

PG-A-1560

MCA-11X

**M.C.A. DEGREE EXAMINATION –
JULY, 2022.**

Computer Applications

(From CY 2020 Onwards)

Second Year

COMPUTER GRAPHICS

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

**Answer any FIVE questions out of Eight Questions in
300 words**

All questions carry equal marks

- 1. Briefly discuss on region filling techniques.**
- 2. Describe the functions of output devices.**
- 3. Discuss about Shear with example.**
- 4. What do you understand by Line segment clipping? Discuss.**
- 5. Discuss about Hidden surface detection and removal.**

6. Describe on Mirror reflection.
7. How do you apply Information display with user interface design?
8. Discuss about the User's model.

PART B — (3 × 15 = 45 marks)

Answer any THREE questions out of Five Questions in 1000 words.

All questions carry equal marks.

9. What are DDA? Explain DDA line drawing algorithm.
 10. Explain Cohen-Sutherland line clipping in detail.
 11. With suitable examples explain all 3D transformations.
 12. Describe in detail about Z-Buffer algorithm.
 13. Illustrate on Command language and its styles.
-

PG-A-1561

MCA-12X

M.C.A. DEGREE EXAMINATION —
JULY, 2022.

Computer Applications

Second Year

DESIGN AND ANALYSIS OF ALGORITHMS

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions OUT OF Eight Questions
in 300 words

All questions carry equal marks

1. Explain the importance of program testing stage in the development of an algorithm.
2. Describe the steps involved in developing algorithm.
3. Discuss about Probabilistic model.
4. Illustrate on The Knight's problem.
5. Explain the Jeep problem.

6. Write short notes on Ackermann's Function.
7. Explain Single queue problem with its algorithm.
8. Briefly describe the principles of Heap sort.

PART B — ($3 \times 15 = 45$ marks)

Answer any THREE questions out of Five Questions
in 1000 words.

All questions carry equal marks.

9. What is an Algorithm? Create an algorithm to find maximum and minimum value from the given list.
10. Explain the concept of Linked Lists with example.
11. Explain the Traveling salesman problem for five-city network.
12. Discuss with example Binary search.
13. Explain Quick sort algorithm with example.

PG-A-1562

MCA-13X

**P.G. DEGREE EXAMINATION –
JULY 2022.**

Computer Application

(From CY – 2020 Batch onwards)

Second Year

ACCOUNTING AND FINANCE ON COMPUTERS

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

**Answer any FIVE questions out of Eight Questions
in 300 words**

All questions carry equal marks.

- 1. Discuss about Ledger and Trial balance. Give example.**
- 2. What is Journal? What are the Journalising rules?**
- 3. Discuss about Financial Statement.**
- 4. What is Ratio analysis? Mention the types of ratios.**

5. Make a note on VED analysis.
6. Discuss about Costing and its elements.
7. What are the important of Budgeting? Discuss.
8. Briefly discuss about Working capital management.

PART B — (3 × 15 = 45 marks)

Answer any THREE questions out of Five Questions
in 1000 words.

All questions carry equal marks.

9. Explain the principles of accounting and its functions.
10. Describe in detail about Cash Flow Analysis.
11. Illustrate on different methods of wage payment.
12. Bring out the Application and Limitations of Marginal Costing.
13. Explain about Cash Budget, Sales Budget, and Flexible Budget with suitable example.

PG-A-1563

MCA-14X

PG DEGREE EXAMINATION - JULY 2022

Computer Applications

(From CY - 2020 onwards)

Second Year

COMMUNICATION SKILLS

Time : 3 hours

Maximum marks : 70

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions in about 300 words

1. List and explain the elements of communication.
2. Compare inter and intra personal communication.
3. What is brainstorming? Explain.
4. Outline the importance of Mock group discussion.
5. What is interpersonal behaviour ? Explain.
6. Discuss the different types of communication.

7. Quote the reading styles and various reading techniques with their merits and demerits.
8. Why is listening and speaking so important in social relations? Illustrate with examples.

SECTION B — (3 × 15 = 45 marks)

Answer any THREE questions in about 1000 words

9. Explain the types of interviews and highlight the procedure for planning
10. Explain the process of group discussion in detail.
11. Write a detailed note on origin and development of body language.
12. Discuss the importance and objectives of meetings with relevant example.
13. List out the Tools for personality identification. Explain in detail.

PG-A-1564

MCA-15X

**P.G. DEGREE EXAMINATION –
JULY, 2022.**

Master of Computer Application

(From CY – 2020 onwards)

Second Year

COMPUTER NETWORKS

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

**Answer any FIVE questions out of Eight questions in
300 words.**

All questions carry equal marks.

1. Bring out the uses of Computer Networks.
2. Write short notes on Elementary Data link Protocols.
3. Discuss about Firewalls.
4. Discuss the significances of UDP.
5. Discuss the basic concept of Telephone system.
6. What do you understand by SLIP? Discuss on it.
7. Write short notes on ATM LANs.
8. Discuss the significances of Electronic mail.

PART B — (3 × 15 = 45 marks)

Answer any THREE questions out of Five questions in
1000 words.

All questions carry equal marks.

9. Explain the principles of Transmission media.
 10. Discuss the significances of Error detection and correction codes.
 11. What is Congestion control? Explain any one Congestion control algorithm.
 12. Explain the concepts of any Public key Cryptographic algorithm.
 13. Explain different types of Topologies with its advantages.
-

PG-A-1565

MCA-16X

**P.G. DEGREE EXAMINATION —
JULY, 2022.**

Master of Computer Application

(From CY – 2020 onwards)

Second Year

OPERATIONS RESEARCH

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

**Answer any FIVE questions out of Eight questions in
300 words.**

All questions carry equal marks.

- 1. Bring out the basic concepts and advantages of Linear programming.**
- 2. Explain the Branch and Bound method for solving an integer programming problem.**
- 3. Explain the various cost associated with inventory problems.**

4. For the Game with payoff matrix.

$$\begin{array}{c} \text{Player B} \\ \text{Player A} \begin{pmatrix} -1 & 2 & -2 \\ 6 & 4 & -6 \end{pmatrix} \end{array}$$

Determine the best strategies for player A and B.

Is this game (a) fair (b) strictly determinable?

5. Solve the following using graphical method :

$$\text{Maximum } Z = 3x_1 + 2x_2$$

Subject to

$$x_1 - x_2 \geq 1$$

$$x_1 + x_2 \geq 3$$

$$x_1, x_2 \geq 0.$$

6. A T.V. repairman finds that the time spent on his jobs have an exponential distribution with mean of 30 minutes. If he repairs sets in the order in which they come in, and if the arrival of sets is approximately Poisson with an average rate of 10 per 8 hours day, what is repairman's expected idle time each day? How many jobs are ahead of the average set just brought in?
7. Derive the formula for various measures of performance of $(M/M/1): (GD/\infty/\infty)$ model.

8. A manufacturing company keep stock of a special product. Previous experience indicates the daily demand as given below :

Daily demand : 5 10 15 20 25 30

Probability : 0.01 0.02 0.15 0.50 0.12 0.02

Simulate demand for the next 10 days. Also find the daily average demand for that product on the basis of simulated data.

PART B — (3 × 15 = 45 marks)

Answer any THREE questions out of Five questions in 1000 words.

All questions carry equal marks.

9. Use Simplex method to solve :

Maximize $z = 4x_1 + 10x_2$ subject to

$$2x_1 + x_2 \leq 50$$

$$2x_1 + 5x_2 \leq 100$$

$$2x_1 + 3x_2 \leq 90$$

$$x_1, x_2 \geq 0.$$

10. Four items are considered for loading on an aero plane, which has a capacity to load up to 25 tons. The weight and values of the items to be loaded are given as follows.

Item	A	B	C	D
Weight (tons)	2	7	5	3
Value/unit	10	36	25	14

Formulate an integer programming problem that finds the number of quantities of each item to load into the aero plane, which maximize the value of the cargo transported.

11. What are inventory control models? Enumerate various types of inventory models and describe them briefly.
12. Describe in detail about the case study of insulator India limited.
13. Solve the following transportation problem.

	D1	D2	D3	Supply
S1	6	8	4	14
S2	4	9	8	12
S3	1	2	6	5
Demand	6	10	15	

PG-A-1566

MCA-17X

**P.G. DEGREE EXAMINATION –
JULY, 2022.**

**Computer Application
(From CY – 2020 onwards)
Second Year**

OPERATING SYSTEMS

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

**Answer any FIVE questions out of Eight questions in
300 words.**

All questions carry equal marks.

1. Illustrate on Mutual Exclusion.
2. State on Device-independent I/O Software and User-space I/O Software.
3. Discuss the basic concept of Segmentation.
4. Write short notes on Disk space management.
5. Discuss about Monitor and its usage.
6. Explain the concept of Deadlocks.
7. Discuss about Shortest job first Scheduling.
8. Explain the features of Unix.

PART B — (3 × 15 = 45 marks)

Answer any THREE questions out of Five questions in
1000 words.

All questions carry equal marks.

9. Describe in detail about Process management.
 10. Discuss the following :
 - (a) Semaphores
 - (b) Critical sections.
 11. Explain LRU and FIFO Page replacement algorithms with example.
 12. Describe the features and significances of Windows NT.
 13. Illustrate on Round Robin and Priority scheduling.
-

PG-A-1567

MCA-18X

P.G. DEGREE EXAMINATION – JULY, 2022.

Computer Application

(From CY – 2020 onwards)

Second Year

OBJECT ORIENTED ANALYSIS AND DESIGN

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions out of Eight questions in
300 words.

All questions carry equal marks.

1. Write a note on Evolution of the Object Model.
2. Illustrate on Use-Case Analysis.
3. State on Micro development process.
4. Discuss about Package and draw the UML notations for package.
5. Discuss on of the Class. Give example for Class.
6. Write short notes on Key abstraction mechanisms.
7. Discuss about Patterns.
8. Define State Diagram. When to use State Diagram?

PART B — (3 × 15 = 45 marks)

Answer any THREE questions out of Five questions in
1000 words.

All questions carry equal marks.

9. Discuss about the Nature of an Object and Relationships among objects.
 10. Explain the concept of Behavioral and Domain analysis.
 11. Describe Macro development process in detail.
 12. Explain in detail about Activity Diagram with an example.
 13. Describe the UML programming concepts with suitable example.
-

PG-A-1568

MCA-19 X

**P.G. DEGREE EXAMINATION –
JULY 2022.**

Computer Applications

(From CY – 2020 onwards)

Second Year

INTERNET PROGRAMMING

Time : 3 Hours

Maximum Marks : 70

PART A — (5 × 5 = 25 Marks)

**Answer any FIVE questions out of Eight Questions in
300 words.**

All questions carry equal marks.

- 1. Discuss the fundamental and application of Internet programming?**
- 2. What are the WWW Design Issues? List and explain.**
- 3. Discuss about Cascading Style Sheets.**
- 4. Create a HTML program to display the Contact details of your university.**

5. Discuss about Java Virtual Machine.
6. Make a note on CGI.
7. How do you add animation in web pages? Discuss with example.
8. What is ActiveX control? Give example.

PART B — (3 × 15 = 45 Marks)

Answer any THREE Questions out of Five Questions in 1000 words.

All questions carry equal marks.

9. Describe the overview of Internet Programming.
10. Explain the concept of Security and Encryption in internet programming.
11. Explain different HTML tags with suitable examples.
12. Explain the life cycle of an Applets.
13. With an example explain the steps to create Netscape Navigator Plug-Ins.

PG-A-1569

MCA-20X

**P.G. DEGREE EXAMINATION —
JULY, 2022.**

Computer Applications

(From CY – 2020 Onwards)

Second Year

VISUAL PROGRAMMING

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

Answer any Five questions out of Eight Questions in
300 words.

All questions carry equal marks

1. Discuss about Windows Messages.
2. List different data types applicable for Windows programming.
3. Give syntax and example for Visual basic procedures.
4. Discuss about Grid controls.

5. Give example for VC++ Classes.
6. Discuss about Event handling in VC++.
7. Write short notes on MDI form.
8. Illustrate on DLL.

PART B — (3 × 15 = 45 marks)

Answer any THREE questions out of Five questions in
1000 words.

All questions carry equal marks.

9. Describe the functions of Software Development Kit (SDK) Tools.
10. Discuss about Dynamic Linking Libraries with example.
11. Explain Visual basic Functions with an example.
12. Describe in detail about Visual C++ menus.
13. With an example explain the concept of Object Linking and Embedding.