

①

VALHA HAMEED

14526

BS(SE)

Section (A)

(2)

QUESTION No 2

A manufacturer produce two types of products A and B

ANSWER:-

Sol:-

Types of Product

Type of product	number sold in month	Net Profit
A	150	
B	200	

The MD of the Company has set the following goal which are arrange in order of priority

P₁ : No under utilization of plant production capacity.

(3)

P_2 Sell maximum possible number of product A and B. The MD has twice as much desire to sell product A as for product B, because the net profit from the sale of product A is a twice the amount from that of product B.

P_3 Minimise over-time operation of the plant. formulate the above as a goal programming problem and solve it.

So let x_1 and x_2 be the number of product A and B. Since over time operation are not allowed

(4)

$$X_1 + X_2 + d_1^- - d_1^+ = 500 \text{ (Plant capacity)}$$

where d_1^- = under utilisation of production capacity variable.
 d_1^+ = overtime production operation capacity variable.

Since goal is the maximum of sales, hence positive deviation will not appear in constraints related with sales

$$\text{Then } X_1 + d_2^- = 150$$

$$\text{and } X_2 + d_3^- = 200$$

d_2^- = under achievement of sale goal for (A)

d_3^- = under achievement of sale goal for (B)

Now the goal programming mathematically model can be written as minimize

$$Z = p_1 d_1^- + 2p_2 d_2^- + p_2 d_3^- + p_3 d_1^+$$

Subject to the constraints.

$$X_1 + X_2 + d_1^- + d_1^+ = 500$$

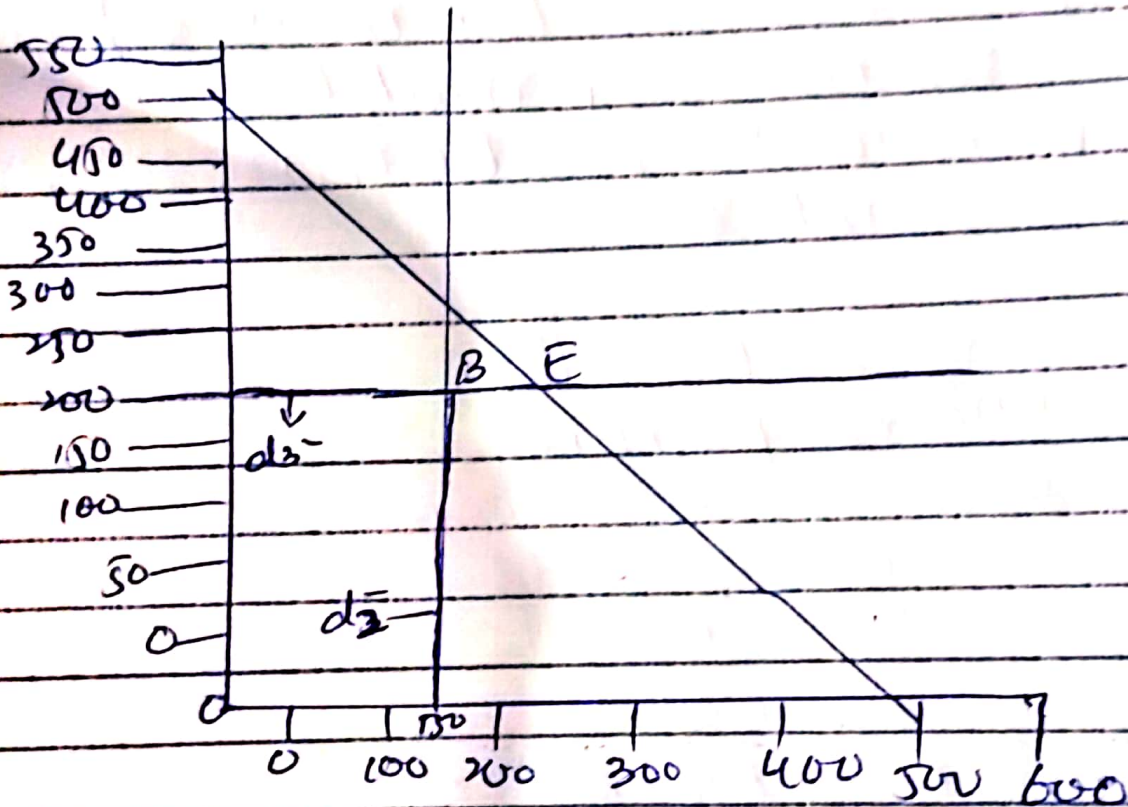
$$X_1 + d_2^- = 150$$

$$X_2 + d_3^- = 200$$

$$\text{and } X_1, X_2, d_2^-, d_3^-, d_1^+ \geq 0$$

All the goal constraints can be plotted on the graph.

(5)



ANSWER ^(b) No.:- 3

Critical path Methodology (CPM) is a programming methodology that will replicate all of various interaction in the past many author have succeed in exploiting CPM to calculate the time, resource and value required for project and event Wallace Aglie (2015) used CPM to appear the value and time interchanges by activities that a shorter time at an inexpensive price for the event project at Angels and Construction Ltd. This study uses one rule among many simple algorithmic rule to simulate the calculation of the longest path. There for minimum amount of time is required. In the classic CPM analysis, the earliest begin time atomic number 99, the latest begin time LS, the earlier and time EF, the latest and time radio frequency, and total float TF should be documented for each activity.

Research methodology is the study utilize the dynamic and static group behavior of dragonflies in nature to obtain a dragonfly algorithm. The benefits of this approach are use to dragonflies

(7)

The dragno fly rule is successfully intended to optimize the conclusion, we have use this techniques to solve this problems taking into account project cost, activities duration and activities correlation in the required path digram.

