



DPP-5511
M. B. A. (Full-Time & Evening) (Sem. II)
(CBCS) Examination
March / April – 2016
Production & Operation Management

Time : 3 Hours]

[Total Marks : 70

Instructions :

(1)

<p>नीचे दर्शायेव निशानीवाणी विगतो उत्तरवडी पर अवश्य कपनी. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : M. B. A. (Full-Time & Evening) (Sem. II) (CBCS)</p> <p>Name of the Subject : Production & Operation Management</p> <p>Subject Code No. : <input type="text" value="5"/> <input type="text" value="5"/> <input type="text" value="1"/> <input type="text" value="1"/> Section No. (1, 2,.....): <input type="text" value="Nil"/></p>	<p>Seat No. : <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center; width: 100%;">Student's Signature</div>
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- (2) Figures to the right indicate marks of the respective questions.
- (3) Q. 1 and Q. 7 is compulsory. Attempt any three full questions from Q. 2, 3, 4, 5, and 6.

Question : 1 (a) : Obtain the initial basic feasible solution by using Vogel's approximation Method and Least Cost Method. (10)

Factory	Warehouse				Supply
	W1	W2	W3	W4	
F1	65	59	68	49	300
F2	76	55	61	56	350
F3	74	65	70	63	150
F4	58	67	73	61	200
Demand	200	250	200	350	1000

(b) Write Short Note on Supply Chain Management. (5)

Question: 2 (a) Define Operations Management. Discuss the similarities and differences between goods and services. (8)

(b) Discuss One Off Production System along with its advantages and disadvantages. (7)

Question: 3 (a) The processing time (Hours) of 7 jobs on 3 machines are given below .
Sequence the given jobs and find out the idle time on each machine and total elapsed time. (8)

JOB	Machine -1	Machine-2	Machine-3
1	8	4	7
2	10	7	9
3	9	5	4
4	7	3	3
5	11	2	7
6	8	7	6
7	12	6	4

(b) Table below shows the 5 existing facilities, Their co-ordinate locations, annual load between the existing facility and new facility and cost of moving one unit by unit distance. (7)

Existing Facilities	Co- Ordinate Locations (Xi , Yi)	Annual Load (L) Units	Cost Of moving One unit by unit distance (Rs)
A	(32, 18)	120	5
B	(11, 36)	220	5
C	(27,40)	180	4
D	(43,35)	400	5
E	(42,20)	175	4

Locate the new facility by using Simple Median Method and Calculate Total Transportation Cost.

Question: 4 (a) ABC manufacturing company purchase 9,000 parts of a machine for its annual requirement, ordering one month's usage at a time. Each part costs Rs. 20/-. The ordering cost per order is Rs. 15/- and the inventory carrying charges are 15% of the average inventory per year. You have been asked to suggest a more economical purchasing policy for the company. What advice would you offer and how much would it save the company per year. (8)

(b) Discuss ABC-XYZ-VED analysis with respect to Inventory Management System. (7)

Question: 5 (a) A company has five jobs V, W, X, Y and Z and five machines A, B, C, D and E. The given matrix shows the return in Rs. of assigning a job to a machine. Assign the jobs to machines so as to maximize the total returns. (8)

JOBS	MACHINES				
	A	B	C	D	E
V	5	11	10	12	4
W	2	12	6	3	5
X	3	4	5	14	6
Y	6	14	4	11	7
Z	7	9	8	12	5

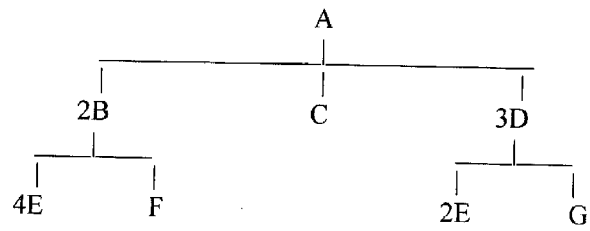
(b) The capacity of the fuel tank of the 2007 Volvo S40 is designed to be 12.625 gallons. The actual capacity of tanks produced is controlled using a control chart. The data of 9 random samples of size 5 each collected on 9 different days are tabulated below. Draw \bar{X} -bar and R charts. Is the process in control? If it is not, remove the sample that is out of control, and redraw the charts. (Take $A_2 = 0.577$, $D_3 = 0$ and $D_4 = 2.116$) (7)

1	2	3	4	5	6	7	8	9
12.667	12.600	12.599	12.607	12.738	12.557	12.646	12.710	12.529
12.598	12.711	12.583	12.524	12.605	12.745	12.647	12.627	12.725
12.685	12.653	12.515	12.718	12.640	12.626	12.651	12.605	12.306
12.700	12.703	12.653	12.615	12.653	12.694	12.607	12.648	12.551
12.722	12.579	12.599	12.554	12.507	12.574	12.589	12.545	12.600

Question: 6 Based on the following master production schedule, inventory on hand, scheduled receipts, and bill of materials for the end item A, determine the size and timing of planned order releases for each of the component parts. All lead times are one week. Follow Lot for lot. (15.)

MASTER SCHEDULE							
Indep. Demand (week)	Item						
	A	B	C	D	E	F	G
1						20	
2					20	20	
3						20	
4						20	
5	50					20	120
6	80					20	
7						20	
8	130					20	
9	70					20	
Inventory On Hand	0	20	0	40	50	20	0
Scheduled Receipts (week)							
1			50				
2							60
3	30						
4						300	
5							
6							
7		30			40		
8							
9							

Bill of Materials



Question: 7 Write any Two Short Notes.

(10)

1. New Product Development.
 2. Value Analysis/Value Engineering.
 3. Current Status of Indian Manufacturing Industry.
 4. Materials Handling.
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