

FINAL TERM EXAMINATION

Spring 2010

MGT613- Production / Operations Management

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Time: 120 min

MGT613 - Production / Operations Management - Question No: 1 (M - 1)

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 objectives.

MGT613 - Production / Operations Management - Question No: 2 (M - 1)

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

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

Energy productivity: units of the output per kilowatt hour.
Rupee value of output per kilowatt hour.

MGT613 - Production / Operations Management - Question No: 3 (M - 1)

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

LAPLACE: Determines the Average payoff for each alternative

MGT613 - Production / Operations Management - Question No: 4 (M - 1)

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

Maximax determines the best possible outcome.

MGT613 - Production / Operations Management - Question No: 5 (M - 1)

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

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.

MGT613 - Production / Operations Management - Question No: 6

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

MGT613 - Production / Operations Management - Question No: 7

Which of following statement is true about effective capacity?

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

Effective capacity: Actual maximum load or demand a device or system can carry or meet.

MGT613 - Production / Operations Management - Question No: 8 (M - 1)

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

MGT613 - Production / Operations Management - Question No: 9 (M - 1)

Which one of the following designs resists modifications?

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

MGT613 - Production / Operations Management - Question No: 10 (M - 1)

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

MGT613 - Production / Operations Management - Question No: 11 (M - 1)

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

MGT613 - Production / Operations Management - Question No: 12 (M - 1)

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

Cross-Functional Team: A team consisting of representatives from the various functions involved in product development.

MGT613 - Production / Operations Management - Question No: 13 (M - 1)

Who emphasized quality in terms of inspection and gauging?

► G.S. Radford

► W. Shewhart

► **F.W. Taylor**

► W.E. Deming

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

MGT613 - Production / Operations Management - Question No: 14 (M - 1)

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

Dimensions of Quality: Aesthetics - appearance, feel, smell, taste

MGT613 - Production / Operations Management - Question No: 15 (M - 1)

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

MGT613 - Production / Operations Management - Question No: 16 (M - 1)

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

A continuous improvement process (CIP or CI) is an ongoing effort to improve products, services, or processes. These efforts can seek "incremental" improvement over time.

MGT613 - Production / Operations Management - Question No: 17 (M - 1)

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

▶ Kaizen

- ▶ Poka-yoke
- ▶ Six sigma
- ▶ Inspection

Kaizen: A Japanese word for continuous improvement.

MGT613 - Production / Operations Management - Question No: 18 (M - 1)

Problem solving is an example of which of the following?

▶ Internal failure cost

- ▶ External failure cost
- ▶ Prevention cost
- ▶ Appraisal cost

Internal Failure Costs are the Costs incurred to fix problems that are detected before the product/service is delivered to the customer.

MGT613 - Production / Operations Management - Question No: 19 (M - 1)

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 MGT613 - Production / Operations Management - Questions about process flow and identifying missing or duplicating activities

- ▶ It relates with taking a fresh approach to solve an issue on hand

Analyze the process: Ask MGT613 - Production / Operations Management - Questions about the process including process flow being logical, any activities or steps being missing or identification of duplication activities.

MGT613 - Production / Operations Management - Question No: 20 (M - 1)

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

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

Deming Wheel PDCA used to represent the four steps for quality improvement: Plan-Do-Check-Act. The concept of the PDCA Cycle was first introduced by Walter Shewhart, who also developed statistical process. It is often referred to as 'the Shewhart Cycle'.

MGT613 - Production / Operations Management - Question No: 21 (M - 1)

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)

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

MGT613 - Production / Operations Management - Question No: 22 (M - 1)

Aggregate planning usually covers time span of how many months?

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

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

MGT613 - Production / Operations Management - Question No: 23 (M - 1)

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

- ▶ **$a + b - c$**
- ▶ $a + b + c$
- ▶ $a - b + c$
- ▶ $a - b - c$

Number of workers in a period = Number of Workers at the end of the previous period + Number of new Workers at the start of the current period - Number of laid off Workers at the start of the current period.

MGT613 - Production / Operations Management - Question No: 24 (M - 1)

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**

Total cost=holding units×cost per unit
 $200 \times 2 = 400$

MGT613 - Production / Operations Management - Question No: 25 (M - 1)

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**

Master Production Schedules are often divided into 4 stages or phases. The dividing lines between phases are sometimes referred to as time fences.

MGT613 - Production / Operations Management - Question No: 26 (M - 1)

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

$\text{Inventory} = \text{Carrying Cost per Unit} \times \text{Average Inventory}$

MGT613 - Production / Operations Management - Question No: 27 (M - 1)

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

$\text{Cost for a (current) period} = \text{Output Cost (Regular + OT + Subcontract)} + \text{Hire/Layoff Cost} + \text{Inventory Cost} + \text{Backorder Cost}$

MGT613 - Production / Operations Management - Question No: 28 (M - 1)

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

Holding (carrying) costs: Cost to carry an item in inventory for a length of time, usually a year.

MGT613 - Production / Operations Management - Question No: 29 (M - 1)

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

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

Annual carrying cost = average inventory $\times$ cost of holding

Average inventory = $Q/2$

MGT613 - Production / Operations Management - Question No: 30 (M - 1)

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

Two bin system: Two containers of the inventory: reorder when the first is empty.

MGT613 - Production / Operations Management - Question No: 31 (M - 1)

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

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

MGT613 - Production / Operations Management - Question No: 32 (M - 1)

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

Planned-order receipts: The quantity expected to be received by the beginning of the period in which it is shown.

MGT613 - Production / Operations Management - Question No: 33 (M - 1)

ERP stands for which of the following?

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

- ▶ Equal Requirements Planning

Enterprise resource planning (ERP).

MGT613 - Production / Operations Management - Question No: 34 (M - 1)

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

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

JIN manufacturing was generally understood to apply to repetitive production processes.

MGT613 - Production / Operations Management - Question No: 35 (M - 1)

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

Kanban: a card or device that communicates demand for work or materials from the preceding station.

MGT613 - Production / Operations Management - Question No: 36 (M - 1)

DRP stands for which of the following?

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

Distribution requirement planning (DRP) is a system for inventory management and distribution planning.

MGT613 - Production / Operations Management - Question No: 37 (M - 1)

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

Trust among partners is essential for a win-win relationship. But successful supply chain managers realize the need to invest time and ... sustainable win-win relationships among trading partners

MGT613 - Production / Operations Management - Question No: 38 (M - 1)

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

The flow time of an order (a job) in a system is the difference between the release time of the job into the system and the departure time of the job from the system.

MGT613 - Production / Operations Management - Question No: 39 (M - 1)

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

Preventive maintenance is the prevention of equipment breakdowns before they happen.

MGT613 - Production / Operations Management - Question No: 40 (M - 1)

Successful project management includes all of the following factors EXCEPT:

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

MGT613 - Production / Operations Management - Question No: 41 (M - 1)

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

MGT613 - Production / Operations Management - Question No: 42 (M - 1)

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

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

Critical path: The longest path; determines expected project duration.

MGT613 - Production / Operations Management - Question No: 43 (M - 3)

Being the head of a quality control team of ABC company, what considerations would you take into account for using control charts?

Answer:

Control Charts is a time ordered plot of sample statistics. It is used to distinguish between random variability and non random variability.

Use of c-Charts:

- Use only when the number of occurrences per unit of measure can be counted; non-occurrences cannot be counted.
- Scratches, chips, dents, or errors per item
- Cracks or faults per unit of distance
- Breaks or Tears per unit of area
- Bacteria or pollutants per unit of volume
- Calls, complaints, failures per unit of time