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| Image result for adamas university logo | **ADAMAS UNIVERSITY**  **END SEMESTER EXAMINATION**  (Academic Session: 2020 – 21) | | |
| **Name of the Program:** | M. Tech. CE | **Semester:** | I |
| **Paper Title:** | Management Principles and Risk Analysis | **Paper Code:** | ECE61123 |
| **Maximum Marks:** | 50 | **Time Duration:** | 3 Hrs |
| **Total No. of Questions:** |  | **Total No of Pages:** |  |
| *(Any other information for the student may be mentioned here)* | 1. At top sheet, clearly mention Name, Univ. Roll No., Enrolment No., Paper Name & Code, Date of Exam. 2. All parts of a Question should be answered consecutively. Each Answer should start from a fresh page. 3. Assumptions made if any, should be stated clearly at the beginning of your answer. | | |

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| **Group A**  **Answer All the Questions (5 x 1 = 5)** | | | |
| 1 | **Discuss** role of OR in management. | **U** | **CO1** |
| 2 | **Compare** Simplex and Graphical Method. | **U** | **CO2** |
| 3 | **What** are the different types of decisions? | **R** | **CO3** |
| 4 | **Define** Slack and Surplus Variables. | **R** | **CO4** |
| 5 | **Give** the principles of Simplex Method. | **U** | **CO5** |
| **Group B**  **Answer All the Questions (5 x 2 = 10)** | | | |
| 6 a) | **Describe** the characteristics of Liquidity Preference Theory. | **U** | **CO1** |
| **(OR)** | | | |
| 6 b) | **Examine** the contribution of Receivables in Liquidity Management. | **Ap** | **CO1** |
| 7 a) | **Elucidate** the factors influencing Over and Under Capitalization. | **Ap** | **CO2** |
| **(OR)** | | | |
| 7 b) | **Explain** with Example: i) Systematic Risk ii) Floats. | **U** | **CO2** |
| 8 a) | **Explain** why do some problems have multiple optimal feasible solutions. | **E** | **CO3** |
| **(OR)** | | | |
| 8 b) | **Calculate** EOQ from the following –  Annual Demand – 36000 units, Cost price per unit - ₹50, Holding cost – 20%, Ordering cost per order - ₹25. | **Ap** | **CO3** |
| 9 a) | **State** at least five application areas of linear programming | **R** | **CO4** |
| **(OR)** | | | |
| 9 b) | A small manufacturer employs 5 skilled men and 10 semi skilled men and makes an article in two qualities, a deluxe model and an ordinary model the making of deluxe model requires 2 hours work by a skilled man and 2 hours work by a semi-skilled man. The ordinary model requires 1 hour work by a skilled man and 3 hour work by a semiskilled man. By union rules no man can work more than 8 hours per day. The manufacturer’s clear profit of the deluxe model is Rs.10 and of ordinary model Rs.8. **Formulate** the model of the problem. | **Ap** | **CO4** |
| 10 a) | **Solve** the problem by Big M method –  Maximize subject to Z= x1+2x2+ 3x3-x4,  x1+2x2+3x3=15,  2x1+x2+ 5x3=20,  x1+2x2+x3+x4=10,  x1, x2, x3, x4≥0 | **Ap** | **CO5** |
| **(OR)** | | | |
| 10 b) | **State** the benefits of maintaining adequate liquidity | **U** | **CO5** |
| **Group C**  **Answer All the Questions (7 x 5 = 35)** | | | |
| 11 a) | **Explain** the following in the context of transportation problem.  a) Degenerate transportation problem  b) Modified distribution method. | **E** | **CO1** |
| **(OR)** | | | |
| 11 b) | **State** the steps of NWCM of Transportation Problem. | **E** | **CO1** |
| 12 a) | **Explain** the advantages of PERT Method for evaluation of the project. | **R** | **CO2** |
| **(OR)** | | | |
| 12 b) | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Solve** the following assignment problem.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | **I** | **II** | **III** | **IV** | **V** | | **A** | 11 | 17 | 8 | 16 | 20 | | **B** | 9 | 7 | 12 | 6 | 15 | | **C** | 13 | 16 | 15 | 12 | 16 | | **D** | 21 | 24 | 17 | 28 | 26 | | **E** | 14 | 10 | 12 | 11 | 13 | | | **Ap** | **CO2** |
| 13 a) | The cost of a project is ₹50,000 and it generates cash inflows of ₹20,000, ₹15,000, ₹25,000 and ₹10,000 in four years. Using present value index method, **appraise** profitability of the proposed investment assuming a 10% rate of discount. | **App** | **CO3** |
| **(OR)** | | | |
| 13 b) | **State** the advantages and disadvantages of Net Present Value Method. | **U** | **CO3** |
| 14 a) | **Solve** the problem by using Duality Method of LP.  Minimize Z = x1 + 2x2 + 3x3  S.t. 2x1 – x2 + x3 >= 4  x1+x2+2x3 <= 8  x2 – x3 >= 2  x1, x2 and x3 >= 0 | **Ap** | **CO4** |
| **(OR)** | | | |
| 14 b) | **Explain** the KAIZEN technique of Quality Control. | **E** | **CO4** |
| 15 a) | **Distinguish** between Systematic and Un-systematic Risk | **E** | **CO4** |
| **(OR)** | | | |
| 15 b) | A manufacturer reported that he needs to order a particular RM in every 3 months by 900 units. The cost per unit is ₹12, the order cost is ₹16 per order, and Carrying cost is 25%.  **How much** the company will save if they go for EOQ buying option? | **Ap** | **CO4** |
| 16 a) | **Differentiate** between Hypothecation and Lease. | **A** | **CO5** |
| **(OR)** | | | |
| 16 b) | Outsourcing increases cost of a product, **explain** whether you agree with the statement or not proper example. | **E** | **CO5** |
| 17 a) | **Differentiate** between Fixed and Variable Costs. | **A** | **CO5** |
| **(OR)** | | | |
| 17 b) | Total Cost for producing X is ₹1,00,000. Fixed Cost is 40%. Total Production is 10,000 units. Selling price per unit is ₹15. **Ascertain** the BEP in units as well as in ₹. | **App** | **CO5** |