(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 7114 **Roll No.** | | | | | | | | | | |

M.B.A.

(SEM IV) EVEN SEMESTER THEORY EXAMINATION, 2009-2010

PRODUCTION & OPERATIONS MANAGEMENT

Time : 3 Hours *Total Marks : 100*

Note : *(i) The Question Paper contains **three** parts.*

*(ii) All questions are **compulsory**.*

PART - I

1. This question contains 20 objective type questions. Choose the correct answer and write its serial order : **(20x1=20)**

(a) Production is the _____ .
- (i) Establishment of inputs
- (ii) Marginal transformation of services and goods
- (iii) Transformation of inputs into goods and services.
- (iv) Emerging process of efficiency.

(b) Which of the following is *not* an activity performed by the production manager.
- (i) Quality Control (ii) Inventory Control
- (iii) Work study (iv) Pricing

(c) Which one of the following is a type of product development technique?
- (i) Standardization (ii) Simplification
- (iii) Specialization (iv) All of the above

(d) Which of the following is *not* a factor responsible for plant location?
- (i) Availability of Raw Material (ii) Nearness to the potential market
- (iii) Supply of labour (iv) Urbanization

(e) Which one of the following is true in connection to site location?
- (i) Technical, human, conceptual skills should be first recognized
- (ii) Socio-Cultural aspects of a plant site play an important role in its operation.
- (iii) Future course of action is decided after site selection.
- (iv) None of the above.

(f) Organizations that produce something other than physical products are called :
- (i) Transformation organizations (ii) Data transfer organization
- (iii) Service organization (iv) Cultural goods transformers

(g) A forecast that projects a company's sales is an
- (i) Economic Forecast (ii) Technological Forecast
- (iii) Demand Forecast (iv) Weather Forecast

(h) Quantitative method of forecasting includes?
(i) Sales force composite (ii) Jury of Executive opinion
(iii) Consumer Market Survey (iv) Exponential Smoothing.

(i) Breaking up an order and running part of it ahead of schedule is known as
(i) Overlapping (ii) Operations Splitting
(iii) Lot Splitting (iv) all of the above

(j) A process oriented layout :
(i) Groups workers, their equipment and spaces/offices to provide for movement of information.
(ii) Addresses the layout requirements of large, bulky projects such as ships and buildings.
(iii) Seeks the best personnel and machine utilization in repetitive or continuous production
(iv) All of the above.

(k) Ergonomics is the study of ?
(i) The design of the machines used to perform a task.
(ii) How a task is accomplished
(iii) The raw material that are consumed in performing a task
(iv) Reducing the number of steps required to perform a task.

(l) Labour standards are necessary to determine which of the following?
(i) The steps necessary to perform a task
(ii) Cost and time estimates prior to production
(iii) The amount of raw materials to be consumed in the process.
(iv) The machine required by the process

(m) What is the major difference in focus between location decisions in the service sector and in the manufacturing sector?
(i) There is no difference in focus
(ii) The focus in manufacturing is revenue maximization while the focus in service is cost minimization
(iii) The focus in service is revenue maximization while the focus in manufacturing is cost minimization.
(iv) The focus in manufacturing is raw material, while the focus in service is on labour.

(n) The probability that a machine, part or product will function properly for a given period of time is called?
(i) Maintenance (ii) Quality control
(iii) Reliability (iv) All of the above

(o) Quality is defined as :
(i) The degree of excellence at an acceptable price and the control of variability at an acceptable cost.
(ii) How well a product fits patterns of consumer perferences ?
(iii) The totality or features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs
(iv) Cannot be defined

(p) JIT is a philosophy of

(i) Waste reduction (ii) Variability reduction

(iii) Continuous improvement (iv) all of the above

(q) Low volume, High-Variety processes are also known as _____

(r) Kanban design should consider

(i) Size (ii) Weight

(iii) Quantity held (iv) All of the above

(s) ABC analysis divides on-hand inventory into three classes based upon

(i) Unit Price (ii) The number of units on hand

(iii) Annual demand (iv) Annual rupee-value

(t) Extra units held in inventory to reduce stockouts are called

(i) Reorder Point (ii) Safety Stock

(iii) JIT inventory (iv) All of the above.

PART - II

2. Read the following case carefully and answer the questions given below : **(30)**

National Air is a competitive air express firm with offices around the country. Frank Smith, the Chattanooga Tennesee station manager is preparing his quarterly budget report which will be presented at the southeast regional meeting next week. He is very concerned about adding capital expense to the operation when business has not increased appreciably. This has been the worst quarter he can remember; snow storms, earthquakes and bitter cold. He has asked Martha Lewis, field services supervisor, to help him review the available data and offer possible solutions.

Service Methods

National Air offers door to door overnight air express delivery within the U.S. Smith and Lewis manage a fleet of 24 trucks to handle the freight in the Chattanooga area. Routes are assigned by area, usually delineated by zip code boundaries, major streets are key geographical features, such as the Tennessee River. Pickups are generally handled between 3 PM and 6PM Monday through Friday. Driver routes are a combination of regularly scheduled daily stops and pickups that the customer calls in as needed. These call in pickups are dispatched by the radio to the driver. Commitments are made in advance by regular pickup stops, concerning the time the package will be ready, But most call in customer as late a pickup as possible, but before they close (Usually at 5 PM)

When the driver arrives at each pickup location, he or she provides a supply as necessary (An envelope or box if requested) and must receive completed airway bill for each package. Because the industry is extremely competitive a professional courteous driver is essential to retaining customers. Therefore Smith has always been concerned of drivers not rushing a customer to complete his or her package or paperwork.

Budget Considerations

Smith and Lewis have found that they have been unable to meet their customer's request for a scheduled pickup on many occasions in the past quarter. While on average drivers are not handling any more business, some days they are unable to arrive at each location on time Smith does not think he can justify increasing cost by $1200 per week for additional trucks and drivers while productivity (measured in shipments per truck/day) has remained flat. The company has established itself as a low-cost operator in the industry but at the same time committed itself to offering quality service and value for its customer.

(i) Is the productivity measure of shipments per day per truck still useful? Are there alternatives that might be effective?

(ii) What if anything can be done to reduce the daily variability in pick-up call-ins? Can the driver be expected to be at serveral locations at once at 5:00 PM?

(iii) How should we measure package pickup performance ? Are standards useful in an environment that is affected by the weather, traffic and other random variables ?

PART - III

3. Distinguish between the functions of production planning and control in intermittent and continuous production. Give illustration **(4x12½=50)**

OR

What are the major problems in production planning and control ?

4. Distinguish between product layout and process layout and explain their advantages and limitations.

OR

Explain the following :

(a) Box-Jenkin Method of Forecasting

(b) Method Study

5. What is 'Total Preventive Maintenance'(TPM) ? How is it useful in quality control?

OR

Explain the following :

(a) Six Sigma

(b) ISO 9000-2000 clauses

6. Discuss the various problems that may come in the way of designing an effective Inventory control system. What do you suggest to win over these problems ?

OR

Define routing. What are its objects and advantages? Distinguish between routing and scheduling.

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