Roll No. _____
(Do not write anything on question paper except Roll No.)
[This paper consists of TWO Pages]

Jagan Institute of Management Studies
End-Term Examination, September, 2016
Trimester IV – PGDM 2015-17

Production & Operation Management
ET_PG_POM_2909

Time: 3 Hrs. *M. Marks: 70*

INSTRUCTIONS: Attempt any SEVEN questions. All questions carry equal marks.

Q 1 What are responsibilities of a production manager and what are the strategic decisions have to be taken by production manager. Discuss following in brief:
  a) Inventory models with deterministic demand.
  b) Inventory models with probabilistic demands. **10**

Q 2 Explain product design and process design with suitable dummy charts of process control. **10**

Q 3 State and explain capacity planning. Differentiate between Designed efficiency, effective efficiency and actual output. **10**

Q 4 Explain following with suitable diagrams:
  a) Single server waiting line model.
  b) Multi server waiting line model with priority.
  c) Multi server model with reneging **10**

Q 5 **a)** Explain different control charts and mention the process of control by using them.
  b) Construct $\bar{X}$ and R charts from the following information and state whether the process in control. For each of the following $\bar{X}$ has been computed from a sample of 5 units drawn at an interval of one hour from an ongoing manufacturing process. For the value of factors (constant A_2 and D_3, D_4), use SQC table of control charts.

Sl.no.	X1 (10 am)	X2 (11 am)	X3 (12 noon)	X3 (1 pm)	X4 (2 pm)
1	10.02	10.15	9.85	10.02	9.97
2	9.97	9.98	9.96	9.92	10.05
3	10.08	10.02	10.1	10	10.01
4	9.92	10.12	10.08	10.02	10.05
5	10.02	10.06	10.04	9.95	9.89

10

Q 6   Construct Ishikawa (cause and effect) diagram. Explain entire process of cause-and-effect along with types. **10**

Q 7   State product life cycle with respect to product variety, volume, industry structure and form of competition.
A furniture factory operates every day during the year in 3 '8 hours' shifts'. Marketing decision says that there about 20000 units of chairs will be in demand next year. Producing a single chair takes 2 hours. The machine produces 25 pieces/ lot. There is a set up time of 1 hour between every lot. Utilization level of machinery is 80%.
How many machines do we need to produce 20,000 chairs? **10**

Q 8   State and explain layout planning by keeping spine layout at center. **10**

Q 9   Give a detailed discussion on supply chain principles, methodology and solutions. **10**

Q 10   Explain various forecasting tools along with information technology tools available for forecasting. Give a detailed discussion of time series forecasting and forecasting through regression. **10**

****