



**Online PGDM
First Year, Trimester II, September 2023**

**Course Name: OPERATIONS MANAGEMENT
Course Code: 2103**

**Max Marks: 70
Max Time: 2 hrs**

Instructions for Students:

This is a closed book examination. No external resource material allowed.

The Question Paper consists of 3 Sections- A, B, C. All sections to be attempted.

Read carefully the instructions and internal choice (if any) in each Section.

Allocated marks for each of the Section and Questions indicated.

Answers should be rich in content, pointwise and precise. Avoid unnecessary long answers.

Section A : Objective Type Questions

(Answer all Questions, each question of 2 marks each, Total Marks: 2x12=24)

Q 1. Identify the correct answer

1.1

Most service organizations use

- A. product layouts.
- B. fixed-position layouts.
- C. process layouts.
- D. cellular layouts.

1.2

Project objectives, in general, are

- A. scope, cost, time only
- B. quality, scope, schedule only
- C. customer satisfaction, budget, schedule only
- D. any measurable success criteria

1.3

A team member is showing up late to work and leaving early, and it is affecting the project. The project manager decides that the team member must be reprimanded. Which of the following is the BEST way to handle this situation?

- A. In a one-on-one meeting with the team member
- B. At the next team meeting
- C. In a private meeting with the team member and his functional manager
- D. Over email

1.4

If the demand increases, the economic order quantity (EOQ)

- A. decreases.
- B. increases.
- C. remains same
- D. None of the above

1.5

With reference to inventory management, if D is the annual demand and lot size is Q , then order frequency is

- A. $D/2Q$
- B. D/Q
- C. $2D/Q$
- D. $3D/Q$

1.6

Historical demand for a product is as follow.

| Month | Demand |
|--------------|---------------|
| April | 150 |
| May | 190 |
| June | 200 |
| July | 290 |
| August | 280 |
| September | 300 |

Using a simple three-month moving average, what is the forecast for October?

- A. 290
- B. 280
- C. 285
- D. 295

1.7

Lowest level component in any branch of Work Breakdown Structure (WBS) is called

- A. Deliverable
- B. Low level component
- C. Work Package
- D. Control Account

1.8

The cause and effect diagram (choose the most inclusive answer.)

- A) is also referred to as Show cause diagram
- B) is also referred to as fishbone diagram
- C) is also referred to as opportunity flow diagram
- D) is one of the analytical tools in DMAIC analysis

1.9

Which of the following industry types have high expected benefits from the application of MRP?

- A) Fabricate-to-stock
- B) Fabricate-to-order
- C) Assemble-to-stock
- D) Continuous process
- E) Service and repair parts

1.10

One of the main purposes of a MRP system is which of the following?

- A) Track inventory levels.
- B) Create productive capacity.
- C) Decrease layers of management.
- D) Develop schedules specifying when each component should be ordered or produced.
- E) Upgrade manufacturing's professionalism.

1.11

A BOM file is also called which of the following?

- A) Product tree
- B) Stocking plan
- C) Inventory usage record
- D) Production parts plan
- E) Time bucket schedule

1.12

DPMO refers to

- A) defects per million parts.
- B) defects per many units.
- C) defects per million operations.
- D) defects per million opportunities.
- E) defects per million.

Section B:

(Answer any 3 out of given questions, Total Marks= 6x3=18)

Q 2. A key concept in lean production management is “MUDA” i.e. waste. Discuss various type of wastes in Lean Production System.

(Marks – 6)

Q 3. List some of the operations and functions in a company that are dependent on a forecast of product demand.

(Marks – 6)

Q 4. Give one example each of manufacturing or service firm that successfully compete on each of the following competitive priority or criterion i) Quality ii) Speed iii) Flexibility iv) Innovation v) Cost Efficiency.

(Marks – 6)

Q 5. Discuss the Ordering Costs and Inventory Holding (carrying) costs in EOQ Model of Cycle Inventory. Also examine trade-off between them.

(Marks – 6)

Q 6. Examine the characteristics of projects that differentiates them from other operations of the organisation. Also, discuss the importance of managing stakeholders in project management.

(Marks – 6)

Section C

(Answer all questions, Total Marks= 28)

Q 7. Caselet: Devbhoomi Organic Company

Rahul Sharma is the owner of Devbhoomi Organic Company which specializes in manufacturing and delivering organic personal care products. As of now, the company is producing its flagship organic hair oil “Devbhoomi Hair Oil” and variety of organic herbal soaps. For the past two years Rahul has sold these products via internet. However, sales have steadily grown beyond his ability to produce alone from his small workshop at home. Because the future sales growth looks very promising, Rahul has decided to open a small manufacturing unit to produce these products, increase volume of production and expand his company’s operations.

“Devbhoomi Hair Oil” is an organic herbal hair oil which is specially formulated to diminish hair fall and encourage hair growth. This rich and fragrant herbal hair oil is prepared with organic raw material i.e botanical herbs, antioxidant seed oils and pure essential oils and is filled with the strengthening benefits of Bhringraj. All raw material is sourced from upper hilly terrain of Uttarakhand, India.

In addition to hair oil, Devbhoomi Organic Company has a wide collection of organic herbal soaps made with premium quality natural ingredients. These organic ingredients include lavender, sandalwood, jasmine, frangipani, and lily to name a few. The soaps are pure, vegan, clean, carry no animal extracts and are suitable for all skin types. These are specially designed and produced to elevate your bathing experience and maintain soft, smooth and healthy skin.

Sales of Devbhoomi Organic Company have primarily been to customers in the four major metro cities of India with occasional orders from other urban cities. With the new manufacturing unit, Rahul plans to continue selling his products via the internet. However, he would also like to start selling these organic herbal products to selected specialty organic stores across few major Indian cities.

a) Discuss and examine the competitive priorities (i.e. competitive dimensions or performance objectives of operations) which Rahul should focus as part of his Operations Strategy for the new manufacturing unit.

b) Examine various strategic decisions under operations which Rahul need to consider while expanding his company's operations and setting the new manufacturing plant.

c) Discuss any two quality tools which can be employed at proposed manufacturing unit of Devbhoomi Organic Company for process improvement and decreasing defects.

(Marks: 8+10 +10=28)