U.G. DEGREE EXAMINATION — JULY, 2022.

Computer Science

(From CY 2020 to AY 2020 – CY 2021)

Second Year

APPLIED OPERATIONS RESEARCH

Time : 3 hours   Maximum marks : 70

PART A — (3 × 3 = 9 marks)

Answer any THREE questions in 50 words.

All questions carry equal marks.

1. What are the applications of an O.R. Models?

2. Write the advantages of linear programming problems.

3. Explain Bellman's principle of optimality in dynamic programming problem.

4. Write the procedure of solving a sequencing problem of n job son 2 machines.

5. Explain the total elapsed time and idle time on Machines in a sequencing problem.

PART B — (3 × 7 = 21 marks)

Answer any THREE questions out of Five questions in 150 words.

All questions carry equal marks.

6. Explain about the N jobs on three machines.

7. Illustrate the N jobs on M machines.

8. Explain about the replacement of machines.

9. Describe about the goal replacement policy.

10. Explain the procedure for determining a policy for selection of the best equipment amongst two.

PART C — (4 × 10 = 40 marks)

Answer any FOUR questions out of Seven questions in 400 words.

All questions carry equal marks.

11. Describe reliability and explain the estimation of reliability in detail.

12. Find the sequence that minimizes the total elapsed time required to complete the following tasks on the machines in the order 1-2-3. find also the minimum total elapsed time (hours) and the idle times on the machines.

Task :	A	B	C	D	E	F	G
Time on :							
Machine 1	3	8	7	4	9	8	7
Machine 2	4	3	2	5	1	4	3
Machine 3	6	7	5	11	5	6	12

13. Explain the procedure for solving a sequencing problem of n jobs on m machines.

14. The maintenance cost and the resale price of a truck are given below :

Year :	1	2	3	4
Maintenance cost :	1000	1300	1700	2200
Resale value :	4000	2000	1200	600

Year :	5	6	7	8
Maintenance cost :	2900	3800	4800	6000
Resale value :	500	400	400	400

The purchase price of the truck is Rs. 8,000. Determine the time at which it is profitable to replace the truck.

15. Assume that the preset value of the one rupee to be spent to a years time is Rs. 0.9 and C = Rs. 3000, capital cost of equipment and the running costs are given in the table below. When should the machine be replaced?

Year :	1	2	3	4	5	6	7
Running cost (Rs.) :	500	600	800	1000	1300	1600	3000

16. Find the solution using big M method for the following L.P.P.

Maximize $Z = 3x_1 + 2x_2$ Subject to

$2x_1 + x_2 \leq 2,\ 3x_1 + 4x_2 \geq 12,\ x_1, x_2 \geq 0.$

17. We have 4 jobs each of which has to go through the machines $M_j,\ j = 1, 2, ...,6$ in the order $M_1, M_2, ..., M_6$. Processing time (in hrs) is given below.

Machine

	M1	M2	M3	M4	M5	M6
Job A:	18	8	7	2	10	25
Job B:	17	6	9	6	8	19
Job C:	11	5	8	5	7	15
Job D:	20	4	3	4	8	12

Determine a sequence of these four jobs that minimizes the total elapsed time.

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U.G. DEGREE EXAMINATION — JULY, 2022.

Computer Science

(CY 2020 & AY 2020 Batches Onwards)

Second Year

DESIGN AND ANALYSIS OF ALGORITHMS

Time : 3 hours   Maximum marks : 70

PART A — (3 × 3 = 9 marks)

Answer any THREE questions out of five questions in 100 words.

All questions carry equal marks.

1.   Write short notes on Programme Testing.

2.   Define Recurrences.

3.   Write short notes on Hill climbing.

4.   How to define the complexity of an algorithm?

5.   Discuss Fibonacci series.

PART B — (3 × 7 = 21 marks)

Answer any THREE questions out of five questions in 200 words.

All questions carry equal marks

6. What are the basics steps involved in developing an algorithm?

7. Explain Summation.

8. What is Recursion? Write an algorithm for finding factorial for n = 200.

9. Write about Bubble sort with suitable example.

10. Explain about the Big – O Notation.

PART C — (4 × 10 = 40 marks)

Answer any FOUR questions out of Seven questions in 500 words.

All questions carry equal marks.

11. Discuss about the Algorithm Design Techniques.

12. Discuss about Recurrence Master method.

13. Explain in detail about the jeep problem.

14. Explain Quick sort with a program.

15. Explain Ackermann's function in detail.

16. Discuss about correctness of an Algorithm.

17. Explain Hill Climbing method and its applications.

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U.G. DEGREE EXAMINATION — JULY, 2022.

Computer Science

(From CY – 2020 onwards)

Second Year

OBJECT ORIENTED PROGRAMMING WITH C++

Time : 3 hours　　　　　　　　Maximum marks : 70

PART A — (3 × 3 = 9 marks)

Answer any THREE questions out of Five questions in 100 words.

All questions carry equal marks.

1. Write the structure of C++ program.

2. Illustrate while loop.

3. What is an Array? List the types of an Array.

4. Describe Polymorphism.

5. Illustrate Destructor.

PART B — (3 × 7 = 21 marks)

Answer any THREE questions out of Five questions in 200 words.

All questions carry equal marks

6. Explain the features of Object Oriented Programming.

7. Explain break and continue statement with an example.

8. Explain Character Array in detail.

9. Explain about Access specifier in detail.

10. Explain Operator overloading in detail.

PART C — (4 × 10 = 40 marks)

Answer any FOUR questions out of Seven questions in 500 words.

All questions carry equal marks.

11. Explain the concept of Object oriented programming in detail.

12. Explain switch case with an example.

13. Difference between Structures and Unions.

14. Explain the Recursive function with an example.

15. What is exception handling? Explain the types of exception handling in detail.

16. Explain the data types in C++.

17. Write a C++ program to multiply two matrices.

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U.G. DEGREE EXAMINATION —
JULY, 2022.

Computer Science

(From CY – 2020 Onwards)

Second Year

INTRODUCTION TO DATABASE MANAGEMENT
SYSTEMS

Time : 3 hours   Maximum marks : 70

PART A — (3 × 3 = 9 marks)

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

All questions carry equal marks.

1.   Explain the three level architecture of DBMS.

2.   List the methods of File Organization.

3.   Explain Normalization.

4.   Give an example in database design.

5.   Brief note on Data Manipulation Language.

PART B — (3 × 7 = 21 marks)

Answer any THREE questions out of Five questions in 200 words.

All questions carry equal marks

6.   Write on the facilities in DBMS.

7.   Illustrate on Sequential File Organization.

8.   Illustrate Boyce Code Normal form.

9.   Explain the types of SQL Commands.

10.   Write short notes on Distributed Database.

PART C — (4 × 10 = 40 marks)

Answer any FOUR questions out of Seven questions in 500 words.

All questions carry equal marks.

11.   Explain the basics of Database.

12.   Explain Multi key File organization in detail.

13.   Why Normalization? Explain the normal forms with an example.

14. Explain the structure of Distributed database.

15. Explain Functional dependency in detail

16. Explain Hierarchical model in detail.

17. Difference between RDBMS and DBMS.

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UG. DEGREE EXAMINATION — JULY, 2022.

Computer Science

[From CY – 2020 onwards]

Second Year

ACCOUNTING AND FINANCIAL MANAGEMENT

Time : 3 hours   Maximum marks : 70

PART A — (3 × 3 = 9 marks)

Answer any THREE questions out of Five questions in 100 words.

All questions carry equal marks.

1. What do you mean by accounting principles?

2. What are the types of analysis?

3. Define liquidity ratio and activity ratio.

4. What is called budgeting?

5. Define shortly about components of break-even analysis.

PART B — (3 × 7 = 21 marks)

Answer any THREE questions out of Five questions in 200 words.

All questions carry equal marks

6. What is called trial balance?

7. List out the types of financial analysis.

8. What are the advantages of cash flow statement?

9. Pen down the characteristics of marginal costing.

10. When the break-even analysis is used?

PART C — (4 × 10 = 40 marks)

Answer any FOUR questions out of Seven questions in 500 words.

All questions carry equal marks.

11. Describe the rules of journalising.

12. Explain the importance of financial management.

13. Differentiate in detail between cash-flow analysis and break-even analysis.

14. List out the applications of marginal costing.

15. What are the advantages of budgeting? Explain.

16. Elaborate the importance of profit and loss account.

17. What are the classifications of errors? Elaborate.

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U.G. DEGREE EXAMINATION — JULY, 2022.

Computer Science

[From CY–2020 onwards]

Second Year

MANAGEMENT INFORMATION SYSTEMS

Time : 3 hours   Maximum marks : 70

PART A — (3 × 3 = 9 marks)

Answer any THREE questions out of Five questions in 100 words.

All questions carry equal marks.

1.   Define Management hierarchy.

2.   What are the characteristics of EIS?

3.   What are the features of business information system?

4.   What do you mean by Data dictionary?

5.   List out the role of MIS.

PART B — (3 × 7 = 21 marks)

Answer any THREE questions out of Five questions in 200 words.

All questions carry equal marks

6.   Describe the different types of information.

7.   What do you mean by decision making?

8.   Discuss the need for information system.

9.   Write short note on System Analysis.

10.   Explain about the benefits of MIS.

PART C — (4 × 10 = 40 marks)

Answer any FOUR questions out of Seven questions in 500 words.

All questions carry equal marks.

11.   Describe the various functions of a Manager.

12.   Elaborate the advantages and disadvantages of DSS.

13.   Explain in detail about Accounting Information System.

14. What are the steps involved system development Life Cycle? Describe.

15. What is MIS planning? Discuss the need and objectives of MIS planning.

16. Describe the Transaction Processing System.

17. What do you mean by Marketing Information System? Elaborate.

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UG. DEGREE EXAMINATION —
JULY, 2022.

Computer Science

Second Year

[From CY–2020 onwards]

PRINCIPLES OF MANAGEMENT

Time : 3 hours   Maximum marks : 70

PART A — (3 × 3 = 9 marks)

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

All questions carry equal marks.

1. How management involves in creating an internal environment?

2. "Planning is an intellectual process" — give reasons.

3. What are the objectives of delegation?

4. Define staffing.

5. Define "Management audit as a control technique".

PART B — (3 × 7 = 21 marks)

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

All questions carry equal marks

6.   How to make a management as goal oriented?
       Define.

7.   What are the various ways of planning?

8.   Describe the features of formal organization.

9.   Explain the various sources of recruitment.

10.   Write in detail about the features of controlling.

PART C — (4 × 10 = 40 marks)

Answer any FOUR questions out of Seven questions in
500 words.

All questions carry equal marks.

11.   Elaborate the feature of management.

12.   Describe about the advantages of decision making.

13.   Define in detail about the principle of organizing.

14. Explain the process of selection.

15. What are the steps involved in control process?

16. "Management as Science" — Explain.

17. Describe the process of communication.

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U.G. DEGREE EXAMINATION — JULY, 2022.

Computer Science

(From CY – 2020 onwards)

Second Year

MANAGING INFORMATION TECHNOLOGY

Time : 3 hours   Maximum marks : 70

PART A — (3 × 3 = 9 marks)

Answer any THREE questions out of Five questions in 100 words.

All questions carry equal marks.

1.   What is CAO?

2.   Define the role of an employee in an innovation process.

3.   Write brief note on Information System Architecture.

4.   Define computer security.

5.   What is called Risk assessment? Define.

PART B — (3 × 7 = 21 marks)

Answer any THREE questions out of Five questions in 200 words.

All questions carry equal marks

6. What are the requirements needs for CIO?

7. List out the elaboration of framework.

8. What are the strategies of managing Global IT?

9. Define system cost management.

10. Explain Information Security Policy.

PART C — (4 × 10 = 40 marks)

Answer any FOUR questions out of Seven questions in 500 words.

All questions carry equal marks.

11. What does a CKO do? Elucidate.

12. Explain how innovation helps in an organisation.

13. How does Information technology service Management helps business strategy?

14. Define Outsourcing and its types. Give some reasons for why an organisation opts for Outsourcing.

15. Explain in detail about IT management process in detail.

16. Describe the two frameworks for information technology.

17. Explain the steps to create an innovation framework for an enterprise with neat diagram.

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