**Maximum Marks : 50**  **Duration: 3 Hours**  **10/4/2018**

**Notes ;  i) Answer any 5 questions out of 7**
**ii) From each question answer any 2 sub-questions out of 3**
**iii) Each sub-question carries 5 Marks**
**iv) Give charts, Diagrams, Live business examples wherever required.**

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Q. 1  a) Explain the concepts of Input-Output-Conversion Process-Measure of
Effectiveness  as applicable to Production/ Operations Management

b) Give in a tabular form Inputs , Outputs, Conversion Processes and Measures of
Effectiveness in following
i) Fitness Center  ii) Share Broker's Office  iii) Public Library

c)  Explain the relationship between Production/Operations function and
i) Marketing  ii) Finance  iii) HR  iv)  IT

Q.2  a) Describe Job , Batch and Mass/ Flow systems of Production with the help of live
Examples

b) Catagorise the following systems into job, batch or Mass / Flow  giving the
reasons for the same
i) Fast Food Joint  ii) Car Servicing Workshop  iii) Large Hospital
iv) Management Institute like SIMSR

c) A Central Service Center is planned to serve 5 Cities. The datatable is as follows

| CITY | Co-Ordinates | No. of Annual service requests |
|---|---|---|
| **A Nasik** | (10, 80  ) | 400 |
| **B Pune** | ( 30,60  ) | 800 |
| **C Nagpur** | ( 80 , 50 ) | 1000 |
| **D Kalyan** | ( 50 , 10 ) | 100 |
| **E Latur** | (  80 , 10 ) | 100 |

Recommend a suitable location for Central Service Center using **MEDIAN** method

Q.3 a) Explain in brief Product and Process Layouts with help of a suitable business examples.

b) Define the terms " Strategic Decision " and " Operating Decision ". Explain differences between them with help of examples.

c) The Task table for an IT Process is as follows

| TASK | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| Task Time (Seconds) | 50 | 40 | 20 | 45 | 20 | 25 | 10 | 35 |

Required output is 400 per day of 8 hours working.   Find out  i) Cycle time
ii) Theoretical minimum number of
   Work Stations. Also state giving reasons whether the system is feasible for the required output.

Q. 4  a) Describe functions and catagories of inventory

b) A Halwai Stores sells in Diwali Mithai Boxes at Rs. 1300 per box, Cost price of which is Rs 1000 per box.After Diwali the same box is sold at Rs. 800 per box.The demand distribution table for Diwali Sales is as follows

| Demand in no. of boxes | 0 | 100 | 200 | 300 | 400 | 500 |
|---|---|---|---|---|---|---|
| Probability of demand | 0.05 | 0.15 | 0.20 | 0.25 | 0.20 | 0.15 |

Find out what optimum stock of boxes he should keep

c)  Explain ABC Inventory Control model with a suitable business example.

Q.5 a) Explain in brief
      i)  Capacity Planning  ii) Scheduling   iii) MRP

b) What are the Priority  sequencing Rules ? Describe any 3 rules

c)  Explain steps followed in New Product Development.

Q.6  a) What are different tools for Quality Control? Describe any 3 tools

b) Develop and describe a Fish – Bone ( Ishikawa ) Diagram for an issue dealing
with **Late running of Suburban Local Trains**


c) Write an informative Note on Quality Circles.

Q. 7  a) Define Productivity. Explain with suitable examples

b) Write a note on use of IT and ITES ( IT Enabled Services ) in Productivity
Improvements with reference to Mobile Service Provider Industry Sector.

c)  The data for a process are as follows
-- Output : 5000 lakhs
--- Input
  = Human :  1250 lakhs
  = Material : 1000 lakhs
  = capital   :  500 lakhs
Calculate i) Partial Productivity Measures of  various inputs separately and
          ii) Total Productivity measure
Also comment on the system productivity measures and describe any 2 ways by
which these can be improved.


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