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| File name | question |
| **FORMULATION OF IPP** | Ques.1 Stocko is considering four investments.Investment 1 will yield a net present value(NPV) of $16000, invetment 2,  Ques.2.Gandhi Cloth Company is capable of manufacturing three types of clothing shirts,shorts and pants. The manufacture of each type of clothing requires that Gandhi have the appropriate type of machinery availabl  Ques.3. Consider the problem of processing 5 jobs on a single machine with th following processing time, due dates and penalty cost. Find the sequence of execution of jobs. So that it minimizes the penalty cost incurred in completing the jobs late. |
| FORM OF IPP | Ques 1.Coach Night is trying to choose the starting line-up for the basketball team. The team  consists of seven players who have been rated (on a scale of 1=poor to 3=excellent)  according to their ball-handling, shooting, rebounding, and defensive abilities. The  positions that each player is allowed to play (G=guard, C=center, F=forward) and the  player's abilities are listedcin Table:  Quest 2 Dorian Auto is considering manufacturing three types ofautos: compact, midsize, and large. The resources required for, and the profits yielded by, each type of car are shown in Table 8. Currently, 6,000 tons of steel and 60,000 hours of labor are available |
| Form and gomory | Ques1 :C Nickles receives credit card payments from four regions of the country(West,Mid-west,East, South). The average daily value of payments mailed by customers from each region is as follows:the West,$70000  Ques.2. There are six cities (cities 1-6) in Kilroy County. The county must determine where to build fire stations. The county wants to build the minimum number of fire stations needed to ensure that at least one fire station is within 15  Ques.3. Solve the problem by Gomory's Algorith:  Maximize Z=3x1+4x2,  subject to  x1+x2<=4  3/5x1+x2<=3  x1,x2>= and integer.  Ques.4. Solve by cutting plane algorithm:  Maximize Z= 7x1+10x2,  subject to  -x1+3x2<=6,  7x1+x2<=35,  x1,x2>=0 and integer. |
| Graphically | Q.1 Solve the following games graphically.The payoff is for  Player A.   |  |  |  |  | | --- | --- | --- | --- | | (a) | B1 | B2 | B3 | | A1 | 1 | -3 | 7 | | A2 | 2 | 4 | -6 |      |  |  |  | | --- | --- | --- | | (b) | B1 | B2 | | A1 | 5 | 8 | | A2 | 6 | 5 | | A3 | 5 | 7 | |
| Saddle point | Ques 1 Find the saddle point of the game having the following payoff table:   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  |  |  | Player 2 |  |  | | Strategy | | 1 | 2 | 3 | 4 | |  | 1 | 3 | -3 | 2 | -4 | | Player 1 | 2 | -4 | -2 | -1 | 1 | |  | 3 | 1 | -1 | 2 | 0 |   Ques. 2. Two companies share the bulk of the market for a particular kind of product. Each is now planning its new marketing plans for the next year in an attempt to wrest some sale away from the other company |
| enumration | Ques1 Solve the following IP Problem by Complete enumeration method:  Maximize, Z=220x1+80x2,  s.t.  5x1+2x2<=16  2x1-x2<=4  -x1+2x2<=4  Ques2 Solve the following binary integer programming problem:  Maximize Z=2x1+5x2,  Ques3 Use the BIP branch and bound algorithm to solve the following problem interactively.  Maximize Z=2x1-x2+5x3-3x4+4x5,  subject to,  3x1-2x2+7x3-5x4+4x5<=6 |
| Gomory | Q1 Mixed integer programming problem-  Solve by Gomory's Cutting plane (Simplex and graphical)  Max -3x1+x2+3x3  s.t.  -x1+2x2+x3<=4,  Q2 Mixed integer programming problem-  Solve by Branch and bound method (Simplex and graphical)  Max -3x1+x2+3x3  s.t.  -x1+2x2+x3<=4,  Q3 Solve the following integer problem by the method of cutting planes:  Maximize Z=x1+x2  subject to,  2x1+5x2<=16, |
| Game | Q1 The labor union and management of a particular company have been negotiating a new labor contract. However, negotiations have now come to an impasse, with management making a "final" offer of a wage increase of $1.10  Q2 Consider the following parlor game to be played between two players. Each player begins with three chips: one red, one white, and one blue. Each chip can be used only once.  To begin, each player selects one of her chips and places it on the table, concealed. Both players then uncover the |
| Techno form | Q1 Technico ltd has installed a machine costing rs 4 lacs and is in process of deciding on an appropriate number of certain spare parts required for repairs  Q2Ques. A dealer in second -hand machinery is offered 5 machines by a company for Rs 5,000 only.He expects to sell each of the machines for Rs 2,200 at a fair but he also knows that any machines not sold would be a waste and not fetch anything  Q3 you are given the following pay off table for a decision analysis problem  Alternates state of nature  S1 S2 S3  A1 220 170 110  A2 200 180 150  PRIOR 0.6 0.3 0.1  Q4. Dwight Moody is the manager of a large farm with 1,000 acres of arable land. For greater efficiency, Dwight always devotes the farm to growing one crop at a time. He now needs to make a decision on which one of four crops to grow during the upcoming growing season. For each of these crops, Dwight has obtained the following estimates of crop yields and net incomes per bushel under various weather conditions.  Expected yield, Bushel/Acre Weather Crop 1 Crop 2 Crop 3 Crop 4 Dry 20 15 30 40 |
| GAME THEORY | Q1. FIND the saddle point for the game having the following   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  |  | **Player 2** | |  |  | |  | **Strategy** | **1** | **2** | **3** | **4** | | **Player 1** | **1** | 3 | -3 | -2 | -4 | |  | **2** | -4 | -2 | -1 | 1 | |  | **3** | 1 | -1 | 2 | 0 |     Q2 Two companies share the bulk of the market of a particular kindof product. Each is now planning its new marketing plans for the next year in an attempt to wrest some sales away from the other company .  Q3. Two politicians soon will be starting their campaigns against each other for a certain political office. Each must now select the main issue she will emphasize as the theme of her campaign .each has three advantages issue |