Enrollment No: _____   Exam Seat No:_____

C.U.SHAH UNIVERSITY
Summer Examination-2017

Subject Name: Production and Operations Management

Subject Code: 5MS02POM1   **Branch: MBA**

Semester: 2   **Date: 12/05/2017**   **Time: 02:00 To 05:00**   **Marks: 70**

Instructions:
  (1) Use of Programmable calculator and any other electronic instrument is prohibited.
  (2) Instructions written on main answer book are strictly to be obeyed.
  (3) Draw neat diagrams and figures (if necessary) at right places.
  (4) Assume suitable data if needed.

SECTION – I

Q-1	**Attempt the Following questions**	**(07)**
a.	What do you mean by core competency?	**01**
b.	Define: Technology-Push Products.	**01**
c.	What is a service scape?	**01**
d.	Give any two examples of value added services.	**01**
e.	Which is phase 0 of product development process?	**01**
f.	What do you mean by Transformation process?	**01**
g.	How is set up time calculated in the manufacturing unit?	**01**
Q-2	**Attempt all questions**	**(14)**
a.	As a project manager of a large petro-chemicals refinery, how will you select the appropriate location of the plant? Discuss the various factors affecting your decision.	**07**
b.	Short Note on Product Layout	**07**

OR

Q-2	**Attempt all questions**	**(14)**
a.	Distinguish between a fixed-order quantity system and fixed-time period system. Give an example of each.	**07**
b.	List the major reasons for and against locating a new apparel manufacturing plant into a city.	**07**
Q-3	**Attempt all questions**	**(14)**
a.	What are the techniques of Inventory Management under the independent demand scenario?	**07**
b.	A company currently has 200 units of a product on hand that it orders every two	**07**

weeks when the sales person visits the premises. Demand for the product averages 20 units per day with a standard deviation of 5 units. Lead time for the product to arrive is seven days. Management has a goal of 95 percent probability of not stocking out for this product.

The sales person is due to come in late this afternoon when 180 units are left in stock (assuming that 20 are sold today). How many units should be ordered?

OR

| Q-3 | a. | Consider the data pertaining to purchase of a component as given below for a small manufacturing organization:
      Annual demand = 1200 units.
      Cost of Ordering = Rs. 15 per order.
      Cost of Holding Inventory = Rs. 2.5 per unit per year.
      Price = Rs. 25 per unit.
      Average working days in a year = 365 days
      Lead time = 7 days.

Calculate (i) EOQ (ii) reorder point (iii) Total annual cost of inventory. | **07** |
| | b. | How facility location problem is different for government hospital and for manufacturing unit? | **07** |

SECTION – II

Q-4		**Attempt the Following questions**	**(07)**
	a.	What do you mean by Kaizen?	**01**
	b.	What is the name of the project management technique using single time estimate?	**01**
	c.	Define Andons.	**01**
	d.	What is the other name of P-Model of Inventory Management system?	**01**
	e.	Give the full form of DMAIC.	**01**
	f.	What do you mean by shortage cost in inventory management?	**01**
	g.	What is JIT?	**01**
Q-5		**Attempt all questions**	**(14)**
	a.	What is outsourcing? Discuss reasons for outsourcing and difficulties faced in outsourcing.	**07**
	b.	What do you understand by Operations Scheduling? What are the problems faced in the absence of proper scheduling?	**07**

OR

| Q-5 | a. | List the salient features of a good plant layout. | **07** |
| | b. | Write note on Six Sigma | **07** |

Q-6		**Attempt all questions**	**(14)**
	a.	A project has been defined to contain the following list of activities, along with their required times for completion:	**07**

ACTIVITY	TIME(DAYS)	IMMEDIATE PREDECESSORS
A	1	---
B	4	A
C	3	A
D	7	A
E	6	B
F	2	C,D
G	7	E,F
H	9	D
I	4	G,H

    a. Draw the critical path diagram
    b. Show the early start and early finish times.
    c. Show the critical path.

b. The following tasks must be performed on an assembly line in the sequence and   **07**
times specified:

Task	Task Time (Seconds)	Tasks that must precede
A	50	--
B	40	--
C	20	A
D	45	C
E	20	C
F	25	D
G	10	E
H	35	B,F,G

    a. Draw the schematic diagram
    b. What is the theoretical minimum number of stations required to meet a forecast demand of 400 units per eight-hour day?
    c. Use the longest task time rule and balance the line in the minimum number of stations to produce 400 units per day.

OR

Q-6   **Attempt all Questions**

a. "Project Control should always focus on the critical path"- Critically examine the   **07**
statement.

b. Sequence the following jobs   **07**

Jobs	Machine A (hrs)	Machine B (hrs)
1	7	3
2	4	8
3	2	6
4	5	6
5	9	4
6	8	1

Calculate the ideal time on both the Machines after sequencing the jobs using Johnson's rule.