leave the station. Trains arrive at the station at an average rate of 6 per hour and the railway station can handle them on an average of 12 per hour. Assuming Poisson arrivals and exponential service distribution, find the steady-state probabilities for the various umber of trains in the system. Also find the average waiting time for a new train coming into the yard.

7. Discuss the various steps involved in the solution of $(2 \times n)$ and $(m \times 2)$ games.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Elucidate in detail the various phases in while solving in operation research problem.

9. Define an initial basic feasible solution of a transportation problem.

10. With the help of flowchart for explain the computational procedure for a LPP using simplex method.

11. What is the importance of Poisson and Exponential distribution in Queuing theory and explain in detail.

12. A construction company has four large bulldozers located at four different garages. The bulldozers are to be moved to four different construction sites. The distances in miles between the bulldozers and the construction sites are given below.

Bulldozer/Site	A	B	C	D
1	90	75	75	80
2	35	85	55	65
3	125	95	90	105
4	45	110	95	115

How should the bulldozers be moved to the construction sites in order to minimize the total distance travelled?

13. Describe Monte Carlo method of stimulation.

14. Discuss the case study for the use of operations research techniques in Insulator India Limited for optimized production.

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MCA–117	MCA–17

M.C.A DEGREE EXAMINATION — JUNE, 2018.

Third Year

OPERATING SYSTEMS

Time : 3 hours   Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1.   What is an operating system? Explain fourth generation in detail.

2.   With a neat sketch, explain the process state diagram.

3.   Explain device driver in I/O software.

4.   Write about priority scheduling with example.

5.   Write short note on memory management with bitmap in swapping with neat diagram.

6.   Write short note on page tables in virtual memory.

7.   Explain shared files with neat diagram.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Briefly explain history of operating system.

9. What is Inter-process Communication? Explain Critical Regions and Semaphore.

10. Explain device independent I/O software.

11. Write about Principles of Deadlock with neat diagram.

12. Briefly explain any four page replacement algorithms.

13. Write details about file access, operations and type.

14. Explain file system performance in detail.

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MCA–118	MCA–18

M.C.A. DEGREE EXAMINATION — JUNE, 2018.

Third Year

OBJECT ORIENTED ANALYSIS AND DESIGN

Time : 3 hours   Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1.   Write a short note on applying the Object Model.

2.   With a necessary example explain Modularity.

3.   Discuss about the Foundations of the Object Model shortly.

4.   What do you mean by encapsulation?

5.   Write about CRC cards based analysis.

6.   Explain the USE CASE Diagram Shortly.

7.   How the Interaction Diagrams help in OOAD?

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Write a detailed note on the Evolution of the Object Model.

9. How to build quality Classes and Objects? Explain.

10. Discuss in detail about Key Abstractions and Mechanisms.

11. Explain the Macro Development Process in detail.

12. Write a detailed note on Life cycle of OOSD.

13. Explain UML Programming with an example of Patient Observation System.

14. When to use Package Diagrams and Collaborations? Explain.

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MCA–119	MCA–19

M.C.A. DEGREE EXAMINATION — JUNE 2018.

Third Year

INTERNET PROGRAMMING

Time : 3 hours   Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1.   Explain Hypertext Protocol.

2.   Write short notes on various types of Firewalls.

3.   Discuss Version Compatibility.

4.   Brief on the structure of web page.

5.   What are the benefits and limitations of Java?

6.   List the advantages of ActiveX.

7.   Define Animation. What are the components required to animate an object.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Brief on LAN Topologies

9. Discuss the design issues in developing web applications

10. Write short notes on :

    (a) Document Type Declarations

    (b) Authoring system in SGML.

11. Explain HTML applets for Java and Applet Life Cycle

12. Describe VBScript features Components. Controls and Security

13. Explain VDO Live technology and discuss the benefits

14. Discuss how to create web graphics for web applications and the related components.

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MCA–120	MCA–20

M.C.A. DEGREE EXAMINATION — JUNE 2018.

Second Year

VISUAL PROGAMMING

Time : 3 hours   Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Give an account on device context.

2. Write the use of WM_PAINT message.

3. How to design the registration form for G-Mail account creation using visual basic program?

4. Write short notes on Grid controls.

5. How to import VBX controls? Explain it.

6. Write short notes on Serialization.

7. Explain ODBC in detail.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Describe in detail about Traditional Programming Paradigms.

9. Illustrate about different data types in Visual programming.

10. Explain the following in visual basic programming :

    (a) Looping concept

    (b) Menus

11. Write a Visual C++ program for student grade sheet preparation using class.

12. Describe about Event handling.

13. Draw the Document View Architecture and Discuss it.

14. Illustrate about Exception Handling with an example program.

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