

(4)

Jobs	Processing time (in hrs.)		
	A	B	C
1	3	4	7
2	8	5	9
3	7	1	5
4	5	2	6
5	4	3	10

Determine the optimum sequence for the five jobs and the minimum elapsed time. Also find the idle time for the three machines.

Q. XIII. A project consisting of seven activities have the interrelationship and time estimates as follows :

Activities	Unmediate predecisors	to	tm	tp
A	-	2	5	8
B	A	6	9	12
C	A	5	14	17
D	B	5	8	11
E	C, D	3	6	9
F	-	3	12	21
G	E, F	1	4	7

- Draw a project network diagram.
- Calculate the probability of completing the project three days earlier than expected scheduled date.

[Given area under normal curve between 0 to 1.34 is 0.4099]

DE-491**M.B.A. (IInd Sem.) (F.T.) Examination-2013****MANAGEMENT SCIENCE**

Paper -CP-202

*Time Allowed : Three Hours**Maximum Marks : 80***Section-A** 8 marks each**(Short Answer Type Questions)**

Note : Attempt any four out of eight questions. Each question carries 8 marks.

- Explain with example on linear programming problem which has no feasible solution. Use graphical method to explain.
- What do you understand by balanced and unbalanced transportation problem? How an unbalanced transportation problem is tackled?
- Explain the following in the context of assignment problem :
 - Balanced and unbalanced problem.
 - Flood's technique

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- Q. IV. Explain the procedure of finding BFS for transportation problem by Vogel's Approximation method.
- Q. V. By taking a suitable example (illustration) prove that dual of dual is primal.
- Q. VI. Define float. Explain its different type and their importance.
- Q. VII. Write short note on decision trees.
- Q. VIII. In a game of matching coins player A win Rs. 2 if there are two heads, wins nothing if there are two tails and loses Rs. 1 when there are one head and one tail. Determine the pay off matrix, but strategies for each player and value of game.

Section-B 16 marks each

(Long Answer Type Questions)

Note : Attempt any three questions out of five questions.
Each question carries 16 marks.

- Q. IX. Explain How and Why O.R. methods have been valuable in aiding executive decisions.
- Q. X. Old hen can be bought at Rs. 2 each and young ones at Rs. 5 each. The old hens lay 3 eggs per week and the young ones lay 5 eggs per week. Each egg being worth 30 paise. A hen costs Rs. 1 per week to feed.

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Contd.....

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How many of each kind should Mr. Amit buy to give a profit of atleast Rs. 6 per week. Assuming that Mr. Amit can not house more than 20 hens. Solve the LPP graphically.

- Q. XI. A company has a team of four salesman and there are four districts where the company wants to start its business. After taking into account the capabilities of salesman and the nature of districts, the company estimates that the profit per day in rupees for each salesman in each district is as below :

		District			
		1	2	3	4
Salesman	A	16	10	14	11
	B	14	11	15	15
	C	15	15	13	12
	D	13	12	14	15

Find the assignment of salesman to various district which will yield maximum profit.

- Q. XII There are five jobs, each of which is to be processed through three machines A, B and C in the order ABC. Processing times in hours are

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P.T.O.