Registration No :

8th Semester Back Examination 2018-19
PRODUCTION AND OPERATION MANAGEMENT
BRANCH : MECH
Time : 3 Hours
Max Marks : 70
Q.CODE : F094
Answer Question No.1 which is compulsory and any FIVE from the rest.
The figures in the right hand margin indicate marks.

Q1   **Answer the following questions :**   **(2 x 10)**
a) Is exponential smoothing a form of weighted average? How?
b) Define Method Study and state the three different levels in Method Study.
c) Mention some principles in agility?
d) What are the eight costs generally considered in aggregate planning?
e) Given the data 63, 64, 66, 67, 67, 69, 71, 72 find the forecast for the eighth period using simple average, and 3 period moving averages?
f) What do you mean by Lead Time?
g) What are Gantt charts?
h) What is Kaizen?
i) What are the general assumptions in sequencing and scheduling?
j) What is meant by Selective Inventory Control?

Q2 **a)** Explain batch production and mass production along with its advantages and   **(5)**
disadvantages.
Suggest suitable method of production for below categories:
a) Automobile
b) Computers

b) In the southern part of Delhi, the number of daily calls in the months of February   **(5)**
2019 from various banks for issuing credit cards has been recorded as follows

Feb, 2019	1	2	3	4	5	6	7	8
Number of Daily calls	92	127	103	165	132	111	174	97

i) Prepare a 3-MAP for the data. What is the error on each day?
ii) Prepare a 3-MAP using weight of W1=0.5, W2=0.3, and W3=0.2.

Q3 **a)** Sequence the following jobs to minimize the processing times on the two   **(5)**
machines. Also computer the idle times of the machines.

Machine	M1	M2
A	5	7
B	9	4
C	4	8
D (Job)	7	3
E	8	9
F	6	5

b) What is ABC Analysis? Explain its significance in the Inventory Control with   **(5)**
suitable example.

Q4 **a)** What is Value Analysis? Describe the basic steps involved in the Value   **(5)**
Analysis.
b) Explain the principle behind the working of the CRAFT algorithm   **(5)**

Q5 **a)** Define Time Study. List Down the various steps in conducting a Stopwatch Time Study. **(5)**

b) Explain the steps in obtaining ISO 9000 registration. **(5)**

Q6 A retailer of popular books, demand is constant at 32,000 books per year. The cost of placing an order to replenish stock is Rs. 600, and the annual cost of holding is Rs. 240 per book. Stock is received 5 working days after an order has been placed. No backordering is allowed. Assume 300 working days a year. **(10)**
  a) What-is optimal order quantity, optimal number of orders per year, optimal interval (in working days) between orders?
  b) What is demand during the lead time?
  c) What is the reorder point?

Q7 Consider the demand for six periods (in man hours) 3000, 3200, 4000, 3600, 4200 and 3800. Regular time capacity is 3600 hours and overtime capacity is 400 hours in a month. The RT, OT and inventory costs are 30, 45 and 5 per unit and per unit per month. Provide a feasible solution using the tabular form? **(10)**

Q8 **Write short answer on any TWO :** **(5 x 2)**
  a) Product Life Cycle
  b) Delphi Method
  c) Supply Chain Management