Total No. of printed pages = 3

BA 172205

22/7/22

Roll No. of candidate | | | | | | | | | |

2022

M.B.A. 2nd Semester End-Term Examination

PRODUCTION AND OPERATIONS MANAGEMENT

(New Regulation and New Syllabus w.e.f. 2017-18)

Full Marks – 70 Time – Three hours

The figures in the margin indicate full marks for the questions.

First questions is compulsory answers any four from the rest

1. Answer the following : (10×1=10)

   (a) Steel manufacturing plants usually follows a (continuous/intermittent) production line

   (b) Production capacity considering maintenance and setup time is known as (actual/effective) capacity

   (c) Installation of a (product/process) layout is more expensive.

   (d) The ordering cost (increases/decreases) if the order quantity is large.

   (e) The demand for a finished product is (dependent/independent) demand.

   (f) The concept of JIT was developed by (Volkswagen/ Toyota)

   (g) Job enrichment also refers to (horizontal/ vertical) loading of a worker's job

   (h) The job satisfaction of employees is higher in (chase plan / level output rate) production planning strategy

   (i) If fixed costs and variable costs are both low, breakeven is reached (sooner/later)

   (j) VED analysis categorizes inventory on the basis of (cost of absence/ units of consumption)

[Turn over

2. (a) ARP Enterprise is planning to setup a plant in Pune or Hyderabad. The fixed cost of both locations are Rs.18,00,000 and Rs. 20,00,000 respectively. The variable costs are same i.e. Rs. 500 per unit. However in Hyderabad, the supplier is willing to offer a 20 percent discount on the sub-assemblies that accounts for the variable costs, if the order quantity is according their lot sizing. The selling price of the item is Rs. 3,200 in Pune and Rs. 3,100 in Hyderabad. Using breakeven analysis choose the better alternative. (9)

(b) A company wants to set up a paper mill and is considering two locations A and B Location A is close to the raw material, cheap to acquire, but doesn't have access to skilled labour and physical amenities. Location B is expensive to acquire and is far from the raw materials, but is closer to the markets and has access to skilled labour. Critically analyse the better location and the reasons for it. (6)

3. (a) Balance the following line and calculate the efficiency. (9)

Task	Immediate Predecessor	Time (Seconds)
A	–	60
B	A	30
C	B	35
D	C	25
E	C	35
F	C	22
G	D,E,F	15
H	G	23

(b) What are the different types of production capacity? (6)

4. (a) ABB Ltd sources 1200000 unit of a sub assembly yearly with one order per month as the current sourcing policy. The cost of ordering is Rs. 300 per order and the cost of carrying is Rs. 20 per unit per year. The cost the sub-assembly is Rs. 800 per unit. However there's a discount of 4 percent if the order quantity is between than 24000-35999 unit and discount of 6 percent for 36000 units and above. Compare the above options along with EOQ and present inventory policy and advise the management accordingly. (12)

(b) What is lead time? If order quantity of a company is 300 units per order and safety stock is 60 units, calculate average inventory. (2+1=3)

5. (a) What are the costs of quality? (4)

(b) From the following data find out if the process is in control. (11)

Time	Sample 01	Sample 02	Sample 03
1am	98	98	100
2am	96	96	96
3am	96	98	98
4am	99	96	100
5am	95	98	97
6am	99	96	97
7am	99	100	98
8am	97	98	98
9am	96	100	96
10am	98	97	100

Given the values of D3 = 0, D4 = 2.574, A2 = 1.023

6. (a) Reverse Engineering and Research and Development and two integral part of product design. Discuss the conditions under which each of those concepts are used. (7)

(b) What is aggregate planning? What are the inputs of MRP? (8)

7. Write short notes on (any three) : (3×5=15)

(a) Method Study

(b) Carrying cost

(c) Varying utilization plan

(d) Acceptance Sampling

(e) Cellular Layout