2007 SBM OPERATIONS MANAGEMENT FINAL

Time: 180 minutes Max marks: 50

1. Compare Operations Management and Production Management.

(2 marks)

2. What do you mean by Operations Mission? Give an example.

(2 marks)

3. What are the three different strategies followed by different firms for new product introduction? Explain.

(2 marks)

4. Differentiate between the characteristics of labour employed for Line, Intermittent and Project processes.

(2marks)

5. Determine the rectilinear distance table for the layout, if the centre to centre distance between two adjacent cells is 8m.

1	4	2
6	5	3

(3marks)

6. The price of Aluminium (Rs/kg) in the market for the last five weeks is 150, 155, 162, 152, 157. Predict the price for the next week using a three week weighted cumulative average with weights 0.1, 0.3 and 0.6.

(2 marks)

7. List the important factors to be considered when locating a facility.

(2 marks)

8. What do you mean by tardiness? On 15 Sept 2007, a tailor promised to deliver a shirt on 25 Sept 2007. But the shirt was completed only on 28 Sept 2007 and luckily, the customer came to pick up the shirt on 29 Sept 2007. Determine the tardiness.

(2 marks)

9. At a bakery, the amount of various items in stock and the daily demand is as given below. Suggest a schedule prioritising the items to be taken up for production, if there is only one cook and more than one item cannot be produced at the same time.

Item	Stock	Daily demand
Banana chips	500kg	200kg
Mixture	100kg	10kg
Halwa	200kg	25kg
Laddoo	80kg	5kg
Jilebi	60kg	9kg

(2 marks)

10. What do you mean by slack? When constructing a house, wiring and plumbing have to be done before plastering. Today is 1 October and the walls are ready for wiring and plumbing. Wiring will take around nine days. Plumbing is expected to be completed by 17 October and plastering should be started immediately thereafter. Determine the slack available in Wiring.

(2 marks)

11. Explain a two bin inventory control system with a common example.

(2 marks)

12. A motor consists of a housing and two covers bolted together by eight screws. 1000 motors are to be produced in Week 6. The assembly takes two weeks and hence screws should be made available two weeks ahead. The lead time for screw is two weeks with FOQ 10,000 and initial inventory 4000. How many screws should be ordered and when? What will be the

inventory of screws in Week 5?

(2 marks)

13. Discuss "Restricted Output" and Taylor's solution to this problem.

(2 marks)

14. Explain the three factors which make an "Enthusiastic Employee"

(2 marks)

15. Discuss productivity and various ways of calculating the same.

(2 marks)

16. In eight hours, a worker produced 400 pieces. If the hourly rate is Rs50 and the standard production rate is 40 pieces per hour, determine the wages for a) straight piece rate b) Fifty fifty bonus sharing plan.

(2 marks)

17. Write one sentence each about David Garvin's eight dimensions of quality.

(2 marks)

18. Discuss the different meanings of the word Total in TQM.

(2 marks)

19. What are the important points to be considered when designing a Quality Control System?

(2 marks)

20. Who can certify an organization to ISO9001? From where do they get this power?

(2 marks)

21. Why should organizations improve?

(2 marks)

22. The table below gives the paid up capital in crores of Rupees of the various subsidiary Banks of State Bank of India. Draw a Pareto diagram and identify the vital few subsidiaries.

State Bank of Bikaner & Jaipur	50
State Bank of Ahmedabad	17
State Bank of Indore	7
State Bank of Mysore	36
State Bank of Patiala	25
State Bank of Saurashtra	314
State Bank of Travancore	60

(4 marks)

23. The number of workers expected to come everyday and the number who actually came are shown in table below. Determine trial control limits for a p chart for the fraction absent. Neglect the insufficient number of subgroups. No graph need be drawn.

Day	1	2	3	4	5	6	7	8	9	10
No expected	190	210	190	220	210	210	185	210	200	210
No present	14	13	11	13	7	8	4	15	8	19

(5 marks)

24. Write a paragraph on a) Manufacturing Flexibility OR b) Supply Chain Management

(2 marks)

SOLUTIONS TO NUMERICALS:

5.

	1	2	3	4	5	6
1	X	16	24	8	16	8
2		X	8	8	16	24
3			X	16	8	16
4				X	8	16
5					X	8
6						X

6. Rs 156/kg

8. Tardiness = 3 days

9.

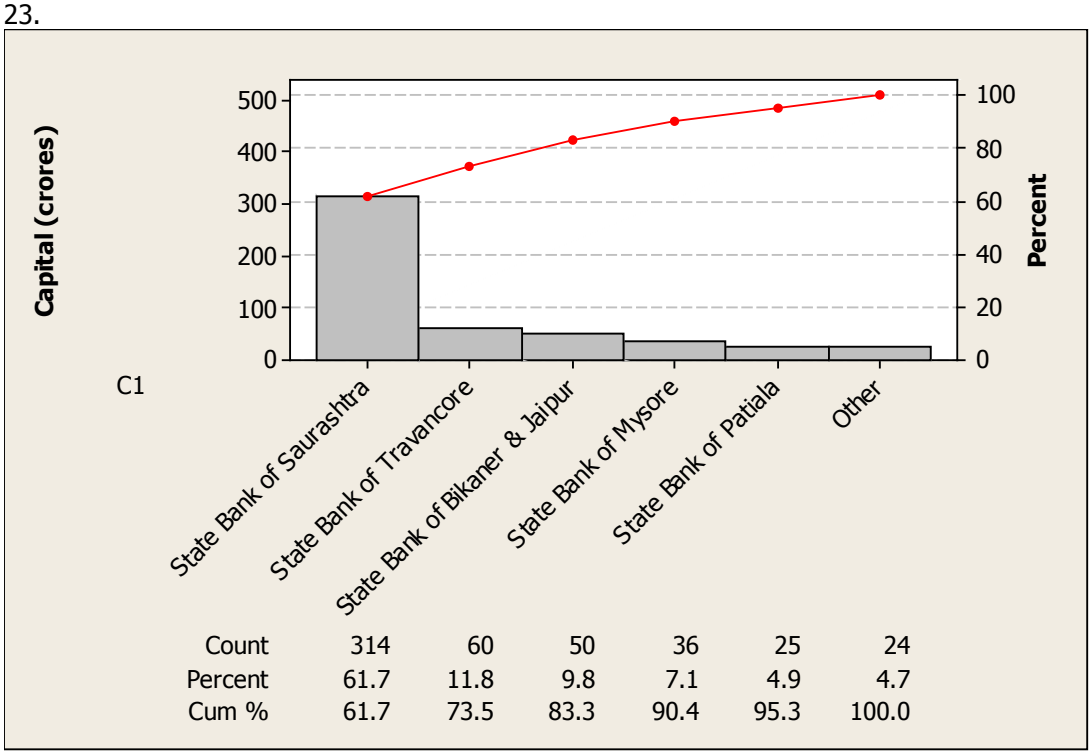
Item	Stock	Daily demand	Runout time	Priority
Banana chips	500kg	200kg	2.5	1
Mixture	100kg	10kg	10	4
Halwa	200kg	25kg	8	3
Laddoo	80kg	5kg	16	5
Jilebi	60kg	9kg	6.67	2

10. Slack = 16 – 9 = 7 days

12. 8000 screws are required in Week 4. 10,000 screws should be ordered in Week 2. 6000 screws will be the inventory in Week 5.

16. Straight piece rate = Rs500/-, Fifty fifty bonus = Rs450/-

23.



24.

Day	1	2	3	4	5	6	7	8	9	10
p	0.0737	0.0619	0.0579	0.0591	0.0333	0.0381	0.0216	0.0714	0.0400	0.0905
LCL	0.0054	0.0078	0.0054	0.0089	0.0078	0.0078	0.0047	0.0078	0.0067	0.0078
UCL	0.2379	0.2448	0.2613	0.2448	0.3136	0.2969	0.3971	0.2317	0.2969	0.2120

pbar = 0.0550