DEPARTMENT OF MANAGEMENT
School of Management & Business Studies
JAMIA HAMDARD
Even Semester Examination 2022
MBA-II Semester

Subject Name: Operations Management
Subject Code: MBA-CG-205

Max. Marks: 75
Time: 03 Hours

Attempt any 5 questions. Each question carries equal marks.

Please read all the questions carefully.

Q.1 (a) What do you understand by the term Operations Management? What is the systems perspective of Operations Management? Explain. [7.5]

(b) What is operations strategy? How is operations strategy related to the business strategy? Elucidate. [7.5]

Q.2 S. S. (Pvt.) Ltd. is planning to develop a new software. It has identified the activities given in the following table for this project and has estimated three-time estimates (in days) for every activity.

Activity	Predecessor(s)	Duration (days)		
		a	m	b
A	--	1	2	3
B	A	3	5	7
C	A	6	10	14
D	A	4	6	8
E	B, C, D	8	9	10
F	E	2	4	6
G	F	1	3	5

You are required to; [5x3=15]

(a) Draw the network diagram.

(b) Find the expected duration of the project.

(c) Find the probability that the project will be completed within 30 days.

Q.3 Define facility layout. How many types of basic layouts are there for a manufacturing facility? Briefly explain each one of them. [15]

Q.4 (i) What is meant by aggregate planning? What are the steps involved in an effective aggregate planning process? [7.5]

(ii) Mixed strategies are superior to pure strategies in an aggregate planning exercise. Comment on the statement. [7.5]

Q.5 Write short notes on the following; [5x3=15]

(i) EOQ

(ii) Material Requirement Planning

(iii) JIT

Q.6 (a) What is statistical process control? How is it different from acceptance sampling? Explain. [7.5]

(b) Write notes on the following; [7.5]

i. Dimensions of quality

ii. Six sigma

Q.7 Name and describe various qualitative methods of demand forecasting used in business today. In which situations can qualitative methods be useful? [15]

Q.8 A manufacturer of automotive transmission systems produces a component whose diameter is a critical dimension for quality. Samples are drawn during every shift from the process producing the component. Every time a sample of five components is drawn, the diameter is measured. Fifteen such measurements are taken and the table below has the mean and range of the samples (in centimeters) taken during one shift. Construct relevant control charts and examine if the process is in control. (For n=5, A_2=0.577, D_3=0, D_4=2.114) [15]

Sample	$\bar{x}$	R
1	12.434	0.17
2	12.432	0.17
3	12.410	0.11
4	12.420	0.17
5	12.416	0.08
6	12.410	0.08
7	12.426	0.15
8	12.408	0.08
9	12.470	0.18
10	12.400	0.10
11	12.338	0.05
12	12.408	0.15
13	12.428	0.13
14	12.398	0.09
15	12.408	0.08