| Name. _____ | Printed Pages:02 |
|---|---|
| Student Admn. No.: _____ | |

**School of Finance and Commerce**
**Backlog Examination, June 2023**

**Programme** : BBA (Financial Investment Analysis)] [**Semester:** IV] [**Batch**:2020-2023]

| Course Title:  Quantitative Technique | Max Marks: 100 |
|---|---|
| Course Code:  BBAF2015 | Time: 3 Hrs. |

| **Instructions:** | 1. *All questions are compulsory.* |
|---|---|
| | 2. *Assume missing data suitably, if any.* |

| | | K Level | COs | Marks |
|---|---|---|---|---|
| **SECTION-A (15 Marks)** | | **5 Marks each** | | |
| **1.** | Describe the computational procedure of the optimality test in transportation problem | CO1 | K1 | 5 |
| **2.** | Recite the term of artificial variables and its use in linear programming | CO2 | K2 | 5 |
| **3.** | Cite the term unbalance transportation problem | CO2 | K2 | 5 |
| **SECTION-B (40 Marks)** | | **10 Marks each** | | |
| **4.** | A firm produces two products, P and Q and sell them at a profit of Rs 4 on product P and 6 on product Q. Each product is processed on two machines M and N. Product P requires 3 minutes of processing time on M and 6 minutes on N. Product Q requires 4 minutes on M and 5 minutes on N. The machine M is available for not more than 7 hours 30 minutes while machine N is available 10 hours and 40 minutes during the working days. Formulate the linear programming model that will maximize the total profit. | CO2 | K2 | 10 |
| **5.** | Explain how to resolve degeneracy in transportation Problem? How does the problem of degeneracy arise in the transportation problem? Explain how one can overcome it? Explain with the help of example? | CO3 | K3 | 10 |
| **6.** | Design the rules of network construction. | CO4 | K3 | 10 |
| **7.** | Draw the network diagram<br><br>| Activity | A | B | C | D | E | F |<br>|---|---|---|---|---|---|---|<br>| Predecessor Activity | ---- | A | A | B | C | D.E |<br>| Duration (Weeks) | 3 | 5 | 7 | 10 | 5 | 4 |<br><br>OR<br><br>Illustrate the limitations of PERT and CPM with examples. | CO4 | K4 | 10 |
| **SECTION-C (45 Marks)** | | **15 Marks each** | | |
| **8.** | "This method of assignment provides us with an efficient method of finding the optimal solution without having to make a-direct comparison of every solution" Define the term in detail? | C03 | K4 | 15 |
| **9.** | Elaborate Optimistic time, Pessimistic time and most likely time for PERT | C04 | K5 | 15 |

PTO

Solve the game where payoff matrix are given as:( Use Dominance Principle)  C05

Player B

| Player A | 2 | -2 | 4 | 1 |
|---|---|---|---|---|
| | 6 | 1 | 12 | 3 |
| | -3 | 2 | 0 | 6 |
| | 2 | -3 | 7 | 1 |

OR

10 | Solve the following Game using Graphical Method   K5   15

| | Player B1 | Player B2 | Player B3 |
|---|---|---|---|
| Player A1 | 4 | -1 | 0 |
| Player A2 | -1 | 4 | 2 |