

**Paper 9 – Operations Management & Strategic Management**

# **MTP\_Intermediate\_Syllabus-2016\_December2018\_Set -1**

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## **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 question paper has two sections.

Both the sections are to be answered subject to instructions given against each.

### **Section – I: (Operations Management)**

1. (a) Choose the most correct alternatives: [1×10=10]
- (i) The activity of specifying when to start the job and when to end the job is known as:  
(A) Planning,  
(B) Scheduling,  
(C) Timing,  
(D) Follow-up.
- (ii) Routine and Scheduling becomes relatively complicated in  
(A) Job production,  
(B) Batch production,  
(C) Flow production,  
(D) Mass production
- (iii) Conducting occasional check-ups of the products manufactured or assembled to ensure high quality of the production is known as:  
(a) Planning  
(b) Scheduling  
(c) Inspection  
(d) Routing
- (iv) This aims at finding the best and most efficient way of using the available resources - men, materials, money and machinery:  
(A) Time Study  
(B) Work Study  
(C) Method Study  
(D) Job Evaluation
- (v) The time by which an activity can be rescheduled without affecting the other activities - preceding or succeeding is called as  
(A) Slack  
(B) Independent Float  
(C) Free Float  
(D) Total Float
- (vi) Which one of the following standards is associated with the "Quality Assurance in Final Inspection Test"?  
(a) ISO 9001  
(b) ISO 9002  
(c) ISO 9003  
(d) ISO 9004
- (vii) The lead time is  
(A) Time for 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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- (viii) Which of the following models deals with the physical movement of goods from different supply origins to a number of different demand destinations?
- Simulation
  - Transportation
  - Lean operations
  - Line balancing

- (ix) The recent trend in the Production/Operations management which suggests the use of minimal amount of resources to produce a high volume of high quality goods with some variety is referred to as:
- SCM
  - TQM
  - Lean Production
  - Just-In-Time

- (x) With reference to project management, identify which of the following statement is NOT correct?
- Gantt chart is a principal tool used in scheduling and also in some methods of loading.
  - Routing is the first step in the production planning.
  - The cost of any activity is proportional to its time of completion.
  - The free float can be calculated by subtracting EFT from EST.

- (b) Match the terms in Column I with the relevant terms in Column II [1×6=6]

Column I	Column II
(A) Furniture	(i) Assembly line
(B) Hydro-electricity	(ii) Job Evaluation
(C) Television set	(iii) Carpentry
(D) Cement	(iv) Turbo-alternator
(E) Aviation Fuel	(v) Rotary Kiln
(F) Ranking Method	(vi) Refinery

- (c) State whether the following statements are True/False? [1×4=4]
- Merit Rating is used to determine the cost of a product ( )
  - Increase in productivity leads to retrenchment of work force ( )
  - Project costs increase as the duration of the project increases ( )
  - Job Evaluation is a systematic approach to ascertain the labour worth of a job ( )
  - Production planning and control is essentially concerned with the control of Finished goods ( )
  - Breakdown maintenance doesn't require use of standby machines ( )

2. (a) Define forecasting. Why sales forecasting is the most important activity in the business? [6]

- (b) An investigation into the use of scooters in 5 towns has resulted in the following data:  
Population in town

Population in town (in lakhs)	(X)	4	6	7	10	13
No. of scooters	(Y)	4,400	6,600	5,700	8,000	10,300

Fit a linear regression of Y on X and estimate the number of scooters to be found in a town with a population of 16 lakhs. [10]

3. (a) What does Product Design do? Discuss – Process design and selection. [6]

- (b) Machine A costs of ₹ 80,000. Annual operating costs are ₹ 2,000 for the first year, and they increase by ₹ 15,000 every year (for example, in the fourth year the operating costs are ₹ 47,000). Determine the lease age at which to replace the machine. If the optimal replacement policy is followed; what will be the average yearly cost of operating and

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owning the machine? (Assume that the resale value of the machine is zero when replaced, and that future costs are not discounted.)

- (i) Another machine B costs ₹ 1,00,000. Annual operating cost for the first year is ₹ 4,000 and they increase by ₹ 7,000 every year. The firm has a machine of type A which is one year old. Should the firm replace it with B and if so, when?
- (ii) Suppose the firm is just ready to replace the machine A with another machine of the same type, just then the firm gets and information that the machine B will become available in a year. What should the firm do? [10]

4. (a) A farmer has a firm with 125 acres. He produces Carrot, Beetroot and Potato. Whatever he produces is fully sold in the market. He gets ₹ 5 per kg for carrot, ₹ 4 per kg for Beetroot and ₹ 5 per kg for potato. The average yield is 1500 kg for Carrot per acre, 1800 kg of Beetroot per acre and 1200 kg of potato per acre. To produce each 100 kg of Carrot and Beetroot and 80 kg of Potato, a sum of ₹ 12.50 has to be spent for manure. Labour required for each acre to raise the crop is 6 men – days for carrot and Potato each and 5 man-days for Beetroot. A total of 500 man days of labour of the rate of ₹ 40 per man – day are available. Formulate a LPP to maximize the farmer's total profit. [10]

- (b) Describe the objective of Time Study. [6]

5. (a) Draw the network for the following activities and find critical path and total duration of project.

Activity	Duration (months)	Activity	Duration (months)
1-2	2.5	4-5	2.0
2-3	2.5	5-6	3.0
2-4	1.5	6-7	1.5
3-4	1.0	5-7	1.5
3-5	1.0		

[8]

- (b) Product A has a Mean Time Between Failures (MTBF) of 30 hours and has a Mean Time to Repairs (MTTR) of 5 hours. Product B has a MTBF of 40 hours and has a MTTR of 2 hours.

- (i) Which product has the higher reliability?  
(ii) Which product has greater maintainability?  
(iii) Which product has greater availability?

[8]

## Section – II: (Strategic Management)

6. Choose the correct answer from the given alternatives: [1×6=6]

- (i) A strategic business unit (SUB) is defined as a division of an organisation:

- (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.

- (ii) The essential ingredients of Business Process Re-engineering are:

- (a) Continuous improvements of products, processes and technologies.  
(b) Advanced planning in the areas of technologies, processes and strategic partnerships etc.  
(c) Fundamental rethinking and radical redesign of business process to achieve dramatic results.  
(d) Generation, comparison and evolution of many ideas to find out one worthy of development.  
(e) Identification and selection of layouts most suited for products and processes.

- (iii) Matrix structure
- (A) Structural grouping is geographic
  - (B) Simultaneous combination of similar activities on the basis of function
  - (C) Adopts parts of both functional and divisional structures at the same level of management
  - (D) Creates a dual chain of command
- (iv) The conditional of Low share, Negative growth and negative cash flow indicates -
- (A) Dogs.
  - (B) Dodos.
  - (C) Donkey.
  - (D) Dinosaurs.
- (v) Mckinsey's 7-s framework consists of:
- (a) Structure, strategy, software, skills, styles, staff and supervision
  - (b) Structure, strategy, systems, skills, styles, syndication and shared values.
  - (c) Structure, strategy, systems, skills, steering power, styles and shared values.
  - (d) Structure, strategy, staff, skills, systems, shared values, super ordinate goal.
  - (e) None of the above.
- (vi) A product line is a group of product that
- (A) are closely related
  - (B) are marketed through the same channel
  - (C) performance a similar function for being sold to the same customers
  - (D) all of the above

Answer any one question form the following:

7. (a) What do you mean by Strategies? State its features.
- (b) Discuss contingency planning & its seven steps. [6+6]
8. (a) Discuss the differences in Strategic Management & Strategic Planning.
- (b) Define SBU. What are its merits & demerits? [6+6]
9. Write short notes on any three of the following four questions: [4×3=12]
- (a) PEST Framework;
  - (b) Approaches in Strategic Planning;
  - (c) SWOT Analysis;
  - (d) Plant location.