

# INTERMEDIATE EXAMINATION

December 2019

P-9(OMSM)

Syllabus 2016

## Operations Management and Strategic Management

Time Allowed: 3 Hours

Full Marks: 100

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

*This paper contains two Sections.*

*Both Sections are compulsory, subject to instructions provided against each.*

*All workings must form part of your answer.*

*Assumptions, if any, must be clearly indicated.*

### Section A

#### Operations Management

1. (a) Choose the correct answer:

1×10=10

(i) Conversion of inputs into outputs is known as

- (A) Application of technology
- (B) Manufacturing products
- (C) Product
- (D) Operation management

(ii) Which of the following is NOT the Plant Layout Principle?

- (A) Principle of sequence
- (B) Principle of usage
- (C) Principle of maximum travel
- (D) Principle of minimum investment

(iii) Number of product varieties that can be manufactured in Mass production is

- (A) one only.
- (B) few varieties in large volume.
- (C) two only.
- (D) large varieties in small volumes.

- (iv) Scheduling shows
- (A) which resource should do which job and when.
  - (B) total cost of production.
  - (C) total material cost.
  - (D) the flow line of materials.
- (v) Which one of the following standards is associated with the “Quality Management and Quality System Elements-Guidelines”?
- (A) ISO 9001
  - (B) ISO 9002
  - (C) ISO 9003
  - (D) ISO 9004
- (vi) In a network diagram, the activity that must be completed prior to the start of an activity is called as
- (A) Successor activity
  - (B) Predecessor activity
  - (C) Concurrent activity
  - (D) Dummy activity
- (vii) Identify which one of the following is NOT the objective of the maintenance:
- (A) To keep all production facilities and allied facilities in an optimum working condition.
  - (B) To ensure specified accuracy to products and time schedule of delivery to customers.
  - (C) To keep the down time of the machine at the maximum.
  - (D) To keep the production cycle within the stipulated range.
- (viii) One of the important charts used in Programme control is
- (A) Gantt chart
  - (B) Material chart
  - (C) Distribution chart
  - (D) Maintenance chart

(ix) The act of going round the production shop to note down the progress of work and feedback the information is known as

- (A) Dispatching
- (B) Routing
- (C) Follow up
- (D) Trip card

(x) With reference to the characteristics of a good product design, which one of the following is referred to “the ease of manufacture with minimum cost”?

- (A) Reliability
- (B) Productibility
- (C) Specification
- (D) Simplification

(b) Match Column A with Column B:

1×6=6

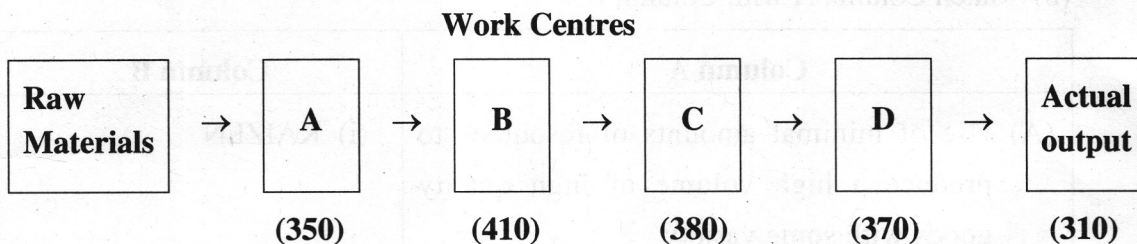
Column A	Column B
(A) Use of minimal amounts of resources to produce a high volume of high quality goods with some variety	(i) KAIZEN
(B) Arranging and grouping of machines which are meant to produce goods	(ii) Network
(C) The extent to which a firm will produce goods or provide services in-house or go for outsourcing	(iii) Monte Carlo Method
(D) A given problem is solved by simulating the original data with random number generators	(iv) Lean Production
(E) The principle of continuous improvement	(v) Make or Buy Decisions
(F) A graphical representation of all the activities and events arranged in a logical and sequential order	(vi) Layout

(c) State whether the following statements are 'True' or 'False': 1×6=6

- (i) The full form of the word MRP in the term "MRP II" is Material Requirements Planning.
- (ii) Strikes and lock-out are controllable factors affecting Capacity Planning.
- (iii) Queue Discipline refers to the order in which customers are processed.
- (iv) ISO Standards are reviewed every four years and revised if needed.
- (v) The CPM has the advantage of decreasing completion times by probably spending more money.
- (vi) The rotatable spares are spare parts which are required regularly and in substantial number.

Answer any three questions from the following: 16×3=48

2. (a) Enumerate the characteristics of a modern operations function. 7
- (b) A firm has four work centres, A, B, C and D, in series with individual capacities in units per day shown in the figure below: 3×3=9



- (i) Identify the bottle neck centre.
- (ii) Determine the system capacity.
- (iii) Determine the system efficiency.

3. (a) What do you understand by Process Design and Selection? 3+5=8

(b) The following data is available for a manufacturing unit:

No. of operators	16
Daily working hours	8
No. of days per month	25
Standard production per month	400 units
Standard labour hours per units	8

The following information was obtained for June 2019:

Man days lost due to absenteeism	36
Units produced	300
Idle time	260 man hours

Find the following:

2×4=8

- (i) Per cent absenteeism
- (ii) Efficiency of utilization of labour
- (iii) Productive efficiency of labour
- (iv) Overall productivity of labour in terms of units produced per man per month.

4. (a) Find the Initial Feasible Solution by North-West Corner method.

8

	W1	W2	W3	W4	Supplies
F1	10	12	14	18	210
F2	25	19	21	30	330
F3	18	16	11	23	430
F4	28	34	17	15	290
Demand	270	390	320	280	

$W_j$  = Warehouse

$F_i$  = Factory

Cell entries are unit costs in ₹.

- (b) A retailer is dealing with FMCG items. The table, as given below, presents the past data of demand per week in hundred kgs with frequency.

Demand/Week	0	5	10	15	20	25
Frequency	3	7	5	11	18	6

Using the following sequence of the random numbers, generate the demand for the next 10 weeks. Also find out the average demand per week.

6+2=8

Random Nos.	27	43	50	11	16	36
	58	64	51	38	18	47

Please Turn Over

5. (a) Draw the network for the following activities and find the Critical Path and Total duration of the project.

6

Activity	Predecessor	Duration (months)
A	-	2
B	-	3
C	-	5
D	A	4
E	B	1
F	B	5
G	C	8
H	D	1
I	E	2
J	F, G	4
K	H, I	3
L	K, J	2

- (b) RST Company has kept records of breakdown of its machines for 300 days work year as shown below:

No. of Breakdown	Frequency in days
0	50
1	140
2	60
3	30
4	20
<b>Total:</b>	<b>300</b>

The company estimates that each breakdown costs ₹ 600 and is considering adopting a preventive maintenance program which would cost ₹ 250 per day and limit the number of breakdown to an average of one per day. What is the expected annual savings from preventive maintenance program?

10

**Section B**  
**Strategic Management**

6. Choose the correct answer:

1×6=6

(i) Which of the following statements can be closely related with the Mission?

- (A) It includes definition of products & services the organization provides.
- (B) It specifies management policies towards customers and societies.
- (C) It provides a roadmap to company's future.
- (D) It indicates the kind that company management is trying to create for future.

(ii) Portfolio Analysis is a term used

- (A) to identify what strategy is needed to maintain a strong position or improve a weak one.
- (B) to find out a best alternative out of various alternatives available.
- (C) to analyse products and business by market share and market growth.
- (D) to make managers more adaptable to unforeseen changes.

(iii) Which one of the following is NOT a role of Marketing?

- (A) It helps in sustaining and improving the existing levels of employment.
- (B) It helps in the economic growth of a country.
- (C) It helps in the discovery of entrepreneurial talent.
- (D) It diminishes potential aggregate demand and thus reduces the size of the market.

(iv) Which one of the following is NOT the benefit of a Vision?

- (A) It helps in the creation of common identity and a shared sense of purpose.
- (B) It fosters risk taking and experimentation.
- (C) It fosters short-term thinking.
- (D) It represents integrity.

(v) The competitive position of a company's SBU or product line can NOT be classified as one of the following:

- (A) Dominant
- (B) Strong
- (C) Favourable
- (D) Volatile

**Please Turn Over**

(vi) The best test of a successful Strategy Implementation is

- (A) whether the strategies and procedures are observed in the strategy supportive fashion.
- (B) whether the structure is well-matched to strategy.
- (C) whether actual organizational performance matches or exceeds the targets spelt out in the strategic plan.
- (D) whether it is made after the strategy is formulated, so that it is supportive to the strategy.

Answer *any two* questions from the following:

12×2=24

- 7. (a) Define the term 'strategy' and list the characteristics of a strategic decision. 2+6=8
  - (b) What do you understand by Product Development Strategy? 4
  
  - 8. (a) What do you mean by Contingency Plans? Illustrate some contingency plans commonly established by firms. 1+5=6
  - (b) What are the three most important characteristics of SBU? List down major reasons of using SBU approach. 3+3=6
  
  - 9. Write short notes on *any three* of the following: 4×3=12
  - (a) Name the steps involved in the formulation of production strategy.
  - (b) Write a brief note on 'Behaviour Control' aspect of Strategic Control System.
  - (c) What are the various types of firms/organizations where BPR can be applied?
  - (d) What are the various approaches in Strategic Planning?
-