

Savitribai Phule Pune University
Department of Management Sciences (PUMBA)
Executive MBA
2nd Year (Semester -III) External Exam Nov. 2014

303(D)-Operations Planning & Control

Time: 2hrs.

Marks: 50

Attempt any 4 questions. All questions carry equal marks.

1. ABC Ltd. Manufactures 8 products for which the sales and stock details are given as per following table:

PRODUCT	SALES QTY. PER DAY (UNITS)	STOCK ON HAND (UNITS)	SAFETY STOCK REQUIRED TO BE KEPT (UNITS)	TIME REQUIRED FOR PRÖDN. (PER BATCH) DAYS
A	100	1100	200	3
B	50	600	50	2
S	200	1600	200	2
D	25	400	100	4
E	125	2200	200	5
F	150	1700	200	4
G	75	1650	150	2
H	60	780	180	4

Find the sequence for production using critical ratio method.

2. XYZ Ltd. Requires 80 units every day for which the company is working 24 Hrs. per day. The product requires following activities to be completed. Find the number of work stations to be created by doing line balancing and find line balancing efficiency.

ACTIVITY	PRECEEDING ACTIVITY	DURATION (MINS.)
A	-	5
B	A	4
C	B	10
D	C	6
E	D	2
F	E	3
G	E	9
H	E	8
I	E	11
J	E	5
K	E	4
L	E	10
M	F,G,H,I,J,K,L	4
N	M	6
P	N	4

3. ABC Ltd. Has a requirement of a product as per following details

Year	Requirement (No. of Units)
1	10,000
2	40,000
3	60,000
4	40,000
5	20,000

They have been offered a price of Rs. 100 by the supplier for first year with an increase of 10 % every subsequent years. The transportation cost per unit is Rs. 10 for the first year with an increase of 10 % every year.

They have also collected data on in house manufacturing as follows:

Raw material cost is Rs. 70 per unit for the first year with an increase of 20 % per year. Labour cost will be Rs. 20 per unit for the first year with reduction of Rs. 2 for the second year and increase by Rs. 4 every subsequent year. Overheads will be Rs. 5 per unit for the first year with an increase of 20 % per year. Power and fuel cost is likely to be Rs. 5 per unit for the first year with an increase of Rs. 2 per year. The company will have to invest in machinery and other assets to the tune of Rs. 10 lac to be recovered in 5 years.

4. ABC LTD. wants to decide the strategy for aggregate planning. It has forecasted sales as per following:

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
Sales quantity	400	500	650	500	450	500	600	600	550	600

For fixed level strategy they have planned for production of 500 units per month with inventory cost of 4 Rs. Per unit per month and opportunity cost of Rs. 10 per unit .

For hire and fire policy, company feels, each worker can produce 25 units per month and company has initially started with 20 workers. The hiring cost is Rs. 600 per worker per month and firing cost is Rs. 1000 per worker per month.

For outsourcing policy the outsourcing cost is Rs. 8 per unit with inventory cost of Rs. 5 per unit.

Find the best strategy for ABC Ltd.

5. What are the different compulsory Functions of PPC? Explain with examples.

6. Write short notes on any 2 of the following:

- Line of Balance
- Time study
- Capacity Planning