

Plot No. 2, Knowledge Park-III, Greater Noida (U.P.) –201306

POST GRADUATE DIPLOMA IN MANAGEMENT (2022-23)
END TERM EXAMINATION (TERM - II)

Subject Name: **Production & Operations Management**

Time: **02.30 hrs.**

Sub. Code: **PG-25**

Max Marks: **40**

Note:

All questions are compulsory. Section A carries 5 marks: 5 questions of 1 marks each, Section B carries 21 marks having 3 questions (with internal choice question in each) of 7 marks each and Section C carries 14 marks one Case Study having 2 questions of 7 marks each.

Kindly write the all the course outcomes as per your TLEP in the box given below:

<p>CO1- Understand theoretical and conceptual frameworks of Production and operations management for product and services.</p> <p>CO2- Apply theoretical knowledge in the key decision making areas like plant location, layout planning, Inventory and capacity planning, project management for effectiveness in Production and operation management.</p> <p>CO3- Develop critical thinking and skills to design the process for product and services, quality management process and their implementation.</p> <p>CO4- Analyse and demonstrate the changes in last decade due to globalization, innovation in technology, automation and digital communication with respect operations and its impact on overall business</p>
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SECTION – A

Attempt all questions. All questions are compulsory.

1×5 = 5 Marks

Questions	CO	Bloom's Level
Q. 1 (A): What is target costing? Explain with a suitable example.		
Q. 1 (B): Discuss the value engineering using a product from the Industry of your choice.		
Q. 1 (C): Differentiate between Product and Process Layout with suitable example.	CO1	L1, L2
Q. 1 (D): Differentiate between PERT and CPM.		
Q. 1 (E): What is importance of EOQ in the inventory management?		

SECTION – B

All questions are compulsory (Each question have an internal choice. Attempt any one (either A or B) from the internal choice)

7 x 3 = 21 Marks

Questions	CO	Bloom's Level
Q. 2: A. Explain different types of Production Processes in terms of Volume, Variety & Flow. Or B. “MRP and ERP are essential IT tools for Production & Operation Management”. Discuss.	CO2	L3

Q. 3: A. Which location is the preferred one – Raipur or Peelibheet

Costs Location	Transport	Labour	Economic	Ecological
Raipur	Rs. 46	Rs. 1450	4	3
Peelibheet	Rs. 28	Rs. 1250	5	4
Weightage	2	1	1	2

Or

B. As an operations manager you have to assess the attractiveness of each site. Rank each site based on the data and identify most appropriate site for locating the new plant.

Sr. No.	Factors for consideration	Score(out of 100)	Kharagpur	Purulia	Jamshedpur
1	Availability of iron ore mines	80	50	80	90
2	Availability of labor	60	70	60	70
3	Availability of land	90	60	70	50
4	Government policies and tax benefits	50	90	65	70
5	Quality of basic and social infrastructure	70	80	50	60

Q. 4: A. How Concurrent Engineering is a better approach than the traditional process? Explain this in the context of Telecommunication Industry.

Or

B. Explain the various Garvin's dimensions of quality in operations for the four wheeler automobile.

SECTION – C

Read the case and answer the questions

7×02 = 14 Marks

Questions

CO

Bloom's Level

Q. 5: Case Study:

In January 2006, Bajaj Auto Limited (BAL), a major Indian manufacturer of two- and three-wheelers, announced that it had stopped production of Bajaj Chetak, its flagship scooter model. The Chetak, a geared 4 scooter, had reigned over the Indian two-wheeler market in the late 1970s to early 1990s and had come to occupy a near-iconic status. According to Rajiv Bajaj (Rajiv), managing director, BAL, the company had produced about 10 million Chetak scooters before the model was discontinued. In the mid-1940s, BAL started as an importer

CO3

L6

CO4

L4, L5

of two- and three-wheelers. In the early 1960s, BAL, in collaboration with Piaggio⁵, started manufacturing Vespa brand scooters at its plant near Pune, Maharashtra. With its collaboration with Piaggio coming to an end in the early 1970s, BAL started manufacturing scooters under the Bajaj brand. The Chetak, BAL's first scooter model under the Bajaj brand, was introduced in 1972. In the 1970s and 1980s, scooters dominated the Indian two-wheeler market. Most middle-class Indians preferred scooters because of their durability, low maintenance costs, and versatility, and the Bajaj Chetak name became synonymous with scooters. At that time, the motorcycles available in India were heavier and not as fuel efficient as scooters. They were also costlier.

In the late 1990s, the Indian two-wheeler market witnessed a shift in consumer preferences. The popularity of geared scooters began to wane while that of motorcycles soared. There were various reasons for the shift -India was undergoing a demographic change, with the proportion of younger people in the population growing significantly; the economy was growing, which increased the disposable incomes of the middle class; also, many newer models of motorcycles, with improved designs and modern technology had become available in the market. While these changes were taking place in the market, the features of scooters, especially those of the Bajaj Chetak, remained essentially unchanged. Consequently, by the early 2000s, motorcycle sales surpassed that of scooters and BAL lost its title of India's largest two-wheeler company to Hero Honda⁶. Scooters were BAL's main products, and when market preferences shifted to motorcycles, the company was faced with declining sales and revenues.

In an attempt to recapture market share, BAL decided to reorient its business, launching a series of new motorcycle models, which halted the downward trend in sales. It did not want to give up on scooters either. It launched new scooter models and upgraded existing ones.

However, with the introduction and subsequent popularity of Honda Motorcycle and Scooter India (HMSI)⁷ scooters, especially the Activa, a gearless⁸ scooter, BAL lost its dominance over the Indian scooter market as well. In 2005-06, scooter sales in the Indian market were around one million units annually, and consisted predominantly of gearless scooters. In 2005-06, scooter sales in the Indian market were around one million units annually, and consisted predominantly of gearless scooters. Even as it phased out the Bajaj Chetak, BAL was making efforts to regain market share in the scooter market. In early 2006, BAL announced that it would launch two new models of gearless scooters in 2006-07. However, with new scooter launches from Hero Honda and Kinetic Motor Company Ltd.⁹, analysts felt that it would be an uphill task for BAL to once again become the largest scooter manufacturer in India.

The Turning Point

The early 1990s saw a recession in the Indian two-wheeler market. Overall sales of two-wheelers declined by 15% in 1991 and 8% in 1992. This period also saw a steep rise in fuel prices, which resulted in consumers placing greater emphasis on fuel efficiency when purchasing a new two wheeler. However, even as late as 1997-98, the scooter segment was the largest sub-segment in the two-wheeler

market. Scooters, with 42% of the market (in terms of unit sales), were followed by motorcycles (37%), and mopeds (21%). By the end of FY 2000, the numbers clearly indicated that consumer preference had shifted firmly toward motorcycles with four-stroke engines, and industry watchers predicted that this trend would continue. Geared scooter sales registered a fall of 41% in 2001. "The market has shifted to motorcycles. We will have to follow the trend," said Venu Srinivasan, chairman, TVS.BAL realized, though rather belatedly, that it would have to cater to the changing consumer tastes and preferences, if it had to survive. Rajiv, who later agreed that BAL had been slow in reading the demand pattern, said, "See, the company failed to anticipate the consumer behavior..."

The Fall of an Icon

In January 2006, BAL announced that it had stopped production of the Chetak. With this announcement, BAL closed a major chapter in its history. Rajiv said, "It is a history I would like to forget. My company has lived too long on nostalgia...holding on to anything from the past is a sign of weakness."...

Outlook

The late 1990s saw the popularity of scooters wane and motorcycles emerge as the new favorites in the Indian two-wheeler market. It was believed that the dramatic shift happened because players like BAL did not pay sufficient attention to design, R&D, and customer satisfaction. "The decline of the market for scooters was directly related to neglect of this segment over decades vis-à-vis critical benefits (mileage), contemporary technology, and non-stop excitement of launch of newer and newer models offered on the motorcycles platform," said Francis Xavier, managing director, Francis Kanoi Marketing Planning Services.

Question:

Q5 (A): Have your say on how Bajaj Auto Ltd. has kept track of value engineering to adopt to a customer-oriented product strategy.

CO3 L6

Q5 (B): On the basis of above case, analyze the strategies adopted by a company to stay relevant in a changing environment of the Indian two-wheeler market.

CO4 L4, L5

Kindly fill the total marks allocated to each CO's in the table below:

COs	Marks Allocated
CO1	5 marks
CO2	7 marks
CO3	14 marks
CO4	7 marks

(Please ensure the conformity of the CO wise marks allocation as per your TLEP.)

Blooms Taxonomy Levels given below for your ready reference:

- L1= Remembering**
- L2= Understanding**
- L3= Apply**
- L4= Analyze**
- L5= Evaluate**
- L6= Create**