PART A

(32 marks)
(compulsory. Each sub-question carry 1 mark)

Q. 1. Fill in the blank.
   i) In _______________ _______________ an organization engages in cross-border transactions.
   ii) _______________ will be the primary competitive motive of business in the twenty first century.
   iii) Executing manufacturing subtasks and operations in parallel improves __________
   iv) Flexibility in manufacturing is termed as __________ manufacturing.
   v) World class suppliers are considered __________ of world class manufacturers
   vi) Price, quality and reliability are determined by the ___________ employed by the firm in making the product.
   vii) _______________ is a participative and democratic style of management
   viii) System of profound knowledge is the contribution of __________ .

Q.2. State True or False
   a. A transnational company is a firm that integrates operations from different countries and views the world as a single market place.
   b. In modern market product life cycle is becoming shorter and shorter.
   c. For a class A manufacturer the inventory turnover will be 25 to 30 per year.
   d. World class producers do not consider price an important criteria compared to parameters like ability to supply enough material, exceptional quality, trust worthy and cooperative.
e. A company’s ability to introduce new products and modifications to current products is its production flexibility.

f. Inspection can only find faults but cannot prevent them.

g. Process capability is the measure of extent to which a process is under control.

h. Henry Ford sponsored the concept of assembly line mass production.

Q.3. Expand the following
   a) MNC
   b) LPG
   c) AIS
   d) CRAFT
   e) QSFV
   f) CNC
   g) PVA
   h) STEEP

Q.4. Match A and B

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
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<tbody>
<tr>
<td>1) White collar employees</td>
<td>a) Strategic</td>
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<tr>
<td>2) Product mix</td>
<td>b) Reduce labour force</td>
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<td>3) Knowledge</td>
<td>c) lean manufacturing</td>
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<td>4) Downsizing</td>
<td>d) Constraint</td>
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<td>5) JIT</td>
<td>e) analytical skills</td>
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<td>6) Lay out design</td>
<td>f) maximum variety</td>
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<td>7) Order qualifier</td>
<td>g) ALDEP</td>
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<td>8) Bottleneck</td>
<td>h) screening criterion</td>
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PART B  
48 marks

(Assert any 3. Each question carry 16 marks)

Q.5. a) What are the characteristics of world class suppliers? How can they be developed?
b) Explain the concept of time based competition

Q.6.  
a) Explain Maskell’s model of world-class manufacturing.  
b) Explain the term group technology.

Q.7.  
a) Explain in detail flexible manufacturing.  
b) Explain the importance of supply chain management.

Q.8.  
Distinguish between  
a) Corrective action and preventive action  
b) Kaizen and innovation  
c) Internal exchange of die and external exchange of die  
d) Quality control and quality assurance

Q.9. Write short notes on any four  
a) Zero quality control  
b) Kanban  
c) Business Intelligence  
d) Poke yoke  
e) Cost of quality

PART C  
20 marks

Q. 10. Case study - Compulsory

The following are comments by Victor Fung, the Chairman of Li & Fung – the largest export trading company in Hong Kong and an innovator in the development of supply chain management. On behalf of its customers, primarily American and European retailers, Li & Fung works with an ever expanding network of suppliers around the globe, sourcing clothing and other consumer goods ranging from toys to fashion accessories to luggage.

Question: How do you define the difference between what Li & Fung does today-supply chain management- and the trading business founded by your grandfather in 1906?
Fung: When my grandfather started the company in Canton, 90 years ago during the Ching dynasty, his “value added” was that he spoke English. In those days, it took three months to get to China by boat from the West; a letter would take a month. No one at the Chinese factories spoke English, and the American merchants spoke no Chinese. As an interpreter, my grandfather’s commission was 15 percent.
Continuing through my father’s generation, Li & Fung was basically a broker, charging a fee to put buyers and sellers together. But as an intermediary, the company was squeezed between the growing power of the buyers and the factories. Our margins slipped to 10 percent, then 5 percent then 3
percent. When I returned to Hong Kong in 1976 my friends warned me that in 10 years buying agents like Li & Fung would extinct. “Trading is a sunset industry,” they all said.

My brother and I felt we could turn the business into something different, and so we took it through several stages of development. In the first stage, we acted as what I would call a regional sourcing agent and extended our geographic reach by establishing offices in Taiwan, Korea, and Singapore. Our knowledge of the region had value for customers. Most big buyers could manage their own sourcing if they needed to deal with only Hong Kong – they’d know which 10 factories to deal with and wouldn’t need any help.

But dealing with the whole region was more complex. In textiles, quotas govern world trade. Knowing which quotas have been used up in Hong Kong, for example, tells you when you have to start buying from Taiwan.

Understanding products was also more complex. We knew that in Taiwan the synthetics were better, but that Hong Kong was the place to go for cottons. We could provide a package from the whole region rather than a single product from Hong Kong.

By working with a larger number of countries, we were able to assemble components; we call this “assortment packing.” Say I sell a tool kit to a major discount chain. I could buy the spanners from one country and the screw drivers from another and put together a product package.

In the second stage, we took the company’s sourcing agent strategy one step further and became a manager and deliverer of manufacturing programs. In the old model, the customer would say, “This is the item I want. Please go out and find the best place to buy it for me.” The new model works this way, the Limited, one of our big customer’s comes to us and says, “For next season, this is what we are thinking about- this type of look, these colours, these quantities. Can you come up with a production program?”

Starting with their designer’s sketches, we research the market to find the right type of yarn and dye swatches to match the colours. We take product concepts and realize them in prototypes. Buyers can then look at the samples and say, “No, I don’t really like that, I like this. Can you do more of this?” We then create an entire program for the season, specifying the product mix and the schedule. We contract for all resources. We work with factories to plan and monitor production so we can ensure quality and on-time delivery.

This strategy of delivering and manufacturing programs carried out through the 1980s, but that decade brought us a new challenge – and led to our third stage. As the Asian tigers emerged, Hong Kong became an increasingly expensive and uncompetitive place to manufacture. For example, we completely lost the low-end transistor radio business to Taiwan and Korea. What saved us was that China began to open up to trade, allowing Hong Kong to fix its cost problem by moving the labour intensive portion of production across the border into South China.

So for transistor radios we created little kits-plastic bags filled with all the components needed to build a radio. Then we shipped the kits to China for assembly. After the labor-intensive work was completed, the finished goods came back to Hong Kong for final testing and inspection. If you missed a screw you were in trouble: the whole line stopped cold.
Breaking up the value chains as we did was a novel concept at the time. We call it “dispersed manufacturing.” This method of manufacturing soon spread to other business, giving Hong Kong a new lease on life and also transforming our economy. Between 1979 and 1997, Hong Kong’s position as a trading entity moved from number 12 in the world to number 8. All our manufacturing moved to China and Hong Kong–became a huge service economy with 84 percent of its gross domestic product coming from services.

This Hong Kong model of borderless manufacturing has become a new paradigm of the region. Today Asia consists of multiple networks of dispersed manufacturing – high cost hub that do the sophisticated planning for regional manufacturing. Bangkok works with the Indochinese peninsula, Taiwan with the Philippines, Seoul, and Northern China. Dispersed manufacturing is what is behind the boom in Asia’s trade and investment statistics in the 1990s- companies moving raw materials and semi finished parts around Asia. But the region is still very dependent on the ultimate sources of demand, which are North America and Western Europe. They start the whole cycle going.

Questions:
1. Illustrate the Li & Fung’s evolution with the learning you gathered
2. What made Li & Fung to move from a trader to a supply chain expert?
3. Explain the concept of dispersed manufacturing
4. How supply chain helps dispersed manufacturing