

**Paper 9 – Operation Management & Strategic Management**

## Paper 9- Operations Management & Strategic Management

Full Marks: 100

Time allowed: 3 hours

The figures in the margin on the right side indicate full marks.

This paper contains five questions.

All questions are compulsory, subject to instruction provided against each questions.

All workings must form a part of your answer.

Assumptions, if any, must be clearly indicated.

### Section A

1. Answer all the following questions.

[1×10=10]

(a) Multiple choice questions:

- (i) Manufacturing system often produces:
  - (A) Standardised products;
  - (B) Standardised products in large volumes;
  - (C) Substandard products in large volumes;
  - (D) products and services in limited volume
  
- (ii) MRP stands for:
  - (A) Material Requirement Planning,
  - (B) Material Reordering Planning,
  - (C) Material Requisition Procedure,
  - (D) Material Recording Procedure.
  
- (iii) The desired objectives of Production and Operations Management is :
  - (A) Use cheap machinery to produce;
  - (B) To train unskilled workers to manufacture goods perfectly;
  - (C) Optimal utilization of available resources;
  - (D) To earn good profits
  
- (iv) The scope of Production Planning and Control is:
  - (A) Limited to production of products only;
  - (B) Limited to production of services only;
  - (C) Limited to production of services and products only;
  - (D) Unlimited, can be applied to any type of activity.
  
- (v) Most suitable layout for Job production is:
  - (A) Line Layout;
  - (B) Matrix Layout;
  - (C) Process Layout;
  - (D) Product Layout
  
- (vi) The lead-time is the time:
  - (A) To placeholders for materials;
  - (B) Time of receiving materials;
  - (C) Time between receipt of material and using materials;
  - (D) Time between placing the order and receiving the materials

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- (vii) Z<sup>n</sup> chart is a chart used in:
- (A) Programme control;
  - (B) Job control;
  - (C) Cost control;
  - (D) Quality control
- (viii) The first stage in production planning is:
- (A) Process Planning;
  - (B) Factory Planning;
  - (C) Operation Planning;
  - (D) Layout Planning
- (ix) When work centers are used in optimal sequence to do the jobs, we can:
- (A) Minimise the set up time;
  - (B) Minimise operation time;
  - (C) Minimise the breakdown of machines;
  - (D) Minimise the utility of facility.
- (x) The lead-time is the time:
- (A) To placeholders for materials;
  - (B) Time of receiving materials;
  - (C) Time between receipt of material and using materials;
  - (D) Time between placing the order and receiving the materials

**2. Put an appropriate word or two in blank position: [2×1=2]**

- (a) To evaluate the work done by preventing maintenance, \_\_\_\_\_ is derived at from the total time of stoppage of the machine for scheduled and unscheduled maintenance work.
- (b) Gantt chart is used for \_\_\_\_\_ control.

**3. Examine each statement and indicate whether it is True or False: [7×1=7]**

- (i) Breakdown maintenance doesn't require use of standby machines.
- (ii) A good plant layout is one of the factors in effective utilization of labour.
- (iii) Activity Sampling is not a technique of Job Evaluation.
- (iv) When demand does not exist in the market, we should start production Incentives.
- (v) In general, long-range forecasting is more useful in production planning.
- (vi) There is limit beyond which labour productivity cannot be improved.
- (vii) A work stoppage generally reduces the cost of production

**II. Answer any three:**

**4.**

- (a) Identify the factors that influence the Product Design.
- (b) A Shaft 1200 mm in length is being machined on a lathe. If spindle rotates 600 r.p.m. and feed is 0.25 mm per revolution, how long will it take the cutter to pass down the

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entire

length of shaft ?

(c) What are the factors that force an organization to redesign plant layout?

(d) Company A wants to make large giant trucks called LARJO. Company A now requests you to list out the plant layout principles it should consider before taking any decision?

[5+4+5+3=17]

5. (a) The following table gives the running costs per year and resale values of a certain equipment whose purchase price is ₹6,500. At what year is the replacement due optimally:-

Year	1	2	3	4	5	6	7	8
Running cost	1400	1500	1700	2000	2400	2800	3300	3900
Resale value	4000	3000	2200	1700	1300	1000	1000	1000

[9]

(b) A company produces three products P, Q and R from three raw materials A, B and C. One unit of product P requires 2 units of A and 3 units of B. One unit of product Q requires 2 units of B and 5 units of C and one unit of product R requires 3 units of A, 2 units of B and 4 units of C. The company has 8 units of material A, 10 units of material B and 15 units of material C available to it. Profits per unit of products P, Q and R are ₹3, ₹5 and ₹4 respectively.

Formulate the question mathematically to maximize the profit.

[8]

6. (a) Monthly demand for a component is 1000 units. Setting-up cost per batch is ₹120.

Cost of manufacture per unit is ₹20. Rate of interest may be considered at 10% p.a. calculate the EBO.

[8]

(b) Two alternatives set-ups, A and B are available for the manufacture of a component on a particular machine, where the operating cost per hour is ₹20.

Particulars	Setup A	Setup B
Components / Setup	4000 pieces	3000 pieces
Setup cost / Year	₹300	₹1500
Production rate / hour	10 pieces	15 pieces

Which of these set-ups should be used for long range and economic production?

[9]

7.(a) Ladies fashion shop wishes to purchase the following quantity of summer dresses:

Dress size	I	II	III	IV
Quantity	100	200	450	150

Three manufacturers are willing to supply dresses.

The quantities given below are the maximum that they are able to supply of any given combination of orders for dresses:

Manufacturers	A	B	C
Total quantity	150	450	250

The shop expects the profit per dress to vary with the manufacturer as given below:

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	I	II	III	IV
A	₹2.5	₹4.0	₹5.0	₹2.0
B	₹3.0	₹3.5	₹5.5	₹1.5
C	₹2.0	₹4.5	₹4.5	₹2.5

**Required:**

- (a) Use the transportation technique to solve the problem of how the orders should be placed with the manufactures by the fashion shop is order to maximise profit.  
(b) Explain how you know there is no further improvement possible. **[9]**
- (b)** Wanda's Car Wash & Cry is an automatic, five-minute operation with a single bay. One a typical Saturday morning, cars arrive at a mean rate of eight per hour, with arrivals tending a follow a passion distribution. Find
- a. The average number of cars in line.  
b. The average time cars spend in line and service. **[8]**
- 8. Write a note:** **[5+5+7=17]**
- (a)** Difference between PERT and CPM;  
**(b)** Elements of scheduling;  
**(c)** Lean operation.

### Section – B

#### Strategic Management

**III. Answer all:** **[6×1=6]**

**9. Choosing of correct answers:**

- (i) SAIL's famous advertising campaign of "there is a bit of steel in everyone's life" was meant to:
- (A) gain buyers awareness about its versatile product range;  
(B) create and image of superior performance;  
(C) inform new buyers about its special products;  
(D) enhance product quality perception;  
(E) achieve its mission
- (ii) Outsourcing is the
- (A) Spinning off of a value-creating activity to create a new firm;  
(B) Selling of a value-creating activity to other firms;  
(C) Purchase of a value-creating activity from an external supplier;  
(D) Use of computers to obtain value-creating data from the internal.
- (iii) A strategic business unit (SUB) is defined as a division of an organization:
- (A) That help in the marketing operation;  
(B) That enable managers to have better control over the resources;  
(C) That help in the choice of technology;

- (D) That help in the allocation of scarce resources;  
(E) That help in identifying talents and potentials of people.
- (vi) For an actor in Bollywood, his outstanding performance would be a /an  
(A) Asset;  
(B) Strategic Asset;  
(C) Core competency;  
(D) Capability
- (v) A product line is a group of products that  
(A) are closely related  
(B) are marketed through the same channel  
(C) perform a similar function for being sold to the same customers  
(D) all the above
- (vi) Directional policy Matrix is the same as  
(A) the BCG model;  
(B) the 9-cell GE matrix  
(C) the Life cycle portfolio analysis;  
(D) the PIMS matrix;  
(E) the 3X3 competitive positioning matrix.

**IV. Answer any three:**

**[8×3=24]**

- 10. (a)** Discuss the stages in Strategic Planning .
- (b)** What do you mean by Strategic Planning? What are the difference between Strategic Management and Strategic Planning?
- (c)** Discuss "Strategic Management Framework".
- (d)** Bring out the features and advantages of Strategic Business Unit (SBU).