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FINAL TERM EXAMINATION
SPRING 2010
MGT613- PRODUCTION / OPERATIONS
MANAGEMENT (SESSION - 1)

Time: 120 min

M a r k s : 69

Question No: 1 (Marks: 1) - Please choose one

Mr. Ali purchased a TV set. After a period of a year, the picture quality started deteriorating. He went to the company and complained and the company responded subsequently. Which of the following dimensions of quality would come into play?

- ⇒ Reliability
- ⇒ Conformance
- ⇒ **Serviceability**
- ⇒ Aesthetics

Ref:Pg#103

Serviceability refers to services after sale. Handling of complaints and/or requests for information

Question No: 2 (Marks: 1) - Please choose one

Which of the following refers to the inherent variability in a process?

- ⇒ Control limits
- ⇒ **Process capability**
- ⇒ Chance causes of variation
- ⇒ Assignable causes of variation

Pg#125

Process variability - reflects the natural or inherent variability in a process. It is measured in terms of the process standard deviation.

Question No: 3 (Marks: 1) - Please choose one

If holding cost of an item is 70,000 per year,

Time savings = 2 days using 1 day alternative

What is the incremental holding cost for additional 2 days?

- ⇒ Rs.350
- ⇒ Rs.380
- ⇒ **Rs.384**
- ⇒ Rs.375

Calculation:

Incremental Holding Cost= $H (d/365)$

Where H=Annual Holding cost for the item.

d = Time savings in days and d/365 is fraction of year saved.

Incremental Holding Cost= $70,000 (2/365)$

=383.56 or 384

Question No: 4 (Marks: 1) - Please choose one

Which of the following is **NOT** mark of a good layout in manufacturing?

- ⇒ **Bottleneck operations**
- ⇒ Straight line flow pattern (or adaption)
- ⇒ Work stations close together
- ⇒ Open plant floors (high visibility)

Question No: 5 (Marks: 1) - Please choose one

Which one of the following correctly explains the elements of a good forecast?

- ⇒ Timely, having a purpose, accurate, written, reliable, meaningful
- ⇒ Timely, accurate, judgmental, correctness, verbal, simple to use
- ⇒ **Timely, accurate, reliable, meaningful, written, simple to use**
- ⇒ Timely, accurate, reliable, consistent, meaningful, written, simple to use

Ref:Pg#34

Question No: 6 (Marks: 1) - Please choose one

CBR stands for which one of the following?

- ⇒ Commercial board of revenue
- ⇒ Central board of recycling
- ⇒ Central board of renovation
- ⇒ **Central board of revenue**

Pg#46: CBR denotes Centre Board of Revenue, which monitors the organizations taxable income.

Question No: 7 (Marks: 1) - Please choose one

What would be the availability if a carpenter is expected to be able to operate for 300 hours between repairs, and the mean repair time is expected to be 2 hours?

- ⇒ 6.02
- ⇒ 2.0
- ⇒ **0.99**
- ⇒ 0.006

Calculation: Availability = (MTBF)/(MTBF + MTR)

Where,

MTBF = Mean time between factor =300

MTR = Mean repair time =2 hours

Availability = (300)/(300+2)

=300/302

= **0.99**

Question No: 8 (Marks: 1) - Please choose one

Technology has impacted the work place by:

- ⇒ Adding to the existing geographical barriers for recruiting
- ⇒ Increasing the cost of telecommuting
- ⇒ Increasing the amount required to be spent on training
- ⇒ **Unifying the workforce to a common skill level**



Question No: 9 (Marks: 1) - Please choose one

Which one of the following is an example of site related factors that affect location decision?

- ⇒ **Transportation**
- ⇒ Quality of life
- ⇒ Location of new markets
- ⇒ Location of raw materials

Ref: Pg #96

Site Related Factors

- Land
- Transportation
- Environmental
- Legal

Question No: 10 (Marks: 1) - Please choose one

Which of the following statements corresponds to an order-winning characteristic?

- ⇒ A factor which may be significant in other parts of the organization
- ⇒ **A factor which gives an organization a competitive edge**
- ⇒ A factor which serves as a minimum standard for purchase
- ⇒ A factor which increases the profitability of the organization

Ref: (Handout page 15) order winners are the characteristics of an organization's services that cause it to be perceived as better than the competitor's services

Question No: 11 (Marks: 1) - Please choose one

Which of the following is NOT true about TQM?

- ⇒ **Focused on worker's activity rather than management**
- ⇒ Meeting the needs and expectations of customers
- ⇒ Inclusion of every person in the organization
- ⇒ Covering all the functional areas of the organization

TQM has developed from 'traditional' approaches to quality, such as quality control, and has been the subject of evangelistic teachings by the 'quality gurus'. TQM is an approach to business which has had a significant influence on operations. This chapter discusses seven principles of TQM: meeting the needs and expectations of customers, covering all parts of the organisation, including every person in the organisation, examining all the costs related to quality, getting things 'right first time', developing systems and procedures and developing a continuous process of improvement.



Question No: 12 (Marks: 1) - Please choose one

Identify the stage of the DMAIC (Define, Measure, Analyze, Improve and Control) methodology which involves eliminating the root causes of non-random variation.

- ⇒ Define
- ⇒ Measure
- ⇒ **Analyze**
- ⇒ Improve

Analyze the data collected and process map to determine root causes of defects and opportunities for improvement

Question No: 13 (Marks: 1) - Please choose one

Which of the following stage of Deming's wheel involves evaluating the improvement plan?

- ⇒ **Plan**
- ⇒ Do
- ⇒ Check
- ⇒ Act

PLAN

- ✓ Study & Document the existing process.
- ✓ Collect data to identify problems.
- ✓ Survey data and develop a plan for improvement.
- ✓ Specify measures for evaluating the plan

Question No: 14 (Marks: 1) - Please choose one

Which of the following statement defines process analysis?

- ⇒ It is collecting information, identifying each step and finding inputs and outputs of process
- ⇒ It is collecting information about cost reduction and improving the defects
- ⇒ **It relates to asking questions about process flow and identifying missing or duplicating activities**
- ⇒ It relates with taking a fresh approach to solve an issue on hand

Ref:Pg#116

Analyze the process: Ask questions about the process including process flow being logical, any activities or steps being missing or identification of duplication activities. Redesign the process: takes a fresh approach to solve an issue on hand.





&



Question No: 15 (Marks: 1) - Please choose one

Identify the correct sequence of steps in the control process.

- (a) Define(b) Measure(c) Compare
(d) Evaluate(e) Corrective action(f) Monitor results

⇒ a, b, d, c, f, e

⇒ **a, b, c, d, e, f**

⇒ a, b, c, f, e, d

⇒ a, b, d, e, f, c

Ref:Pg#121

The Control Process consists of the following important stages.

1. Define
2. Measure
3. Compare
4. Evaluate
5. Correct
6. Monitor results

Question No: 16 (Marks: 1) - Please choose one

Which one of the following formula can be used to compute break-even point?

⇒ $Q = VC / (R - VC)$

⇒ **$Q = FC / (R - VC)$**

⇒ $Q = VC / (R + FC)$

⇒ $Q = FC / (R + VC)$

QBEP= Quantity or Volume of Output at BREAK EVEN, would be where

P=Profit is 0

So QBEP = FC/ R-VC

Question No: 17 (Marks: 1) - Please choose one

Which of the following defines the purpose of acceptance sampling?

⇒ **Deciding whether a lot satisfies pre-determined standards**

⇒ Determining the lot size for sampling process

⇒ Evaluating the process of inspection for sampling

⇒ Implementing quality control policies for the process

Ref: Pg#128

Acceptance sampling is an important form of inspection applied to lots or batches of items before or after a process, to judge conformance with predetermined standards.





Question No: 18 (Marks: 1) - Please choose one

Which one of the following is an example of a long range plan?

- ⇒ **Location layout**
- ⇒ Work schedule
- ⇒ Machine loading
- ⇒ Backorder

Ref: Pg#133

Long-range plans

1. Long term capacity
2. Location / layout

Question No: 19 (Marks: 1) - Please choose one

Aggregate planning usually covers time span of how many months?

- ⇒ **2 – 12 months**
- ⇒ 2– 15 months
- ⇒ 2 – 16 months
- ⇒ 2 – 17 months

Ref:pg#133

Aggregate planning: Intermediate-range capacity planning, usually covering 2 to 12 months.

Question No: 20 (Marks: 1) - Please choose one

Which of the following costs is inversely related with order size?

- ⇒ **Annual ordering cost**
- ⇒ Annual carrying cost
- ⇒ Annual shortage cost
- ⇒ Annual stockout cost

Question No: 21 (Marks: 1) - Please choose one

Which of the following refers to the actual amount of an item needed in each time period?

- ⇒ Gross requirements
- ⇒ **Net requirements**
- ⇒ Planned-order receipts
- ⇒ Planned-order releases

Ref:Pg#160

4. Net requirements
- a. Actual amount needed in each time period.





Question No: 22 (Marks: 1) - Please choose one

Which of the following is a benefit of an MRP (Material Requirements Planning) system to an organization?

- ⇒ Increased sales price
- ⇒ Increased inventory
- ⇒ Reduced customer service
- ⇒ **Ability to track material requirements**

Ref:Pg#160

Benefits of MRP

1. Low levels of in-process inventories
2. Ability to track material requirements
3. Ability to evaluate capacity requirements
4. Means of allocating production time

Question No: 23 (Marks: 1) - Please choose one

Which of the following statements is TRUE about Just-in-Time?

- ⇒ It is essential for a project organization
- ⇒ It pushes inventory through the operations process
- ⇒ It is only useful in a high product variety environment
- ⇒ **It seeks to reduce inventory in an effort to reduce waste**

Question No: 24 (Marks: 1) - Please choose one

Which one of the following is NOT a characteristic of Just-in-time (JIT) production system?

- ⇒ Flexible workforce
- ⇒ Pull methods of materials flow
- ⇒ **Large lot size**
- ⇒ Close supplier ties

Ref:.(Pg#166) Characteristics of Lean Systems: Just-in-Time

1. Pull method of materials flow
2. Consistently high quality
3. Small lot sizes
4. Uniform workstation loads
5. Standardized components and work methods
6. Close supplier ties
7. Flexible workforce
8. Line flows
9. Maintenance
10. Automated production
11. Preventive maintenance





Question No: 25 (Marks: 1) - Please choose one

Which of the following is NOT a benefit of supply chain management?

- ⇒ Lower inventory
- ⇒ Higher productivity
- ⇒ **Less variety**
- ⇒ Greater agility

Ref: Pg#174

Benefits of Supply Chain Management

1. Lower inventories
2. Higher productivity
3. Greater agility
4. Shorter lead times
5. Higher profits
6. Greater customer loyalty

Question No: 26 (Marks: 1) - Please choose one

Scheduling is a function of which of the following?

- ⇒ Volume of systems' output
- ⇒ Nature of systems' output
- ⇒ **Timing of systems' output**
- ⇒ Value of systems' output

Ref: Pg# 184

Scheduling is the timing and coordination of Operations. Scheduling problems differ in nature because of the system being designed for high volume, intermediate or low volume flow.

Question No: 27 (Marks: 1) - Please choose one

Which one of the following is a type of Gantt chart that shows the loading and idle time for a group of machines?

- ⇒ **Load chart**
- ⇒ Schedule chart
- ⇒ Input/output control chart
- ⇒ Sequence chart

Ref: Pg#181

Load chart – A type of Gantt chart that shows the loading and idle times for a group of machines or list of departments.





Question No: 28 (Marks: 1) - Please choose one

Which one of the following is a type of Gantt chart that shows the order of jobs in progress and whether they are on schedule or not?

- ⇒ Load chart
- ⇒ **Schedule chart**
- ⇒ Input/output control chart
- ⇒ Sequence chart

Ref:Pg#182

7. Schedule chart A Gantt chart that shows the orders or jobs in progress and whether they are on schedule or not.

Question No: 29 (Marks: 1) - Please choose one

Which of the following refers to the length of time, a job is in the shop at an particular workstation?

- ⇒ Slack time
- ⇒ Lead time
- ⇒ **Job flow time**
- ⇒ Make-span

Ref:Pg#185

Job Flow Time: The length of time a job is in the shop at a particular workstation or work centre

Question No: 30 (Marks: 1) - Please choose one

Which one of the following is focused to reduce the incidence of failures in the plant or equipment to avoid the associated costs?

- ⇒ **Preventive maintenance**
- ⇒ Predictive maintenance
- ⇒ Reactive maintenance
- ⇒ Total productive maintenance

Ref: Pg#190

Preventive maintenance: goal is to reduce the incidence of breakdowns or failures in the plant or equipment to avoid the associated costs

1. Preventive maintenance is periodic
2. Result of planned inspections
3. According to calendar
4. After predetermined number of hours





Question No: 31 (Marks: 1) - Please choose one

Which of the following is NOT a key decision in project management?

- ⇒ Selecting the project manager
- ⇒ Selecting the project team
- ⇒ **Deciding the inventory levels**
- ⇒ Planning and designing the project

Ref: pg#192+123

Project Management has certain major administrative issues, such as

1. Executive responsibilities
2. Project selection
3. Project manager selection
4. Organizational structure
5. Organizational alternatives
6. Manage within functional unit
7. Assign a coordinator
8. Use a matrix organization with a project leader

Question No: 32 (Marks: 1) - Please choose one

Which of the following is required to describe project scope?

- ⇒ Program Evaluation and Review Technique
- ⇒ Gantt chart
- ⇒ **Work breakdown structure**
- ⇒ Critical path method

Ref: Pg#196

Project Scope refers to the total work needed out of a project. The primary tool required to describe Project Scope is the Work Breakdown structure.

Question No: 33 (Marks: 1) - Please choose one

Which one of the following is **TRUE** about the importance of capacity planning?

- ⇒ It is profitable
- ⇒ It increase the capacity of productive unit
- ⇒ **It helps managers quantify production capability**
- ⇒ It establishes good relationship with the customer





Question No: 34 (Marks: 1) - Please choose one

Which one of the following forecasting techniques is used to identify a trend when data is neither growing nor declining rapidly and has no seasonal characteristics?

- ⇒ **Simple moving average**
- ⇒ Delphi method
- ⇒ Trend adjusted forecast
- ⇒ Naïve forecast

Ref: The Moving Average model takes the average of several periods of data; the result is a dampened or smoothed data set; use this model when demand is stable and there is no evidence of a trend or seasonal pattern.

Question No: 35 (Marks: 1) - Please choose one

Which of the following is **NOT** an attribute to classify services?

- ⇒ **Tangibility**
- ⇒ Perishability
- ⇒ Simultaneity
- ⇒ Courtesy

Ref: A service is a time-perishable, intangible experience performed for a customer acting in the role of a co-producer.

Question No: 36 (Marks: 1) - Please choose one

Which of the following determinants of effective capacity is taken into account by operations manager at macro level?

- ⇒ **Supply chain**
- ⇒ Process factors
- ⇒ Product and service factors
- ⇒ Operational factors

Ref: Pg#66

Determinants of Effective Capacity:

Operations Manager often focus on determinants of effective capacity by taking into account both macro and micro levels. At the macro levels the managers look for Supply chain and External factors, while at the micro level they look for operational factors including facilities and man and machine resources. There are 7 determinants of effective capacity namely.





Question No: 37 (Marks: 1) - Please choose one

Which of the following refers to the way an organization chooses to produce its goods or services?

⇒ **Process selection**

- ⇒ Process reengineering
- ⇒ Process redesign
- ⇒ Process design

Ref: Pg#77

Process selection:

Process Selection refers to the way an organization chooses to produce its good or services.

Question No: 38 (Marks: 1) - Please choose one

In a computer education institution at the beginning of each module many students do not get proper instructions and get enrolled in the modules they are not intended to be. Therefore, management has to bear the cost of *rework* and *extra time* in shifting students to their relevant modules. What type of service gap it represents?

- ⇒ Service design gap
- ⇒ **Communication gap**
- ⇒ Service quality gap
- ⇒ Service delivery gap

Reference

Gap 4

Differences between service delivery and external communication with customer

Question No: 39 (Marks: 1) - Please choose one

For an item, the on-hand inventory is only 20 units and the reorder point R is 100 units. There are no backorders, but there is one open order for 90 units.

Which one of the following statements is TRUE?

- ⇒ An order should be placed now for 20 units
- ⇒ The current inventory position is 100 units
- ⇒ An order should be placed now for 10 units
- ⇒ **There is no need to order at the present**

Reference Q#13





Question No: 40 (Marks: 1) - Please choose one

Which of the following is re-ordering point inventory model?

- ⇒ Economic production model (EPQ)
- ⇒ The ABC model
- ⇒ **Economic order quantity model (EOQ)**
- ⇒ Cycle counting model

Ref:Pg#151

When to Reorder with EOQ Ordering Reorder Point - When the quantity on hand of an item drops to this amount, the item is reordered.

Question No: 41 (Marks: 1) - Please choose one

Most inventory models aim at minimizing which of the following?

- ⇒ **Total cost of inventory**
- ⇒ The number of orders placed
- ⇒ The safety stock
- ⇒ The risk of being stock out

Ref:Pg#146

Deriving the EOQ
Minimum Total Cost

The total cost curve reaches its minimum where the carrying and ordering costs are equal.

Question No: 42 (Marks: 1) - Please choose one

In a factory systems has 20 containers for holding an item, each container holds 350 units. Which of the following is the exact amount of total planned inventory?

- ⇒ 6000 Units
- ⇒ 3500 Units
- ⇒ 6999 Units
- ⇒ **7000 Units**

Calculation: $350 \times 20 = 7000$

(page 168)Then with 20 containers in the system and since each container can hold 500 units, the total planned inventory is $20 (500) = 10,000$ units





Question No: 43 (Marks: 1) - Please choose one

Which of the following provides the best solution for the problem of "too much scrap" in Just-In-Time philosophy?

- ⇒ **Better Inventory management**
- ⇒ Effective Material requirement planning MRP
- ⇒ Improving work methods
- ⇒ Master production schedule

Question No: 44 (Marks: 1) - Please choose one

Given the table:

Alternatives	Possible future demand	
	Low (Rs.)	High (Rs.)
Small facility	10,000	8,000
Medium facility	12,000	20,000
Large facility	18,000	15,000

Which one of the following is the correct payoff under MAXIMIN approach?

- ⇒ Rs. 8,000
- ⇒ Rs. 12,000
- ⇒ **Rs. 18,000**
- ⇒ Rs. 20,000

Ref Determine the worst possible payoff for each alternative, and choose the alternative that has the "best worst." Which is 1800 in this table.





Question No: 45 (Marks: 1) - Please choose one

In labor-limited environment, in which resource constraint is the amount of worker available, which of the following is the best option for effective scheduling in a manufacturing firm?

- ⇒ Hire more skilled labor for the job to be completed
- ⇒ **Workers should be trained to work on a variety of machines**
- ⇒ Assign labor to the next workstation irrespective of their skills
- ⇒ More machines should be installed for flexibility of operations

Reference:

In manufacturing, the purpose of scheduling is to minimize the production time and costs, by telling a production facility what to make, when, with which staff, and on which equipment

1. You cannot hire more skilled labor as market is short and its already pointed as constraint in the question.

2. When worker are not available, we have to trained our present work force in such a way that they can work on different machine when it's required.

3rd cannot be correct as without any proper training you cannot move worker to handle the machine which might be fatal for the whole system.

4th. more machines is not going to solve the problem, as it's the problem of labor shortage

Question No: 46 (Marks: 1) - Please choose one

Which of the following is a cause of development of waiting lines?

- ⇒ **Customer arrival rate varies throughout the day**
- ⇒ Time required to process a customer may vary
- ⇒ Some transactions are complicated and require above average process time
- ⇒ All of the given options

Ref: Pg#218

Waiting lines have a tendency to form in even those systems which in a macro sense are under loaded or unloaded. The arrival of customers at random times and variability of service times combine to create temporary overloads. When this happens, waiting lines appear.

Question No: 47 (Marks: 1) - Please choose one

Scheduling of materials is the primary focus of which of the following systems?

- ⇒ Inventory management
- ⇒ Supply chain management
- ⇒ Big Just-In-Time
- ⇒ **Little Just-In-Time**

Ref:Pg#171

2. Little JIT – narrow focus Internal to organization

- a. Scheduling materials
- b. Scheduling services of production





Question No: 48 (Marks: 1) - Please choose one

Which of the following accounts for loss of good will of an organization?

- ⇒ Hiring and layoff costs
- ⇒ Over-time costs and regular time costs
- ⇒ Backlogs and stock outs
- ⇒ **Backorders and stock outs**

Stock out cost, associated with demand when stocks have been, takes the form of lost sales or backorder costs. When sales are lost because of stock outs, the firm loses both the profit margin on unmade sale and its customer's good will. Backorder costs include loss of good will and money paid to reorder goods and notify customers when goods arrive

Question No: 49 (Marks: 3)

How would you justify the reduced setup times and delivery lead times in a JIT system?

Answer:

JIT should improve profits and return on investment by reducing inventory levels (increasing the inventory turnover rate), improving product quality, reducing production and delivery lead times, and reducing other costs (such as those associated with machine setup and equipment breakdown).

Keys to Successful JIT Implementation:

Reduce or eliminate setup times: aim for single digit setup times (less than 10 minutes) or "one-touch" setup -- this can be done through better planning, process redesign, and product redesign.

Reduce lead times: Production lead times can be reduced by moving work stations closer together, applying group technology and cellular manufacturing concepts, reducing queue length (reducing the number of jobs waiting to be processed at a given machine), and improving the coordination and cooperation between successive processes; delivery lead times can be reduced through close cooperation with suppliers, possibly by inducing suppliers to locate closer to the factory.

Question No: 50 (Marks: 3)

PERT analysis helps you to schedule and manage complex projects. List down the benefits of PERT analysis.

Answer:

Benefits of PERT analysis:

Following are the benefits of PERT analysis:

1. Expected project completion time
2. Probability of completion before a specified date
3. The critical path activities that directly impact the completion time
4. The activities that have slack time and that can lend resources to critical path activities
5. Activities start and end dates.
6. PERT Charts are able to visually document complex projects.





Question No: 51 (Marks: 5)

What is service level? Generally speaking, how is service level related to the amount of safety stock held?

Answer:

Service Level

Service Level means that the probability that demand will not exceed supply during lead time.

Safety Stock (SS)

Safety stock defines the stock level. The amount of safety stock held to cover random variations in demand. Re-order point calculations are affected by the amount of safety stock held.

Question No: 52 (Marks: 5)

Organizations use an integrated information system that supports many enterprise processes and data storage needs. Which information system here is referred to and what are its strategy considerations?

Answer:

Material requirements planning (MRP):

ERP software is large, integrated information system that support many enterprise process and data storage needs. It is a Computer-based information system that translates master schedule requirements for end items into time-phased requirements for subassemblies, components, and raw materials.

ERP Strategy Considerations:

- High initial cost
- High cost to maintain
- Future upgrades
- Training

Question No: 53 (Marks: 5)

Prior knowledge of job flow times is essential to effective planning, control and management of customer relationships. Explain job flow time and identify various components of job flow time. (1+4 M a r k s)

Answer:

Job flow time:

Job Flow Time is the length of time a job is in the shop at a particular workstation or work center.

Components of job flow time

Following are the components of job flow time:

- Waiting time in queue
- Batch processing time
- Batch moving time
- Finished goods warehousing time.





FINAL TERM EXAMINATION
Spring 2010
MGT613- Production / Operations
Management (Session - 2)

Time: 120 min

M a r k s: 69

Question No: 1 (Marks: 1) - Please choose one

As a project manager, your project has become lengthy enough and you have to spend more money to complete it quickly within time constraints, the activity is known as:

- » Rectifying time estimation
- » Project scope creeping
- » **Project crashing**
- » Project risk management

Pg#200

Ref: Crashing a project involves paying more money to complete a project more quickly. Since the critical path determines the length of a project, it makes sense to reduce the length of activities on the critical path.





Question No: 2 (Marks: 1) - Please choose one

Which of the following refers to the inherent variability in a process?

- » Control limits
- » **Process capability**
- » Chance causes of variation
- » Assignable causes of variation

Process Capability Indices—the behaviour of a process (as related to inherent variability) in the state of statistical control is used to describe its capability.

Question No: 3 (Marks: 1) - Please choose one

Which of the following are the priorities emphasized most often in JIT system?

- » High quality and minimal wastage
- » **Low cost and consistent quality**
- » Low inventory and consistent material supply
- » Low cost and low inventory

Ref:

Low cost and consistent quality are the priorities emphasized most often in JIT systems

Question No: 4 (Marks: 1) - Please choose one

Identify the correct sequence of steps in Deming wheel.

- » **Plan, Do, Check, Act**
- » Plan, Check, Do, Act
- » Plan, Do, Act, Check
- » Plan, Act, Do, Check

Ref:

pg#116

Question No: 5 (Marks: 1) - Please choose one

Which of the following is a type of kanban that authorizes the production of goods?

- » Supplier kanban
- » Material kanban
- » Withdrawal kanban
- » **Production kanban**

Reference

- Production kanban
- authorizes production of goods





Question No: 6 (Marks: 1) - Please choose one

Product life cycle is based on which of the following components?

- » Price
- » Place
- » **Demand**
- » Supply

Question No: 7 (Marks: 1) - Please choose one

What would be the availability if a carpenter is expected to be able to operate for 300 hours between repairs, and the mean repair time is expected to be 2 hours?

- » 6.02
- » 2.0
- » **0.99**
- » 0.006

Calculation: Availability = (MTBF)/(MTBF + MTR)

MTBF = mean time between failure = 300

MTR = mean time repair = 2 hours

= (300)/(300+2)

=0.993

Question No: 8 (Marks: 1) - Please choose one

What would be the productivity if a machine produced 50 units in 3 hours?

- » 0.066 units per hr
- » **16.66 units per hr**
- » 6.766 units per hr
- » 60.66 units per hr

Ref

Calculation: Productivity = 50/3

=16.66

Question No: 9 (Marks: 1) - Please choose one

Which of the following defines inventory turnover?

- » **A ratio of cost of goods sold to the average inventory**
- » A ratio of work in process to the average inventory
- » A ratio of cost of carrying cost to the average inventory
- » A ratio of cost of assets to the average inventory

What Does Inventory Turnover Mean?

A ratio showing how many times a company's inventory is sold and replaced over a period.





Question No: 10 (Marks: 1) - Please choose one

Which one the following is an assumption of centre of gravity method?

- » The quantity to be shipped is variable
- » **The quantity to be shipped is fixed**
- » The quantity carries no value
- » The quantity to be shipped should be extraordinarily high

Question No: 11 (Marks: 1) - Please choose one

The quality guru Kaoru Ishikawa is famous for:

- » Statistical quality control
- » **Fishbone diagram**
- » Zero defects
- » Cost of quality

Ref:

Pg#102

6. Kaoru Ishikawa- presented the “fish bone diagram” or “cause effect diagram”.

Question No: 12 (Marks: 1) - Please choose one

Identify the dimension of quality that relates to the expected operational life of a product.

- » **Durability**
- » Performance
- » Serviceability
- » Reliability

Ref: page 102

• Durability

– Useful life of product or service.

– It is also called resilience or wear & tear

Question No: 13 (Marks: 1) - Please choose one

Which one of the following forecasting techniques is used to identify a trend when data is neither growing nor declining rapidly and has no seasonal characteristics?

- » **Simple moving average**
- » Delphi method
- » Trend adjusted forecast
- » Naïve forecast





Question No: 14 (Marks: 1) - Please choose one

Which of the following is the focus of statistical process control?

- » Determining the efficiency of an operations system
- » Measuring the amount of re-work required to rectify faulty goods
- » Identifying the security needs of an operations system
- » **Measuring and controlling process variations**

Ref:

Statistical process control (SPC) is the application of statistical methods to the monitoring and control of a process to ensure that it operates at its full potential to produce conforming product. Under SPC, a process behaves predictably to produce as much conforming product as possible with the least possible waste. While SPC has been applied most frequently to controlling manufacturing lines, it applies equally well to any process with a measurable output. Key tools in SPC are control charts, a focus on continuous improvement and designed experiments.

Question No: 15 (Marks: 1) - Please choose one

All of the following are the decision areas of an operations manager EXCEPT:

- » Inventory management
- » Scheduling tasks
- » Supply chain management
- » **Financial reporting**

Ref:

Pg#10

Operations Managers job responsibility includes but is not limited to:

- Forecasting
- Capacity planning
- Scheduling

Inventory Management

- Quality Assurance and Control
- Motivating employees
- Deciding where to locate facilities

Question No: 16 (Marks: 1) - Please choose one

Which of the following refers to the average of accepted lots and rejected lots?

- » Acceptable Quality Level (AQL)
- » Lot Tolerance Percent Defective (LTPD)
- » **Average Outgoing Quality (AOQ)**
- » Average Outgoing Quality Limit (AOQL)

Ref:

Pg#130

Average Outgoing Quality (AOQ):Average of rejected lots and accepted lots





Question No: 17 (Marks: 1) - Please choose one

Identify the set of factors that affect the choice of a strategy for aggregate planning.

- » **Cost and corporate policy**
- » Cost and location analysis
- » Cost and capacity constraints
- » Cost and training of employees

Ref:Pg# 135

The organization needs to consider two factors before choosing a strategy

1. Costs
2. Company/Corporate Policy

Question No: 18 (Marks: 1) - Please choose one

Which one of the following location strategies is favoured by automobile manufacturers?

- » Product plant strategy
- » **Process plant strategy**
- » Market area plant strategy
- » Cost conservation strategy

Question No: 19 (Marks: 1) - Please choose one

For which of the following purpose master schedule determines quantities?

- » Capacity
- » **Demand**
- » Resources
- » Production requirements

Ref: .(Page 139)

Master schedule: Determines quantities needed to meet demand.





Question No: 20 (Marks: 1) - Please choose one

Which of the following contains a listing of all the assemblies, sub-assemblies, parts and raw materials needed to produce one unit of a finished product?

- » Master schedule
- » **Bill of materials file**
- » Inventory records file
- » Rough – cut capacity plan

Ref: Page #157

Bill of materials (BOM):

One of the three primary inputs of MRP; a listing of all of the raw materials, parts, subassemblies, and assemblies needed to produce one unit of a product.

Question No: 21 (Marks: 1) - Please choose one

Which of the following reports compares known and expected future capacity requirements with projected capacity availability?

- » Performance control report
- » Exception report
- » **Load report**
- » Planned order report

Ref: Page #161

Load reports:

Department or work centre reports that compare known and expected future capacity requirements with projected capacity availability.

Question No: 22 (Marks: 1) - Please choose one

Which of the following is the output of capacity requirement planning process?

- » Planned order releases
- » Job times
- » Resource requirements
- » **Load report**

Ref:Pg#161

Outputs include load reports for each work center.





Question No: 23 (Marks: 1) - Please choose one

Given the table:

Alternatives	Possible future demand	
	Low (Rs.)	High (Rs.)
Small facility	10,000	8,000
Medium facility	12,000	20,000
Large facility	18,000	15,000

Which one of the following is the correct payoff under LAPLACE approach?

- » Rs. 9,000
- » Rs. 16,000
- » Rs. 33,000
- » **Rs. 16,500**

Ref: LAPLACE approach best average of alternatives.

Small facility = $18000/2 = 9000$

Medium facility = $32000/2 = 16000$

Large facility = $33000/2 = 16500$ this is best average as it is highest.

Question No: 24 (Marks: 1) - Please choose one

Which one of the following refers to the assignment of jobs to process centers?

- » Sequencing
- » **Loading**
- » Scheduling
- » Budgeting

Ref:

Pg#177

Scheduling Low-Volume Systems

Loading - assignment of jobs to process center

Question No: 25 (Marks: 1) - Please choose one

Which of the following charts shows management of flow of work and waiting lines at work stations?

- » Gantt charts
- » Load charts
- » Schedule charts
- » **Input/output charts**

Ref:Pg#172

input/Output Control Chart –

A type of Control Chart that shows management of work flow and queues at the work centers





Question No: 26 (Marks: 1) - Please choose one

Which one of the following is TRUE about work sampling?

- » It describes individual human motions that are used in a job task
- » It involves determining the length of time it will take to undertake a particular task
- » **It involves determining the amount of time a worker spends on various activities**
- » It provides standard times for micro motions such as reach, move and release

Ref:

A work sampling study estimates the amount of time that workers spend on various activities.

Question No: 27 (Marks: 1) - Please choose one

The Strategies which are more focused on maintaining or improving the quality of an organization's products or services are known as:

- » Quality at the source
- » Time based strategies
- » Cost leadership strategies
- » **Quality-based strategies**

Ref:Pg#18

•Quality-based strategies

- Focuses on maintaining or improving the quality of an organization's products or services
- Quality at the source

Question No: 28 (Marks: 1) - Please choose one

Which of the following is a technique that averages a number of recent actual values that are updated as new values become available?

- » **Simple moving average**
- » Weighted moving average
- » Linear trend equation
- » Exponential smoothing

Ref:

Page #37

Moving average – A technique that averages a number of recent actual values, updated as new values become available.

· *Weighted moving average* – More recent values in a series are given more weight in computing the forecast.





Question No: 29 (Marks: 1) - Please choose one

Which one of the following refers to translating the voice of the customer into technical design requirements?

- » Concurrent design
- » Design for manufacture
- » Robust design
- » **Quality function deployment**

Ref: Page #55

A popular managerial view is that the Quality Function should be deployed at the source or at the design stage. We also should know what Quality Function Deployment is. Two common answers being that it is the voice of the customer (which always sets a standard for the service organization to follow) and the second one being that it should be in the form of a house of quality. Quality Function Deployment is a powerful tool to plan products and their specific characteristics and required manufacturing processes. It starts with capturing the voice of the customer (VOC) and next performs competitive analysis as a basis for planning specific technical characteristics of a product to maximize customer value.

Question No: 30 (Marks: 1) - Please choose one

Training program and quality audits come under which type of costs that an organization has to bear as cost of service quality?

- » Internal failure cost
- » Recovery cost
- » **Prevention cost**
- » Detection cost

REFERENCE: P#109

Prevention costs Quality planning, Training program, Quality audits, Data acquisition and analysis, Recruitment and selection, Supplier evaluation

Question No: 31 (Marks: 1) - Please choose one

Which of the following describes the people who have sufficient experience of working with six sigma methodology?

- » Black belts
- » Green belts
- » Top management
- » **Master black belts**

Ref:(pg # 46)

Master Black Belts: The Master Black Belts are six sigma quality experts. They are responsible for strategic implementation of projects in a business organization. They have in-depth training on statistical tools and process improvements. They are mentors to Black Belts. They perform many of the duties performed by Black Belts but for a larger number of teams. Master Black Belts have successfully managed many process improvement teams and so has plenty of experience under their belt. They also serve as agents of change to other managers.





Question No: 32 (Marks: 1) - Please choose one

Which of the following is the characteristic of an effective design?

- » It facilitates manufacturing of the product
- » It satisfies customer requirements
- » It sells in the marketplace
- » **All of the given options**

Question No: 33 (Marks: 1) - Please choose one

The operating characteristic (OC) curve shows the probability of which of the following?

- » **Acceptance for every possible true percentage of defectives**
- » Rejection for every possible true percentage of defectives
- » Making type I error for various percentages of defectives
- » None of the given options

Question No: 34 (Marks: 1) - Please choose one

Which of the following defines the orders which have been placed but not yet completed?

- » Order releases
- » Planned receipts
- » **Scheduled receipts or open orders**
- » Planned order releases

Question No: 35 (Marks: 1) - Please choose one

Select the appropriate term for the total demand derived from all parent production plans from the following options.

- » Inventory record
- » Load reports
- » Projected on-hand inventory
- » **Gross requirement**





Question No: 36 (Marks: 1) - Please choose one

An automatic car wash is an example of which of the following?

- » Customized service
- » Batch processing
- » Intermittent processing
- » **Standardized service**

Question No: 37 (Marks: 1) - Please choose one

If alpha = 0, how many containers are needed with the given data?

$$K = \frac{1500(0.8 + 0.2)(1 + 0)}{270}$$

- » 6.5 Containers
- » 7 Containers
- » **6 Containers**
- » 9 Containers

Ref:pg #168

Calculation: $1500(1)(1)/270 = 5.6$. After round off the value, it is 6 containers.

Question No: 38 (Marks: 1) - Please choose one

In supply chain management event-management capability enables organization in which of the following ways?

- » To achieve quick response
- » To create trust among trading partners
- » To increase productivity
- » **To detect and respond to unplanned events**

Ref: .(Page no.172)

Event-management capability The ability to detect and respond to unplanned events.





Question No: 39 (Marks: 1) - Please choose one

Which of the following statement is FALSE regarding Supply Chain Management?

- » **Supply Chain Management issues are insignificant in service organizations**
- » For effective supply chain management, “long-term partnerships” with key suppliers is much important
- » Ideas from suppliers can lead to improved competitiveness by increasing revenues
- » Supply chain management creates value though changes in time, location and quantity

For instance, supply chain management requires long-term partnerships with key suppliers. Suppose management institutes a measurement system that rewards the purchasing department for obtaining products from its suppliers at low cost

(page 179)Ideas from suppliers could lead to improved competitiveness

1. Reduce cost of making the purchase
2. Increase Revenues
3. Enhance Performance

(page 179) SCM creates value through changes in time, location and quantity.

Question No: 40 (Marks: 1) - Please choose one

An operations manager of an airline industry schedules the arrival and departure of flights by working ahead from some point in time is following which type of scheduling?

- » Backward scheduling
- » **Forward scheduling**
- » Vertical scheduling
- » Horizontal scheduling

Ref:

Forward scheduling: Scheduling ahead, from some point in time forward scheduling is planning the tasks from the start date to determine the shipping date or the due date

Forward scheduling may result in jobs being completed earlier then the requested due date because forward scheduling schedules the tasks as early as possible.

Question No: 41 (Marks: 1) - Please choose one

Tasks are easily scheduled in which of the following production environments?

- » Intermediate-volume-systems
- » Low-to-medium volume production (Job shop)
- » **Medium-to-high volume production (Flow shop)**
- » Optimal production mixes





Question No: 42 (Marks: 1) - Please choose one

In multiple workstations scheduling, the priority rule is applied to which kind of given jobs?

- » **The jobs waiting for the operations**
- » The jobs of the least critical ratio (CR)
- » The jobs arrived at workstation first
- » The jobs with earliest due date

**SCHEDULING JOBS FOR
MULTIPLE WORKSTATIONS**

When a workstation becomes idle, an appropriate priority rule is applied to the jobs waiting for that operation, and the job with the highest priority is selected

Question No: 43 (Marks: 1) - Please choose one

Difference between length of a path and critical path gives which of the following values?

- » Critical activities
- » **Slack activities**
- » Activity on node
- » Activity on arrow

Ref: Page #191

Slack: Allowable slippage for path; the difference the length of path and the length of critical path.

Question No: 44 (Marks: 1) - Please choose one

When timing of activities is fairly well established in management of projects, which of the following time estimations approach is useful?

- » **Deterministic approach**
- » Probabilistic approach
- » Optimistic time approach
- » Pessimistic time approach

Ref: Page #204

A deterministic approach is useful for estimating the duration of the project, when activity times can be fairly well established.

Question No: 45 (Marks: 1) - Please choose one

Which one of the following is the goal of method analysis?

- » **Dividing and analysing a job**
- » Check individual human motions used to perform an operation
- » Determining the length of time it will take to undertake a particular task
- » Determining the amount of time a worker spends on various activities

Design of Work System also entails method analysis which in turn centers on how jobs are performed.





Question No: 46 (Marks: 1) - Please choose one

Managers should greatly focus on which of the following demand options in aggregate planning process?

» **Back orders**

- » Promotion
- » Pricing
- » New demand

Ref: Page #135

The operations manager should know all four demand options but should be more interested in back order option.

Question No: 47 (Marks: 1) - Please choose one

In production planning, future requirement for finished goods can be derived from all of the following EXCEPT:

» **Stock out**

- » Backlogs
- » Demand from distributors or dealers
- » Forecasts for product families

Question No: 48 (Marks: 1) - Please choose one

Chase demand strategy is an example of which of the following?

- » Proactive strategy
- » **Reactive strategy**
- » Mixed or hybrid strategy
- » Active strategy

Ref:

Pg#132 1nd 133 respectively

Reactive Strategy: Strategies that alter capacity to match demand are known as Reactive Strategy

Chase demand strategy: Matching capacity to demand; the planned output for a period is set at the expected demand for that period





**FINAL TERM EXAMINATION
SPRING 2010
MGT613- PRODUCTION / OPERATIONS MANAGEMENT
((SESSION - 3)**

**Time: 120 min
M a r k s : 69**

Question No: 1 (Marks: 1) - Please choose one

Which one of the following is a measure of productivity that involves measuring inputs and outputs using a common unit of measurement?

→ **Multifactor**

→ Partial

→ Single

→ Total

Ref:Pg#19

Multi-factor measures is output/(multiple inputs)

Multifactor Output Output measures Labor + Machine Labor + Capital + Energy

Question No: 2 (Marks: 1) - Please choose one

Which of the following is **NOT** usually considered a general characteristic of a service?

→ Production and sales cannot easily be separated functionally

→ Many services involve both tangible and intangible outputs

→ **Production and consumption can always be separated**

→ Degree of customer contact is high





Question No: 3 (Marks: 1) - Please choose one

Which of the following statements corresponds to an order-winning characteristic?

- A factor which may be significant in other parts of the organization
- **A factor which gives an organization a competitive edge**
- A factor which serves as a minimum standard for purchase
- A factor which increases the profitability of the organization

(Handout page 15) order winners are the characteristics of an organization's services that cause it to be perceived as better than the competitor's services

Order winners are the criteria that differentiate the products and services of the firm from others'. These are the characteristics of an organization's goods or services that cause it to be perceived as better than competitors' products

Question No: 4 (Marks: 1) - Please choose one

Which one of the following correctly explains the elements of a good forecast?

- Timely, having a purpose, accurate, written, reliable, meaningful
- Timely, accurate, judgmental, correctness, verbal, simple to use
- **Timely, accurate, reliable, meaningful, written, simple to use**
- Timely, accurate, reliable, consistent, meaningful, written, simple to use

Question No: 5 (Marks: 1) - Please choose one

Which one of the following factors provides a basis for comparing alternative forecasting techniques?

- Time dimension
- Reliability factor
- **Degree of accuracy**
- Measuring units

Pg#34

Accuracy. Forecasts should be accurate. In fact it should carry the degree of accuracy, so the users are aware of the limitations of the forecast. This will also help the end users to plan for possible errors and provide a basis for comparing the forecast with other alternative forecasts.

Question No: 6 (Marks: 1) - Please choose one

Which one of the following is an outcome of MINIMAX regret?

- The best of the worst possible payoff
- The best possible payoff
- The best average payoff
- **The least of the worst regret**

REFERENCE:Pg#27

Minimax Regret

Determines the worst regret for each alternative Chooses the alternative with the best worst. Maximin





Question No: 7 (Marks: 1) - Please choose one

Which one of the following is NOT a step of decision making process?

- Develop alternatives
- Monitor results
- **Consider risk averseness strategies**
- Specify criteria for decision

REFERENCE:Pg#24

Normally the decision making process involves the following six important step

1. Specify Objectives and the Criteria for decision making
2. Develop Alternatives
3. Analyze and compare alternatives.
4. Select the best alternative.
5. Implement the chosen Alternative
6. Monitor the results to ensure the desired results are achieved

Question No: 8 (Marks: 1) - Please choose one

Effective capacity is influenced by all of the following factors **EXCEPT**:

- Facilities
- **Product mix**
- Processes
- Operations

Ref:Pg#66 and 67

There are 7 determinants of effective capacity

- 1 Facility. The design of facilities includes the size as well as the provision of expansion.
- 2 Product and service factors can have a tremendous influence on capacity.
- 3 Process factors refer to the quantity and quality requirements of a process. Quantity always Refers to capacity.
- 4 Human factors include skill, craftsmanship, training and qualification
- 5 Operational factors with respect to effective capacity always refer to scheduling
- 6 Supply chain factors relate to any short coming to suppliers, warehouse processing, operational hick up.
- 7 External factors include product standards, safety regulations, unions and pollution control Standards.

Question No: 9 (Marks: 1) - Please choose one

Which one of the following defines the range of the smoothing constant (Alpha)?

- 2 and -2
- 1 and -1
- 0 and -1
- **0 and 1**





Question No: 10 (Marks: 1) - Please choose one

In exponential smoothing model, α denotes:

→ **Smoothing constant**

- Actual forecast
- Forecast error
- Previous forecast

Ref:pg#40

α =Alpha smoothing constant

Question No: 11 (Marks: 1) - Please choose one

Which one of the following refers to using some of the components of old products in the manufacturing of new products?

- Manufacturability
- **Remanufacturing**
- Robust design
- Automation

Ref:Pg#51:

Design for Remanufacturing:

Using some of the components of the old products in the manufacture of new products.

Question No: 12 (Marks: 1) - Please choose one

Which one of the following refers to a team having representatives from different functional areas of the organization?

- Traditional work group
- Self-directed team
- **Cross-functional team**
- Self motivated team

Ref: pg#89

4. Cross-Functional Teams

These are teams made up of employees from about the same hierarchical level, but from different work areas, who come together to accomplish a task.

Question No: 13 (Marks: 1) - Please choose one

Who introduced the use of statistical control charts to Japanese manufacturers?

→ **Edwards Deming**

- Joseph Juran
- Kaoru Ishikawa
- Philip Crosby





Question No: 14 (Marks: 1) - Please choose one

Mr. Ali purchased a TV set. After a period of a year, the picture quality started deteriorating. He went to the company and complained and the company responded subsequently. Which of the following dimensions of quality would come into play?

- Reliability
- Conformance
- **Serviceability**
- Aesthetics

Ref:Pg#103

Serviceability refers to services after sale. Handling of complaints and/or requests for information

Question No: 15 (Marks: 1) - Please choose one

Who proposed the concept of “total quality control” in the mid-1950s?

- **Armand Feigenbaum**
- G.S Radford
- W. Shewhart
- David Gravin

Ref:

In the mid-1950s, Armand Feigenbaum proposed total quality control, which enlarged the realm of quality efforts from its primary focus in manufacturing to also include product design and incoming raw materials. One important feature of his work was greater involvement of upper management in quality.

Question No: 16 (Marks: 1) - Please choose one

Which of the following is a pair of service quality dimensions?

- **Reliability and Responsiveness**
- Uniqueness and Universality
- Specification and Security
- Reliability and Reputation

Ref:Pg#105

Dimensions of Service Quality:

Dimensions for Service Quality are more or less the same which we associate with the concept of Quality in General.

1. Reliability: Perform promised service dependably and accurately.
2. Responsiveness: Willingness to help customers promptly.
3. Assurance: Ability to convey trust and confidence.
4. Tangibles: Physical facilities and facilitating goods.
5. Empathy: Ability to be approachable.

Normally in such situations, R represents Reliability and Responsiveness, A represent Assurance, T represents Tangibles and E represents Empathy respectively.





Question No: 17 (Marks: 1) - Please choose one

Which of the following best describes the ISO?

- International Organization for Statements
- International Operations for Statements
- **International Organization for Standardization**
- International Operations for Statements

Question No: 18 (Marks: 1) - Please choose one

Which of the following stage of Deming's wheel involves evaluating the improvement plan?

- **Plan**
- Do
- Check/ study stage
- Act

page 116) PLAN

- Study & Document the existing process.
- Collect data to identify problems.
- Survey data and develop a plan for improvement.
- Specify measures for evaluating the plan

Question No: 19 (Marks: 1) - Please choose one

What would be the total cost of inventory, if a firm holds 1000 units of a product 'A', where the carrying cost is Rs. 5 per unit?

- Rs. 995
- **Rs. 5000**
- Rs. 1050
- Rs. 200

Total cost of inventory = total units * carrying cost per unit =
 $1000 * 5 = 5000$





Question No: 20 (Marks: 1) - Please choose one

The optimal order quantity shows a trade-off between which one of the following sets of costs?

- Carrying costs and shortage costs
- **Carrying costs and ordering costs**
- Carrying costs and stockout costs
- Carrying costs and setup costs

REFERECNE:

Optimal order quantity a point where carrying cost and ordering cost intersects. The determination of the optimal order quantity is based upon several model parameters including set-up cost, component part cost, and customer demand range, number of component parts per finished good, selling price and the variance and shape of the distribution of the component part quantity.

Question No: 21 (Marks: 1) - Please choose one

Which one of the following mathematical expressions can be employed to compute annual carrying cost?

- $(Q-2)H$
- $(Q+2)H$
- **$(Q\div 2)H$**
- $(Q\times 2)/H$

(page 145)

REFERECNE: Total cost = Annual carrying cost + Annual ordering cost
 $TC = (Q/2) H + (D / Q) S$

Question No: 22 (Marks: 1) - Please choose one

Which of the following is used to store information about the status of each item with respect to time period?

- Master schedule
- Bill of materials file
- **Inventory records file**
- Rough – cut capacity plan

REFERENCE: Pg#156

Inventory Records

One of the three primary inputs in MRP

Includes information on the status of each item by time period

Gross requirements

Scheduled receipts

Amount on hand

Lead times

Lot sizes

And more Assembly Time Chart





Question No: 23 (Marks: 1) - Please choose one

Which of the following compares the known and estimated future capacity requirements?

- Capacity reports
- Operations reports
- **Load reports**
- Inventory records

Ref:Pg#161

Load reports: Department or work center reports that compare known and expected future capacity requirements with projected capacity availability. An organization generates a Master Schedule in terms of what is needed and not in terms of what is possible or available.

Question No: 24 (Marks: 1) - Please choose one

Which of the following is the first step of Capacity planning?

- Initial feasibility report is prepared
- Master schedule is tested for feasibility
- Adjustments are made in master schedule before it finalizes
- **Material requirements are ascertained**

Ref:Pg#67

Steps for Capacity Planning Strategy

It is important to understand how to formulate a capacity planning strategy

1. Estimate future capacity requirements
2. Evaluate existing capacity
3. Identify alternatives
4. Conduct financial analysis
5. Assess key qualitative issues
6. Select one alternative
7. Implement alternative chosen
8. Monitor results

huzafaahmed.synthasite.com/resources/Module.../Capacity_Planning.pdf

Question No: 25 (Marks: 1) - Please choose one

Which of the following are the priorities emphasized most often in JIT system?

- **High quality and minimal wastage**
- Low cost and consistent quality
- Low inventory and consistent material supply
- Low cost and low inventory

Ref:Pg#164

JIT/Lean Production Features by eliminating waste (muda), quality is improved, production time is reduced and cost is reduced.





Question No: 26 (Marks: 1) - Please choose one

Just in Time system maintains inventory with which of the following lot size/sizes?

- **Small**
- Medium
- Large
- Can be small and medium both

Ref:Pg#164

Some of the distinguishing elements of the JIT systems are a pull method to manage material flow, consistently high quantity, small lot sizes, uniform work station loads.

Question No: 27 (Marks: 1) - Please choose one

Which of the following statements is TRUE about a Gantt chart?

- It represents an important event in the completion of a project
- It relates interdependent activities to their completion time
- It arranges events in order of importance
- **It is used to schedule independent activities**

(Page 181) Gantt chart - used as a visual aid for loading and scheduling

Ref:

Developed by Henry **Gantt** in 1916, a **Gantt chart** is **used** to determine the timing of individual **activities** in **a project**. A **Gantt chart** can be **used** to **schedule** a periodic or repetitive **project**, because the sequence of **activities** is well understood and past experience has determined how long each activity takes. Gantt chart is a type of bar-chart that is used to show the scheduled and completed work over a time period.

Question No: 28 (Marks: 1) - Please choose one

Network activities are used to determine all of the following EXCEPT:

- Critical path
- **Budgeted cost**
- Slack time
- Expected project duration

Ref:Pg#198

Used to determine

1. Expected project duration
2. Slack time
3. Critical path





Question No: 29 (Marks: 1) - Please choose one

With reference to Network activities, what does the term 'EF' stand for?

- Equal Finish
- Economic Finish
- **Early Finish**
- Easy Finish

Ref: Pg#198

Network activities

1. ES: early start
2. EF: early finish
3. LS: late start
4. LF: late finish

Question No: 30 (Marks: 1) - Please choose one

Which one of the following is NOT an element of a queuing system?

- Population source
- Waiting line
- Order processing
- **Logistics**

Ref:Pg#212

Elements of Queuing System

Population Source, Arrivals, Waiting Lines, Processing Order, Service, System and Exit are the common identifiable elements of a Queuing System.

Question No: 31 (Marks: 1) - Please choose one

Which one of the following refers to translating the voice of the customer into technical design requirements?

- Concurrent design
- Design for manufacture
- Robust design
- **Quality function deployment**

Question No: 32 (Marks: 1) - Please choose one

Which one of the following is the goal of work sampling?

- Studying Individual human motions that are used in a job task
- determining the length of time it will take to undertake a particular task
- **Determining the amount of time a worker spends on various activities**
- Specifying the content and methods to perform a job





Question No: 33 (Marks: 1) - Please choose one

Training program and quality audits come under which type of costs that an organization has to bear as cost of service quality?

- Internal failure cost
- Recovery cost
- **Prevention cost**
- Detection cost

Ref: Pg#109

Prevention costs

Quality planning,

Training program,

Quality audits,

Data acquisition and analysis,

Recruitment and selection,

Supplier evaluation

Question No: 34 (Marks: 1) - Please choose one

Which one of the following is the most important criteria in selecting winners for a quality award?

- Strong motivation
- **Quality management practices**
- Employee empowerment
- Business performance results

Question No: 35 (Marks: 1) - Please choose one

Which of the following is NOT a disadvantage of excessive overtime?

- Decline quality of work
- **Work schedules become well-defined**
- 150 percent expensive of the regular time-pay rate
- Low Productivity

Question No: 36 (Marks: 1) - Please choose one

A company mostly involved in transportation and shipping costs than construction and land costs is probably part of which of the following industries?

- Heavy manufacturing
- Retail and service
- **Warehouse and distribution**
- Light industry





Question No: 37 (Marks: 1) - Please choose one

A company is operating under a continuous review system. It has an average demand of 50 units per week for the item it produces. The lead time for the item is 6 weeks, and it costs the company \$30 to process each order. The holding cost for each unit is \$10 per year. The company operates 52 weeks per year. What is the economic order quantity (EOQ) for this item?

- Greater than 175 units but less than or equal to 200 units
- **Less than 175 units**
- Greater than 200 units but less than or equal to 230 units
- Greater than 230 units

REFERENCE: Pg#146

Annual demand = $50 * 52 = 2600$

Cost per order = 30

Holding cost = 10

QOPT = $\text{Square root } (2DS/H) = 2 * 2600 * 30 / 10 = 124.89$

Question No: 38 (Marks: 1) - Please choose one

Perpetual system of inventory management is also known as which of the following?

- First-in-first-out
- Probability model
- **Fixed-order quantity**
- Periodic review

Question No: 39 (Marks: 1) - Please choose one

If a manager wants to see the effect of change in Master Production Schedule (MPS) on purchasing requirements for certain suppliers, which of the following system would help in this regard?

- **Material Resource Planning system (MRP)**
- Enterprise Resource Planning system (ERP)
- Capacity Requirement Planning system (CRP)
- Manufacturing Resource Planning system (MRPII)

Ref:Pg#160

1. Material Requirements Planning (MRP) is software focusing on production planning and inventory control system used to manage manufacturing processes.
2. An MRP system is intended to simultaneously meet three objectives:
 1. Ensure materials and products are available for production and delivery to customers.
 2. Maintain the lowest possible level of inventory.
 3. Plan manufacturing activities, delivery schedules and purchasing activities.





Question No: 40 (Marks: 1) - Please choose one

If alpha = 0, how many containers are needed with the given data?

$$K = \frac{1500(0.8 + 0.2)(1 + 0)}{270}$$

270

- 6.5 Containers
- 7 Containers
- **6 Containers**
- 9 Containers

Ref:pg #168

Calculation: $1500(1)(1)/270 = 5.6$. After round off the value, it is 6 containers

Question No: 41 (Marks: 1) - Please choose one

Eliminating disruptions and excess inventory are _____ in Just-In- Time production systems.

- Tactical goals
- Strategic goals
- **Secondary goals**
- Primary goals

Ref:Pg#170

Secondary Goals

1. **Eliminate disruptions**
2. Make system flexible
3. Eliminate waste, especially **excess inventory**

Question No: 42 (Marks: 1) - Please choose one

In supply chain management Electronic Data Interchange (EDI) and Bar coding is a characteristic of which of the following?

- **Logistics**
- Technology
- Automation
- Just-In-Time System

Ref:Pg#175

Important Characteristics of Logistics

1. Movement within the facility
2. Bar coding
3. Incoming and outgoing shipments
4. EDI (Electronic Data Interchange)
5. Distribution
6. JIT Deliveries





Question No: 43 (Marks: 1) - Please choose one

In labor-limited environment, in which resource constraint is the amount of worker available, which of the following is the best option for effective scheduling in a manufacturing firm?

- Hire more skilled labor for the job to be completed
- **Workers should be trained to work on a variety of machines**
- Assign labor to the next workstation irrespective of their skills
- More machines should be installed for flexibility of operations

Reference:

1. you can not hire more skilled labor as market is short and its already pointed as constraint in the question.
2. When worker are not available, We have to trained our present work force in such a way that they can work on different machine when its required.
- 3rd can not be correct as without any proper training you can not move worker to handle the machine which might be fatal for the whole system.
- 4th. More machine is not going to solve the problem, as its the problem of labor shortage

Question No: 44 (Marks: 1) - Please choose one

Tasks are easily scheduled in which of the following production environments?

- Intermediate-volume-systems
- Low-to-medium volume production (Job shop)
- **Medium-to-high volume production (Flow shop)**
- Optimal production mixes

Question No: 45 (Marks: 1) - Please choose one

Which of the following is the necessary qualification for a project manager?

- **PMP certification**
- PMD certification
- FMA certification
- CMP certification

Ref:Pg#195

Project Manager is normally considered to have qualification such as PMP certification CFM, CFA and CFP certification





Question No: 46 (Marks: 1) - Please choose one

Queuing analysis aims to minimize which of the given costs?

- **Both customer waiting cost and service capacity cost**
- None of the given options
- Customer waiting cost
- Service capacity cost

(page 210) **Queuing theory: Mathematical approach to the analysis of waiting lines.**

1. Goal of queuing analysis is to minimize the sum of two costs Customer waiting costs Service capacity costs.

Question No: 47 (Marks: 1) - Please choose one

Which of the following is a cause of development of waiting lines?

- **Customer arrival rate varies through out the day**
- Time required to process a customer may vary
- Some transactions are complicated and require above average process time
- All of the given options

REFERENCE:

Average number of customers waiting

1. Average time customers wait
2. System utilization
3. Implied cost
4. Probability that an arrival will have to wait

Ref: Pg#218

Waiting lines have a tendency to form in even those systems which in a macro sense are under loaded or unloaded. The arrival of customers at random times and variability of service times combine to create temporary overloads. When this happens, waiting lines appear.

Question No: 48 (Marks: 1) - Please choose one

During the period of high unemployment or when low-skilled labor is acceptable, which of the following strategy would be cost effective?

- **Chase demand strategy**
- Level capacity strategy
- Proactive strategy
- Mixed or hybrid strategies

Chase Approach

This strategy would be cost effective during periods of high unemployment or when low-skilled labor is acceptable.





Question No: 49 (Marks: 3)

As an operations manager of a firm what significant issues you have to consider while implementing supply chain management?

Answer:

Supply Chain: The sequence of organization's facilities, functions, and activities that are involved in producing and delivering a product or service.

Issues in supply chain management implementation:

Logistics: Deciding how to best move and store materials

Location: Determining location of facilities

Suppliers: Monitoring supplier quality, delivery, and relations

Purchasing: Evaluating suppliers and supporting operations

Inventory: Meeting demand while managing inventory costs

Processing: Controlling quality, scheduling work

Design: Incorporating customer wants, mfg., and time

Forecasting: Predicting quantity and timing of demand

Customers: Determining what customers want

Question No: 50 (Marks: 3)

How would you reveal the importance of maintaining good relationship with suppliers in a JIT system?

Answer:

Just In Time:

JIT can be defined as an integrated set of activities designed to achieve high-volume production using minimal inventories (raw materials, work in process, and finished goods).

Importance of suppliers in JIT system:

Just In Time system provides an organization a robust structure by improving the relationship between the organization and the supplier by constituting a strategic alliance network between the organization and the suppliers.

Question No: 51 (Marks: 5)

As operations manager of a manufacturing firm, how can you judge the effectiveness of inventory management?

Answer:

Effectiveness of inventory management:

An Inventory Management System would be called Effective if it is able to fulfill the following requirements:

1. A system to keep track of inventory.
2. A reliable forecast of demand.
3. Knowledge of lead times.
4. Reasonable estimates of:
 - a. Holding costs
 - b. Ordering costs
 - c. Shortage costs
5. A classification system.





Question No: 52 (Marks: 5)

What is bullwhip effect? What are its consequences?

Answer:

Bullwhip:

An unmanaged supply chain is not inherently stable. Demand variability increases as one moves up the supply chain away from the retail customer, and small changes in consumer demand can result in large variations in order placed upstream. Eventually, the network can oscillate in very large swings as each organization in the supply chain seeks to solve the problem from its own perspective. This phenomenon is known as the Bullwhip effect.

Consequences of Bullwhip:

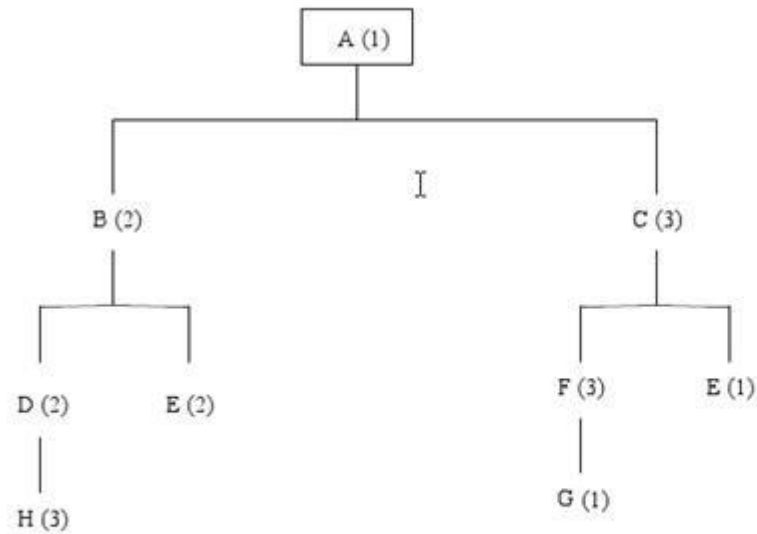
In addition to greater safety stocks, the described effect can lead to either inefficient production or excessive inventory as the producer needs to fulfill the demand of its predecessor in the supply chain. This also leads to a low utilization of the distribution channel. In spite of having safety stocks there is still the hazard of stock-outs which result in poor customer service. Furthermore, the Bullwhip effect leads to a row of financial costs. Next to the (financially) hard measurable consequences of poor customer services and the damage of public image and loyalty an organization has to cope with the ramifications of failed fulfillment which can lead to contract penalties. Moreover the hiring and dismissals of employees to manage the demand variability induce further costs due to training and possible pay-offs.

-





Question No: 53 (Marks: 5)



In the above bill of materials, if existing inventory =0, then how many units of G, E, F, H and B must be purchased to produce 4 units of A?

Solution :

- B 2Bs per A = 2
- E 2 Es per B \times 2 Bs per A = 4
- D 2Ds per B \times 2Bs per A = 4
- H 3Hs per D \times 2Ds per B \times 2Bs per A = 12
- C 3Cs per A = 3
- E 1E per C \times 3Cs per A = 3
- F 3F per C \times 3Cs per A = 9
- G 1G per F \times 3F per C \times 3Cs per A = 9

Now total all the B, C, D, E, F & Gs:

- B=2
- C=3
- D=4
- E=4+3=7
- F=9
- G=9
- H=12

In order to purchase 4 units of A the quantity of each component must be multiplied by 4:

- B=2 \times 4=8
- C=3 \times 4=12
- D=4 \times 4=16
- E=4+3=7 \times 4=28
- F=9 \times 4=36
- G=9 \times 4=36
- H=12 \times 4=48





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FINAL TERM EXAMINATION
SPRING 2010
MGT 613 - PRODUCTION
OPERATIONS MANAGEMENT
(SESSION 4)

Time: 120 min

M a r k s : 69

Question No: 1 (Marks: 1) - Please choose one

Within the operations function, which one of the following is a long-term management decision?

- Control decision
- Non-operational decision
- **Strategic decision**
- Tactical decision

**Strategic or institutional management* is the conduct of drafting, implementing and evaluating cross-functional decisions that will enable an organization to achieve its long-term objective*





Question No: 2 (Marks: 1) - Please choose one

Which one of the following forms of productivity is expressed as dollar value of output per kilowatt hour?

- Capital
- **Energy**
- Labor
- Machine

Ref:

Pg#19

Energy Productivity

Units of output per kilowatt-hour

Rupee value of output per kilowatt-hour

Question No: 3 (Marks: 1) - Please choose one

Which one of the following is an implication of laplace approach of decision making?

- The best of the worst possible payoff
- The best possible payoff
- **The best average payoff**
- The least of the worst regrets

Ref:Pg#27

Laplace , the best payoff of the average for each alternatives

- Determines the Average payoff for each alternative
- And chooses the alternative with the best average.
- This is a cautious approach
- Laplace approach treats the states of nature as equally likely.

Question No: 4 (Marks: 1) - Please choose one

Which one of the following is an outcome of Maximax?

- The best of the worst possible payoff
- **The best possible payoff**
- The best average payoff
- The least of the worst regrets

Ref:Pg#27

Maximax

- Maximax determines
- the best possible outcome
- Choose the Alternative with the best possible payoff.
- It does not take into account any other alternative then the best payoff.
- An optimistic approach.
- Go for it strategy.





Question No: 5 (Marks: 1) - Please choose one

Which one of the following forecasting techniques is used to identify a trend when data is neither growing nor declining rapidly and has no seasonal characteristics?

- **Simple moving average**
- Delphi method
- Trend adjusted forecast
- Naïve forecast

1. Simple Moving Average

The Simple Moving Average smooth past data by arithmetically averaging over a specified period and projecting forward in time. This is normally considered a smoothing algorithm and has poor forecasting results in most cases.

Question No: 6 (Marks: 1) - Please choose one

Which one of the following is a possible disadvantage of a moving average forecast?

- The method is unable to forecast the demand accurately
- The method is easy to compute and easy to understand
- **All the values in the average are weighted equally**
- The most recent values are given the more weighted

Ref: One disadvantage of using moving averages for forecasting is that in calculating the average all the observations are given equal weight.

Question No: 7 (Marks: 1) - Please choose one

Which of following statement is true about effective capacity?

- It is the actual output achieved
- It is always less then actual output
- It is the maximum output that a firm can produce
- **It is always less than designed capacity**

Question No: 8 (Marks: 1) - Please choose one

Which one of the following is the correct order of layout types from low volume/high variety to high volume/low variety?

- **Fixed position, process, cell, product**
- Fixed position, cell, process, product
- Fixed position, process, product, cell
- Process, fixed position, cell, product





Question No: 9 (Marks: 1) - Please choose one

Which one of the following designs resists modifications?

- **Frozen design**
- Product design
- Service design
- Robust design

Question No: 10 (Marks: 1) - Please choose one

Which one of the following is correct about the range of availability on a measuring index?

- 0.1 to 1.0
- **0 to 1.0**
- 0.5 to 1.0
- 0.01 to 1.0

Question No: 11 (Marks: 1) - Please choose one

Which one of the following operating levels is best with respect to capacity?

- The maximum point of the cost curve
- **The level of capacity for which average unit cost is minimized**
- The level of capacity for which average unit cost is maximized
- The level of capacity for which total cost is minimized

Question No: 12 (Marks: 1) - Please choose one

Which one of the following refers to a team having representatives from different functional areas of the organization?

- Traditional work group
- Self-directed team
- **Cross-functional team**
- Self motivated team

Ref:mgt502 pg#89

4. Cross-Functional Teams

These are teams made up of employees from about the same hierarchical level, but from different work areas, who come together to accomplish a task.





Question No: 13 (Marks: 1) - Please choose one

Who emphasized quality in terms of inspection and gauging?

- G.S. Radford
- W. Shewhart
- **F.W. Taylor**
- W.E. Deming

Ref: Pg#101

Frederick Winslow Taylor the father of scientific management brought back the concept of quality by incorporating product inspection as well as focusing on the importance of manufacturing management.

Question No: 14 (Marks: 1) - Please choose one

If you go to dine out at McDonalds and you observe a very cool and pleasant atmosphere over there. It depicts which of the following dimensions of quality?

- Performance
- **Aesthetics**
- Reliability
- Conformance

Ref:Pg#102

Aesthetics - appearance, feel, smell, taste

Question No: 15 (Marks: 1) - Please choose one

Which of the following is NOT true about TQM?

- **Focused on worker's activity rather than management**
- Meeting the needs and expectations of customers
- Inclusion of every person in the organization
- Covering all the functional areas of the organization

TQM has developed from 'traditional' approaches to quality, such as quality control, and has been the subject of evangelistic teachings by the 'quality gurus'. TQM is an approach to business which has had a significant influence on operations. This chapter discusses seven principles of TQM: meeting the needs and expectations of customers, covering all parts of the organisation, including every person in the organisation, examining all the costs related to quality, getting things 'right first time', developing systems and procedures and developing a continuous process of improvement.

Question No: 16 (Marks: 1) - Please choose one

Which of the following involves incremental changes within the organization whose cumulative effect is to deliver an increased rate of performance enhancement?

- **Continuous improvement**
- Competitive benchmarking
- Business process re-engineering
- Statistical process control





Question No: 17 (Marks: 1) - Please choose one

Which of the following terms reflects Japanese view of continuous improvement?

- **Kaizen**
- Poka-yoke
- Six sigma
- Inspection

Ref:Pg#16

4. Convert order winners into specific performance requirements

(Continuous improvement always helps and it is what the Japanese has perfected through KAIZEN)

Question No: 18 (Marks: 1) - Please choose one

Problem solving is an example of which of the following?

- Internal failure cost
- External failure cost
- **Prevention cost**
- Appraisal cost

Question No: 19 (Marks: 1) - Please choose one

Which of the following statement defines process analysis?

- It is collecting information, identifying each step and finding inputs and outputs of process
- It is collecting information about cost reduction and improving the defects
- **It relates to asking questions about process flow and identifying missing or duplicating activities**
- It relates with taking a fresh approach to solve an issue on hand

Question No: 20 (Marks: 1) - Please choose one

The well-known Deming wheel is also referred to as:

- Juran's cycle
- Crosby's cycle
- Ishikawa's cycle
- **Shewhart's cycle**

Ref:Pg#116

It is often referred to as 'the Shewhart Cycle'.

The PDSA Cycle (shewhart Cycle/Deming Wheel)





Question No: 21 (Marks: 1) - Please choose one

Which of the following refers to the upper limit on the percentage of defects that a customer is willing to accept?

- Acceptable Quality Level (AQL)
- **Lot Tolerance Percent Defective (LTPD)**
- Average Outgoing Quality (AOQ)
- Average Outgoing Quality Limit (AOQL)

Reference: Pg#130

Lot tolerance percent defective (LTPD): the upper limit on the percentage of defects that a consumer is willing to accept

Question No: 22 (Marks: 1) - Please choose one

Aggregate planning usually covers time span of how many months?

- **2 – 12 months**
- 2– 15 months
- 2 – 16 months
- 2 – 17 months

Ref:pg#133

Aggregate planning: Intermediate-range capacity planning, usually covering 2 to 12 months.

Question No: 23 (Marks: 1) - Please choose one

Identify the mathematical expression to determine the number of workers in a given period. Where a = Number of workers at the end of previous period, b = Number of new workers at the start of the period, c = Number of laid-off workers at the start of the period

- **a + b - c**
- a + b + c
- a - b + c
- a - b - c

Question No: 24 (Marks: 1) - Please choose one

What would be the total cost of inventory, if a firm holds 200 units of a product 'A', where the carrying cost is Rs. 2 per unit?

- Rs. 202
- Rs. 100
- Rs. 198
- **Rs. 400**





Question No: 25 (Marks: 1) - Please choose one

Which of the following time fences in a Master Production Schedule (MPS) allows many variations in products with multiple changes?

- Fixed time fence
- Moderately firm time fence
- Frozen time fence
- **Flexible time fence**

Question No: 26 (Marks: 1) - Please choose one

Which of the following mathematical expressions can be employed to compute inventory cost?

- Carrying cost per unit + average inventory cost
- **Carrying cost per unit × average inventory cost**
- Carrying cost per unit ÷ average inventory cost
- Carrying cost per unit – average inventory cost

Ref:Pg#137

Inventory = Carrying Cost per Unit X Average Inventory

Question No: 27 (Marks: 1) - Please choose one

The cost of a particular plan for a given period can be computed by using which one of the following expressions?

- Output cost + hire/layoff cost + inventory cost – backorder cost
- **Output cost + hire/layoff cost + inventory cost + backorder cost**
- Output cost - hire/layoff cost + inventory cost + backorder cost
- Output cost + hire/layoff cost - inventory cost + backorder cost

Ref:Pg#137

Average Inventory

Aggregate Planning Relationships

•Cost for a (current) period equals Output Cost (Regular +OT+ Subcontract) + Hire/Layoff Cost+ Inventory Cost + Backorder Cost

Question No: 28 (Marks: 1) - Please choose one

Which of the following is the costs of carrying an item in inventory for a specific period of time?

- Ordering cost
- **Holding cost**
- Shortage cost
- Stock out cost





Question No: 29 (Marks: 1) - Please choose one

Which one of the following mathematical expressions can be employed to compute annual carrying cost?

- $(Q-2)H$
- $(Q+2)H$
- **$(Q/2)H$**
- $(Q \times 2)/H$

REFERECNE:

Total cost = Annual carrying cost + Annual ordering cost

$$TC = (Q/2) H + (D / Q) S$$

Question No: 30 (Marks: 1) - Please choose one

In which of the following systems an item's inventory is stored at two different locations?

- Optional replenishment system
- Base stock system
- **Two bin system**
- Universal bar code system method

Question No: 31 (Marks: 1) - Please choose one

Which of the following is known as a visual representation of the requirements in a bill of materials having all the components listed in levels?

- Master production schedule
- Material requirements planning
- **Product structure tree**
- Inventory status record

Ref: Pg#157

Product structure tree: Visual depiction of the requirements in a bill of materials, where all components are listed by levels.

Question No: 32 (Marks: 1) - Please choose one

Which of the following refers to the quantity expected to be received by the beginning of the period in which it is shown?

- Gross requirements
- Net requirements
- **Planned-order receipts**
- Planned-order releases

Ref:Pg#160

5. Planned-order receipts

- a. Quantity expected to be received at the beginning of the period.
- b. Offset by lead time.





Question No: 33 (Marks: 1) - Please choose one

ERP stands for which of the following?

- **Enterprise Resource Planning**
- Enterprise Requirements Planning
- Equal Resource Planning
- Equal Requirements Planning

Ref: Pg#161

Enterprise resource planning (ERP):

Question No: 34 (Marks: 1) - Please choose one

Which kind of production system is undertaken by JIT (Just In Time) production?

- Intermittent processing
- Job shop processing
- **Repetitive processing**
- Batch processing

Ref: Pg#78

Repetitive Processing. A production system that renders one or a few highly standardized products or services.

1. Automobiles, televisions, computers ,calculators, cameras and video equipments

Question No: 35 (Marks: 1) - Please choose one

Which of the following refers to a card or device that communicates demand for work or materials from the preceding station?

- **Kanban**
- Kaizen
- Inventory file
- Master schedule

Ref:Pg#167

Kanban: Card or other device that communicates demand for work or materials from the preceding station.

Question No: 36 (Marks: 1) - Please choose one

DRP stands for which of the following?

- Demand Requirements Planning
- **Distribution Requirement Planning**
- Dividend Requirements Planning
- Data Resource Planning

Ref:PG#175

Distribution requirements planning (DRP) is a system for inventory management and distribution planning. Extends the concepts of MRPII.





Question No: 37 (Marks: 1) - Please choose one

Which one of the following is a condition for a successful supply chain?

- A large number of suppliers
- Many short-term contracts
- **Trust among trading partners**
- Continuous competitive bidding

Ref:Pg#176

Successful Supply Chain

1. Trust among trading partners
2. Effective communications
3. Supply chain visibility
4. Event-management capability
 - a. The ability to detect and respond to unplanned events
5. Performance metrics

Question No: 38 (Marks: 1) - Please choose one

Which of the following refers to the length of time, a job is in the shop at a particular workstation?

- Slack time
- Lead time
- **Job flow time**
- Make-span

Ref:Pg#185

Job Flow Time: The length of time a job is in the shop at a particular workstation or work center

Question No: 39 (Marks: 1) - Please choose one

Which one of the following is focused to reduce the incidence of failures in the plant or equipment to avoid the associated costs?

- Reactive maintenance
- Total productive maintenance
- **Preventive maintenance**
- Predictive maintenance

Ref:Pg#190

Preventive maintenance: goal is to reduce the incidence of breakdowns or failures in the plant or equipment to avoid the associated costs

Question No: 40 (Marks: 1) - Please choose one

Successful project management includes all of the following factors EXCEPT:

- **Interchangeable staff**
- Competent team members
- Responsiveness to clients
- Control mechanisms





Question No: 41 (Marks: 1) - Please choose one

Which of the following relates to delegation of responsibility to an organizational department for a project?

- Project structure
- Functional structure
- **Balanced matrix structure**
- Project matrix structure

Ref:

In a balanced matrix, the authorities and responsibilities of a project are equally shared by the project manager and the functional managers.

Question No: 42 (Marks: 1) - Please choose one

Which of the following refers to the longest path taken for the project to complete?

- Sensitive path
- Coverage path
- **Critical path**
- Permanent path

Ref:Pg#194

Critical path: The longest path; determines expected project duration

