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FINAL TERM EXAMINATION

Spring 2011

MGT613- Production / Operations Management (Session - 4)

Time: 90 min

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

Ref: Crashing a project involves paying more money to complete a project more quickly.

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

Reference

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

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Ref: Lean Manufacturing: is a management philosophy focusing on reduction of the seven wastes. By eliminating waste (muda), quality is improved, production time is reduced and cost is reduced.

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

Question No: 5 vuzs (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

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

$$= \frac{300}{300+2}$$
$$= \mathbf{0.993}$$

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

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▶ **16.66 units per hr**

▶ 6.766 units per hr

▶ 60.66 units per hr

Calculation: $\text{Productivity} = 50/3$
 $=16.66$

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

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

Which one the following is an assumption of center 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

Reference

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

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

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?

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- ▶ 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**

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**

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)

Question No: 17 (Marks: 1) vuzs - 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

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

Which one of the following location strategies is favored 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: Master schedule: Determines quantities needed to meet demand.(Page 139)

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?

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

Ref: *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.(Page no.157)(vuZs)

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: Load reports: Department or work center reports that compare known and expected future capacity requirements with projected capacity availability.(Page no.161)

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 reports**

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

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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) vuzs - Please choose one

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

- ▶ Sequencing
- ▶ **Loading**
- ▶ Scheduling
- ▶ Budgeting

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**

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

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

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► Quality-based strategies

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: *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.(Page no.37)

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: 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.(Page no.55)

Question No: 30 vuzs (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

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

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All of the above options are correct. All of above having experience of six sigma. I am confused about this question.

Ref: Six Sigma Teams are formed for implement of Six Sigma in true spirit keeping in mind both managerial as well as technical aspects.

1. Top management
2. Program champions
3. Master "black belts"
4. "Black belts"
5. "Green belts"

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

Ref: The curve shows the probability that use of the sampling plan will result in lots with various fractions defective being accepted.(Page no.130)

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

Ref: A released order not yet shipped (customer order) or received into stock (production, purchase or replenishment order). OR Scheduled receipts: Open orders scheduled to arrive.

Question No: 35 vuzs (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

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► Gross requirement

Reference

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 (not sure)**
- 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

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

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: Event-management capability

The ability to detect and respond to unplanned events.(Page no.176)

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

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

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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 may result in jobs being completed earlier than 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

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: Slack: Allowable slippage for path; the difference the length of path and the length of critical path.(Page no.194)

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

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Ref: A deterministic approach is useful for estimating the duration of the project, when activity times can be fairly well established.(Page no.209)

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

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

▶ **Dividing and analyzing 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

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: The operations manager should know all four demand options but should be more interested in back order option.(Page no.135)

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

Note: Solution is provided by vuzs Team.

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