PART A
(20 marks)

Q. 1. Fill in the blanks. [5 marks]

a) In manufacture to order, a product is manufactured when the ______ arises.

b) The objective of control is to point out weaknesses and _______.

c) ______ production system has well defined arrangement of machines and labour.

d) _____ schedule is aimed for job shop production.

e) Bill of materials gives information about the product _______.

Q. 2. State True or False [5 marks]

a) PPC ensures smooth flow of materials.

b) Jobbing manufacturing process produce one or two units of products.

c) Scheduling introduces unbalance among the work centres.

d) Seasonal variations do not affect production planning activities.

e) Routing determines sequence of operations.

Q. 3. Match the following: [5 marks]

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Liquidity planning</td>
<td>1 Low unit cost</td>
</tr>
<tr>
<td>B Preventive maintenance</td>
<td>2 Batch production</td>
</tr>
<tr>
<td>C Moderate volume</td>
<td>3 Short cycle operation</td>
</tr>
<tr>
<td>D Assembly line</td>
<td>4 TPM</td>
</tr>
<tr>
<td>E Test marketing</td>
<td>5 Operations controlling</td>
</tr>
</tbody>
</table>

Q.4. Expand the following: [5 marks]

a) SS    b) ABC    c) MPS    d) WIP    e) EDD

PART B
(Total 30 marks)

Q.5 a) Explain the classes of MRP users. [5 marks]

b) Explain Kanban Visual Systems. [5 marks]
Q.6 a) Discuss various types of inventories. [5 marks]
    b) What are the criteria of a good forecasting method? [5 marks]

Q.7 a) Discuss aggregate planning inputs and outputs. [5 marks]
    b) Explain the principles of scheduling. [5 marks]

Q.8 a) Discuss big-bang implementation. [5 marks]
    b) Explain characteristics of ERP. [5 marks]

Q.9 Write Short Notes any two [2 x 5 = 10 marks]
    A) Measuring effectiveness.    B) Benefits and Limitations of PPC.
    C) Standardization            D) Pull system

Q.10 Case Study (compulsory)

Shortage of drugs can cause supply chain disruptions in the healthcare sector. Depending on the length of time of disruption, different organisations adopted varied strategic responses to handle the problem. There should be proper integration between the flow of goods, financial resources and multiple information to improve vulnerability of the supply chain. It was suggested that flexibility can be achieved by keeping some reserve resources in case of disruption, using multiple number of suppliers, and resorting to lower capacity utilisation levels. There should be an increasing trend of outsourcing of medicine production to countries, such as China and India, to achieve positive cost effects and strategic goals of suppliers for improving supply chain efficiencies.

During the outbreak of COVID-19, public procurement of drugs has been handled by the Indian government diligently. India has helped various nations by providing them with the required drugs to fight with the pandemic. The Indian government has started the service of offering portals wherein all real-time updates and information related to beds and number of cases are provided in order to connect prospective buyers with the suppliers of essential commodities. Also, the government managed the shortage of masks and sanitizers at the initiation stage only by procuring and manufacturing the essential articles for the prevention of COVID-19.

Questions:

1. Discuss the problems faced by pharmaceutical manufacturers in the healthcare industry.
2. How did Indian government handle public procurement of drugs after Covid-19 outbreak?

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