

INTERMEDIATE EXAMINATION

June 2024

P-9(OMSM)
Syllabus 2022

OPERATIONS MANAGEMENT AND STRATEGIC MANAGEMENT

Time Allowed: 3 hours

Full Marks: 100

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

All sections are compulsory. Each section contains instructions regarding the number of questions to be answered within the section.

All working notes must form part of the answer.

Wherever necessary, candidates may make appropriate assumptions and clearly state them in the respective answer.

Section-A

Operations Management

This section contain Question No.1. All parts of this question are compulsory.

- 1. Choose the correct answer from the given alternatives (You may write only the Roman numeral and the Alphabet chosen for your answer):** **2×15=30**

(i) Let's consider an example of a product manufacturing company, who is aware that it needs to produce the products. One of the important aspects involved in the operational planning which is related to the question "How much to produce?" is known as :

- (A) Process Selection & Layout
- (B) Aggregate Planning
- (C) Demand Forecasting
- (D) Quality Management

(ii) _____ of a plant is the maximum rate of output (goods or services) the plant can produce.

- (A) Production
- (B) Potential
- (C) Demand
- (D) Capacity

- (iii) Which one of the following basic process types is used when a very highly standardized product is desired in high volumes?
- (A) Batch Process
 - (B) Continuous Process
 - (C) Job Shop Process
 - (D) Project Process
- (iv) Which one of the following production controls is typically found whenever a particular bottleneck machine exists in the process of Manufacturing?
- (A) Load Control
 - (B) Batch Control
 - (C) Block Control
 - (D) Flow Control
- (v) Which one of the following ISO Standards evaluates the Management of the entire manufacturing process, from purchasing to design, to training?
- (A) ISO 9004
 - (B) ISO 9003
 - (C) ISO 9000
 - (D) ISO 9001
- (vi) A Zinc Plant of ZOS Ltd., manufactures product Z of 30 units per shift of 8 hours. If the Standard time per unit is 12 minutes, what is the productivity per shift of 8 hours?
- (A) 60 %
 - (B) 75 %
 - (C) 80 %
 - (D) 90 %
- (vii) Which one of the following design Tests asks whether a proposed Structure will set up links between parts of the organizations that are important but bound to be strained?
- (A) The People Test
 - (B) The Feasibility Test
 - (C) The difficult Links Test
 - (D) The Flexibility Test

- (viii) RON Ltd., a manufacturer of ball bearings provides the following items that is being managed using a fixed order Quantity Model with Safety Stock :

Annual Demand (D)	:	24000 Units
Order Quantity (QO)	:	3600 Units
Safety Stock (S)	:	400 Units

What is the average Inventory Level ?

- (A) 2500 units
 - (B) 2400 Units
 - (C) 2200 Units
 - (D) None of (A) , (B) and (C)
- (ix) The Slack Time of the Tail event and Slack time of Head event of an activity M are 15 days and 2 days respectively. If the total Float of Activity M is 16 days, Free Float will be:
- (A) 13 days
 - (B) 14 days
 - (C) 15 days
 - (D) 18 days
- (x) Which one of the following Digital Marketing Strategies is a form of paid Advertising that allows Marketing Teams to essentially purchase traffic to their website?
- (A) Email Marketing
 - (B) Mobile Marketing
 - (C) Pay-per Click (PPC)
 - (D) Affiliate Marketing
- (xi) Which of the following is / are true for a Blue Ocean Strategy?
- (A) Create and Capture new demand
 - (B) Beat the Competition
 - (C) Exploit existing demand
 - (D) Compete in existing Markets
- (xii) Which one of the following Sorts of Business defined by the Market growth / market share axes of BCG Matrix, is a business unit with high market share in a matured market?
- (A) Cash Cow
 - (B) Dog
 - (C) Star
 - (D) Question Mark (or problem Child)

- (xiii) _____ is the science of using mathematical calculations and logic to generate time effective sequence of task considering any resource and cost constraints.
- (A) Scheduling
 - (B) Plan
 - (C) Milestone
 - (D) Work-in-Progress
- (xiv) Which one of the following announces what the Company is providing to Society; either a Service or a Product?
- (A) Mission
 - (B) Vision
 - (C) Values
 - (D) Objectives
- (xv) Which one of the following types of Cloud Computing, is a distribution model that delivers software applications over the Internet, these applications are often called web services?
- (A) Infrastructure as a Service (IaaS)
 - (B) Platform as a Service (PaaS)
 - (C) Software as a Service (SaaS)
 - (D) Amazon Web Services (AWS)

Section-B

Answer any Five questions from Question No. 2 to Question No. 8.

Each question carries 14 Marks.

14×5=70

2. (a) "The Production Management of To-day presents certain characteristics which make it look totally different from what it was during the past. Specifically, To-day's production system is characterized by at least Four Features". **In this Context Summarize** the Said Features. 7
- (b) "Customers pay for the products that best fulfil their requirements and provide them the desired value". **In this Context append** the characteristics of a good product design. 7
3. (a) "Production Control involves the various functions". **In accordance with this align** these said functions. 7

- (b) **RONTEX Ltd.**, a medium size manufacturing Company has provided productions analysis of Coriander powder (in Lakh tonnes) for the years 2015 to 2023 as follows:

Year	2015	2017	2019	2021	2023
Productions of Coriander powder (in Lakh Tonnes)	54	63	69	81	48

(Present Calculation up to two decimal Points)

Required:

- Using the methods of least Squares **Analyze** a Straight line value.
- Assess** the estimated Production (in Lakh Tonnes) of Coriander Powder for the years 2014 and 2028.

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4. (a) In a Book Sales Emporium of **PRANTIK (B) Ltd.**, four Salesmen A, B, C and D are available in four Counters P, Q, R and S. Each Salesman can handle any counter. Their Services (in hours) of each counter, when manned by each Salesman is given below :

	Counter			
Salesman	P	Q	R	S
A	30	46	34	22
B	11	20	11	5
C	28	43	28	18
D	14	23	17	8

Required :

- Analyze** and **Assign** the Salesmen to appropriate counters so as to minimize the service time.
- Assess** the total service times (in hours).

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- (b) A production line of **ZFORD (M) Ltd.**, turns out about trucks per day; fluctuations occur for many reasons. The production can be described by a probability distribution as follows :

Production Per day	Probability	Production per day	Probability
45	0.03	51	0.15
46	0.05	52	0.10
47	0.07	53	0.07
48	0.10	54	0.05
49	0.15	55	0.03
50	0.20		

Finished trucks transported by a Train at the end of the day. The train capacity is only 51.

[Given : Random number: 37, 35, 63, 25, 50, 71, 95, 16, 55 and 53]

Required :

- (i) Using the Random numbers stated Supra, **Simulate** the productions and waiting of trucks in the factory for the first 10 days.
- (ii) **Evaluate** the average number of trucks waiting in the Factory.
- (iii) **Assess** what will be the average number of empty space on the train. 7

5. (a) **RONTIX Ltd.**, a fleet owner finds from its past records that the cost per year of running a truck whose purchase price is ₹ 6,00,000 are as given below :

Year	1	2	3	4	5	6	7	8
Running Costs(₹ in Thousand)	100	120	140	180	230	280	340	400
Re-Sales Price (₹ in Thousand)	300	150	75	37.50	20	20	20	20

(Assume that Cost of Money is zero.)

Required :

- (i) **Assess** the average annual cost of truck for each year.
 - (ii) **Analyze** and **Infer** at what age should the truck be replaced on economic consideration. 7
- (b) **ZOTECH Ltd.**, has recently won a Contract for the installation of a die casting machine at a local factory of a large national firm of electronic Engineers. The following table gives the various activities in this job and normal duration (in days) thereof

Activity and Identification	Preceding Activities	Duration (days)
A 1 – 2	–	2
B 2 – 3	A	3
C 2 – 4	A	15
D 2 – 5	A	3
E 3 – 5	B	12
F 4 – 5	C	8
G 5 – 6	D, E and F	3
H 6 – 7	G	12

Required :

- (i) **Design** the **PERT** Network diagram and indicate all paths through it.
- (ii) **Identify** the Critical Path and its duration (in days).
- (iii) **Analyze** and **Assess** the Total Float, Free Float and Independent Float of each activity. 7

6. (a) "Strategic Management involves a greater Scope than that of any one area of operational Management." – **In this Context align** the objectives of Strategic Management. 7
- (b) Demonstrate the different types of Digital Marketing Strategies. (**Any Seven**). 7
7. (a) "Identifying key drives for change helps managers to focus on the PESTEL factors that are most important and which must be addressed as the highest priority" — **Justify the statement** with the help of PESTEL Framework. 7
- (b) **Analyze** the Techniques that can help to improve Strategic decision Making. 7
8. (a) "Michael Goold and Andrew Compbell provide Nine design tests against which to check specific tailor – made structural Solutions" — **In this Context, Analyze** any seven of these nine test. 7
- (b) "Hammer and Champy (1993) point to the existence of a set of 'commonalities, recurring themes or characteristics' that can guide Business Process Re-engineering (BPR)". — **In accordance with this, align** the said Commonalities or characteristics that guide BPR. 7
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