

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MBA – SEMESTER (2) – EXAMINATION – SUMMER 2018**

**Subject Code: 3529206**
**Date: 23/05/2018**
**Subject Name: Production & Operations Management**
**Time: 10:30 AM – 1:30 PM**
**Total Marks: 70**
**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q-1 (a) Explain the following in detail with example 14  
 1 Draw diagram of Product Development Process.  
 2 Define: (1) Make-to-order & (2) Make-to-stock  
 3 Name location strategies for service facilities.  
 4 Define: (1) Fixed Position Layout & (2) Continuous Process Layout  
 5 List down the dimension of Quality  
 6 What are the objectives of Scheduling?  
 7 What are the elements of MRP?
- Q-2 (a) Discuss: Line Flow Process with its advantages & disadvantages 07  
 (b) How do Hospital and retail organizations make their location decisions? 07
- OR**
- (b) Discuss briefly Deming's 14 points for management. What is Deming Wheel? 07
- Q-3 (a) Discuss basic strategies of aggregate planning. 07  
 (b) What are the Mechanics of MRP? 07
- OR**
- Q-3 (a) Discuss: (i) Push OR Classical Production System 07  
 (ii) Pull OR JIT Production System
- (b) During the Demonetization, a cash counter at bank takes 4 minutes to exchange the Currency of Rs. 500 & Rs.1000. Customer arrive at a rate of 10 per hour. Determine the average length of the waiting line and waiting time at the counter. 07
- Q-4 (a) Discuss in brief various organizational structures for projects. 07  
 (b) Consider the following table: 07

Activity	Immediate Predecessor	Duration (Months)
A	--	1
B	A	4
C	A	2
D	A	2
E	D	3
F	D	3
G	E	2
H	F, G	1
I	C, H	3
J	B	2

**Determine Critical Path.**

OR

Q-4 (a) What is crashing? How it is done?

07

Listed in the table are the activities & sequencing necessary for the completion of recruitment procedure for management trainees in the firm.

(b)

Activity	Description	Immediate Predecessor
A	Asking unit for requirement	--
B	Ascertaining management trainees requirement for commercial function	A
C	Ascertaining management trainees requirement for account / finance function	A
D	Formulating advertisement for management trainees for account	C
E	Formulating advertisement for management trainees for commercial	B
F	Calling application from CAs.	C
G	Releasing Ads	D, E
H	Completing application received	G
I	Screening application against Ads	H
J	Screening application received from Institute of Chartered Accounts	F
K	Sending personal forms	I, J
L	Issuing interview / regret letter	K
M	Preliminary Interview	L
N	Preliminary interview of topper from Institute of Chartered Accounts	J
O	Final Interview	M, N

07

**Draw Network Diagram**

Q-5

Mother Dairy was set up in 1974 under the Operation Flood program. Mother Dairy is a wholly owned company of national Dairy Development Board (NDDB) and manufactures & markets milk and milk products under the Mother Dairy brand. At mother Dairy, processing of milk is automated and microprocessor technology is adopted to integrate all steps of milk processing. Mother Dairy is an ISO certified organization and also has certificate of approval from Export Inspection Council of India.

Mother dairy procured fresh milk from village cooperatives, milk unions, and state federations. Milk is then sent to processing plants in insulated milk tankers under refrigerated conditions to preserve its freshness. At the processing plant, various inspection procedures are carried out such as organoleptic for taste, odor and appearance, microbiological test, test for adulterants such as starch, urea, formalin, sugar etc.

Good quality milk now follows the following processes:

1. Filtration
2. Clarification
3. Pasteurization
4. Chilling
5. Packaging

Critical control points operational prerequisite programs have been identified for each process, and suitable control measure are applied to ensure compliance of quality and food safety requirements. Process control parameters are monitored, recorded, and reviewed as per the quality plan to ensure that high-quality milk is always produced.

Cleaning and sanitation of equipment are done using automatic cleaning-in-place (CIP) systems. 5T principle (technology, time, temperature, turbulence and testing) are used to clean and sanitize equipment. Filling and packing are very critical operation and access to the areas where they are carried out is strictly controlled. Zoning principles are applied to preclude any cross – contamination of the processed milk. Inspection procedures are carried out to verify weight, leakage, seal integrity, batch coding, quality of packing material and filling temperature. Packing material are inspected and are used only after they are of good-quality. Packing material should be able to retain taste, freshness, and the unique nature appeal of milk.

Processed milk is tested against various quality parameters and test results are recorded and reviewed by the quality control department. Only good-quality milk is dispatched. Systematic process approach is followed while distributing milk to the consumer. Standards norms and guidelines are available for handling, warehousing and transportation of milk. Distribution chain is monitored for quality parameters such as hygiene and storage temperature.

Milk is sold through milk shops, retail outlets, and mobile vending units, and it is mandated that they maintain high hygiene standards. Mother Dairy ensures that cold chain conditions are maintained to retain quality and freshness of milk.

1. Do you agree with the statement that “Quality Management is extended to the entire value chain of milk production at Mother Dairy”? **07**
2. How does Mother Dairy ensure that its processed milk is of good quality? **07**
- OR**
3. How can Mother Dairy apply principles of total quality management? **07**
4. How can Mother Dairy apply the principles of statistical quality control? **07**

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