JAIPURIA INSTITUTE OF MANAGEMENT, NOIDA
PGDM / PGDM (GEN/ M / SM)
THIRD TRIMESTER (Batch 2017-19)
END TERM EXAMINATIONS, APRIL - 2018

Course Name	Service Operations Management	Course Code	OP-302
Max. Time	2 Hour	Max. Marks	40 Marks

INSTRUCTIONS: Answer all questions.

Q1. Super Computers" manufactures laptops require a large number of components. The annual demand of mother boards is 30,000. The price of each mother board is Rs 16,000/. The ordering cost is Rs 6000/- per order and the carrying cost is 1% of the unit price per year. The company works for 300 days per year. Find out Economic Order Quantity, Duration of each Inventory Cycle, and Total Annual Cost of Inventory. **(7 Marks)**

Q2. "SRM Chemicals Limited" is planning to setup a new production unit to served Four of its markets. The annual demand of chemicals in these markets along with geographic location of markets is given below. All distances are in Kilometres. The transportation cost is Rs 1.5/- per kg per kilometre. Use CG model to determine location of this new facility. Calculate the total transportation cost of this policy? **(7 Marks)**

Market	X Coordinates	Y Coordinates	Total annual requirement (Tons)
A	20	35	1250
B	45	16	1750
C	50	05	2200
D	30	80	1800

Q3. "Avon Bags" manufactures different type of travelling bags. The tasks for making bags are tabulated below. The company operates in one shift for 8 hours only, and workers take a 30 minutes' lunch break and the production is stopped during lunch break. The desired output is 50 bags per day. Draw precedence diagram. Use largest task time as a primary rule to balance this production line (any secondary rule can be used.) Also determine the performance parameter (Line Efficiency and Total Idle Time). **(7 Marks)**

Task	A	B	C	D	E	F	G	H	I	J
Precedence	-	A	B	B	C	D,E	F	F	H	G,I
Task Time in Minutes	9	6	2	2	1	7	4	2	3	8

Q 4. What is capacity planning? Explain with an example capacity flexibility, long range capacity planning, intermediate range capacity planning and short range capacity planning. Distinguish between Level (Push) and Chase (Pull) strategies for production operations. **(7 Marks)**

Q5. Write short notes on

    a) Bullwhip Effect

    b) Six Sigma

    c) Process Flow Diagrams

(4 x 3 = 12 Marks)