

G.V.M.'s G.G.P.R. COLLEGE OF COMMERCE AND ECONOMICS

PONDA - GOA

INTRA SEMESTER ASSESSMENT TEST - I

B.C.A. SEMESTER VI JANUARY 2013

OPERATIONS RESEARCH

Duration: 45 mins

Max. Marks: 15

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A furniture manufacturer makes two products - chairs and tables. Processing of these products is done on two machines, A and B. A chair requires 2hrs on machine A and 6hrs on machine B. A table requires 5hrs on machine A and no time on machine B. There are 16hrs per day available on machine A and 30hrs on machine B. Profits gained by the manufacturer from a chair and table are Rs. 2 and Rs. 10 respectively.

- (i) Formulate a linear programming problem for this model. (3)
- (ii) Solve the above LPP by graphical method. (5)
- (iii) Write the dual for this problem. (2)
- (iv) Solve the dual and hence find the optimal daily production of each of the two products. (5)

----- ALL THE BEST -----