

Quality Management Sessional (IPE 314)

Submission 02

Deadline: 03 Sep, 2018

Answer any 50 questions

Explain why you choose the answer in short for each answer.

1.) Which aspect of business is affected the most by implementing JIT

- a. Tool maintenance
- b. Manpower requirement
- c. Inventory
- d. Sales

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2.) Which performance measure is suitable for evaluating the tangible effects of a six sigma project?

- a. Unsolicited compliments from customers
- b. Cycle time
- c. Employee morale
- d. Team member absentee rate

3.)

Compute count of operators required for an process, given takt time = 60 seconds and has four operations with needing 55 seconds, 75 seconds, 86 seconds and 95 seconds

- a. 6.0
- b. 3.0
- c. 4.0
- d. 5.0

☐

4.)

Monitoring of the six sigma meetings and taking the minutes for a team working, is done by

- a. team leader
- b. time keeper & scribe
- c. team champion
- d. team facilitator

5.) What will be the maximum output per hour from a process with four steps having outputs of 20 units/hr, 25 units/hr, 30 units/hr and 15 units/hr?

- a. 20 units/hr
- b. 15 units/hr
- c. 30 units/hr
- d. 25 units/hr

6.) How does the VOC information be gathered ?

- a. Employee suggestion
- b. Six sigma reading
- c. Direct or indirect interview
- d. Control chart

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7.) A current state in value stream map, can be checked by

- a. Ask top management how product flows
- b. Ask shop floor personnel how product flows
- c. Follow the value stream on the shop floor
- d. The "team" checks the map

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8.) Which

of the following is not a typical inspection point

- a. Upon receipt of goods from supplier
- b. Before the product is shipped to the customer
- c. After a costly process
- d. During the production process

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9.) Kaizen is a Japanese term meaning

- a. Just-in-time (JIT)
- b. Continuous improvement
- c. A fullproof mechanism
- d. A fishbone diagram

?

10.) Which activity adds value?

- a. Storage
- b. Inspection
- c. Setup
- d. Process

11.) Compute PPM (Parts per million) if 50 kilograms of product is found to be with .12 grams of insect parts

- a. 0.24
- b. 2.4
- c. None of these
- d. 12.0

?

12.) What type of analysis approach does FMEA applies

- a. Heuristic
- b. Divide and conquer
- c. Bottom up
- d. Top-down

?

13.) What is the performance factor of a workstation under 8 hour shift with 20 minute cleaning and two 30 minute break and no unplanned downtime, cycle time is 1second and 18000 items are produced ?

- a. 0.5
- b. 0.75
- c. 0.25
- d. 1.0

14.)

With 300 minutes of working time and 30 minutes of cycle time, calculate the total products which can be produced

- a. 0.1
- b. 10.0
- c. 9000.0
- d. Insufficient data provided

?

15.)

What graphically represents a process by symbols like circle, diamond and rectangle

- a. Pareto diagram
- b. Process map
- c. Why-why
- d. Schematic

?

16.)

What is similar to PDCA approach of continuous improvement

- a. Balanced Scorecard

?

- b. Deming cycle

c.

Kanban

- d. Juran trilogy

?

17.)

Total Quality Management emphasizes

- a. The responsibility of the quality control staff to identify and solve all quality-related problems
- b. A system where strong managers are the only decision makers
- c. A process where mostly statisticians get involved
- d. A commitment to quality that goes beyond internal company issues to suppliers and customers

?

18.) six

sigma was introduced by

- a.

Motorola

- b. IBM
- c. Du Pont
- d. Microsoft

2

19.)

supplier partnership under six sigma requires

- a. The price-only approach to buyer-supplier negotiations should be eliminated
- b. The quality of supplier products should be guaranteed by the supplier's quality processes
- c. All of these
- d. Supplier personnel should meet with buyer personnel beyond those in the purchasing office

2

20.) If

2 variables are linearly related as $y=2x$, the coefficient of correlation,

is

- a. 1.0
- b. Both 1 and Strong positive
- c. Insufficient data
- d. Strong positive

2

21.) The

utility of control limit, is

- a. None of these
- b. Indicate whether the product is in tolerance or not
- c. Indicate whether a process is in control or not
- d. Indicate whether the product is in specification or not

2

22.)

Kaizen implementation involves which metric

- a. Cycle time

2

b.

Turnaround time

c. Takt

time

d. Average count of defective part

2

23.)

Compute maximum output per hour for a four step process having output as 20 units/hr, 25 units/hr, 30 units/hr and 15 units/hr

- a. 15 units/hr
- b. 25 units/hr
- c. 20 units/hr
- d. 30 units/hr

2

24.)

What is not considered as inspection point

- a. Before the product is shipped to the customer

b.

Upon receipt of goods from supplier

c. During the production process

d. After a costly process

2

25.) The

process improvement technique that sorts the "vital few" from the "trivial many" is

a.

Yamaguchi analysis

b.

Benchmarking

c. Pareto

analysis

d. Taguchi

analysis

2

26.) Who

was the founder of the control chart ?

a. Philp

Crosby

b. Joseph

Juran

c. W

Edwards Deming

d. Walter A.

Shewhart

2

27.)

What does dispersion refers to

a.

Variability

b.

Spread

c.

Location of mean

d. None of

these

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28.)

Measurement of performance, under six sigma includes

a. Average and Variation computation

b. None of

these

☐

c.

Variation computation

d.

Average computation

☐

29.)

Compute takt time for production, if 50 pairs need to be sold in 500 days

a.

10.0

b.

0.1

c.

100.0

d.

1.0

☐

30.)

What can be inferred for a process, having the mean of the measurements being outside the control limits

a. Monitored closely to see if the

next sample mean will also fall outside the control limits

b. Out of control and the process

should be investigated for assignable variation

c. Within the established control

limits with only natural causes of variation

d. In control, but not capable of

producing within the established control limits

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31.)

What is the goal of six sigma

a. All of

these

b.

shorten the cycle time

c. Reduce

variation

d.

minimize defects

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32.)

What is not part of successful TQM program

a.

Employment involvement

b.

Benchmarking

c. Centralized decision making

authority

d.

Continuous improvement

☐

33.)

What does control limit is used for

a. Indicate whether the product is in tolerance or

not

b. Indicate whether a process is in

control or not

c. Indicate whether the product is in

specification or

not

d. None of

these

☐

34.)

What is another name for fishbone diagram

a. Cause-and-effect diagram

b. Taguchi

diagram

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c.

Poka-yoke diagram

d. Kaizen

diagram

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35.)

What does the character D expands to, in the term DMAIC, under quality management

a.

Define

b.

Definite

c.

Describe

d.

Definition

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36.)

What does inspection achieves

- a. Detect a bad process immediately
- b. Correct system deficiencies
- c. Add value to a product or service
- d. Correct deficiencies in products

?

37.) If

given - mean = 2, standard deviation = 1 and

USL(upper specification limit) =

4, compute the six sigma level

a.

Insufficient data

b.

1.0

c. 2.0

d.

1.5

?

38.)

statistical significance can not be measured

by

a.

Chi-square

b. None of these

c.

DOE

d.

ANOVA

?

39.)

Which of the following chart shows planned work and finished work in relation to time

a.

Gantt

b.

Mean

c.

Range

d.

Control

?

40.)

Among the tools of TQM, the tool ordinarily used to aid in understanding the sequence of events through which a product travels is a

a. Flow

chart

b. Check

sheet

c. Taguchi

map

d. Pareto

chart

?

?

41.)

What is the utility of applying Six Sigma

a. Reducing process variability

b. All of these

c. Increasing customer satisfaction

d.

Lowering Defects

?

42.)

What will be the coefficient of correlation for two variables linearly related as $y=2x$

a.

Insufficient data

b. strong positive,

1.0

c. 1.0

d. Strong

positive

43.) JIT

affects which department or process of an organization

a. Tool

maintenance

b. Inventory

c.

Sales

d.

Manpower requirement

?

44.)

What is the first activity to undertake for an six sigma project in an organization

a. Help process achieve its

metrics by executing process improvement projects

b. Develop a vision and mission

for the organization and execute a Six Sigma

Deployment plan in the

organization

c. Identify areas of best

practices and guide green belts to execute them

d. Perform statistical analysis in

the process and identify root causes

?

45.)

control chart were developed by

a. Philp

Crosby

b. Joseph

Juran

- c. W Edwards Deming
- d. Walter A. Shewhart

?

46.)

Poka-yoke is the Japanese term for

- a. Fishbone diagram
- b. Continuous improvement
- c. Foolproof
- d. Just-in-time production

?

?

47.)

Which six sigma level does the 233 DPMO signifies ?

- a. Two
- b. Four
- c. Three
- d. Five

?

48.)

Compute takt time if 9 orders are to be finished in 780 minutes

- a. 85.0
- b. 87.0
- c. 80.0
- d. 88.0

?

49.) The

probability of selecting a card that is both a king and a diamond from 52 cards, is

- a. 0.71
- b. 0.3269
- c. 0.3077
- d. 0.9473

?

50.) The

philosophy of zero defects is

- a. Consistent with the commitment to continuous improvement

- b. Unrealistic

c.

Prohibitively costly

d. An ultimate goal; in practice, 1 to 2% defects is acceptable

?

51.)

Customer perspective of quality, is

- a. A manufacturing-based definition of quality
- b. A product-based definition of quality
- c. An unrealistic definition of quality
- d. A user-based definition of quality

?

52.)

What does DFMEA focus on

- a. Delegation process
- b. Derivation process
- c. Development process
- d. Design process

?

53.) A

successful TQM program incorporates all of the following except

?

- a. Continuous improvement
- b. Benchmarking
- c. Employment involvement
- d. Centralized decision making authority

?

54.) If

cycle time is 1second and 18000 items are produced, what will be the performance factor for a 8 hour shift with 20 minute cleaning and two 30 minute break and no unplanned downtime

- a. 0.75
- b. 0.25
- c. 1.0

d.
0.5

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55.) What is the first step in Implementing SPC

- a. Initiate Data Collection
- b. SPC Charting
- c. Qualify the Measurement System
- d. Determine Measurement Method

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56.) Which Japanese term, is the real place of value addition

- a. Gembutsu
- b. Kaizen
- c. Seri
- d. Gemba

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57.) Which Japanese word means some unconformable physical or tangible things like out of order equipment or scrap which can be felt

- a. Kaizen
- b. Gembutsu
- c. Seri
- d. Gemba

58.) Six sigma achieves

- a. minimize defects
- b. shorten the cycle time
- c. Reduce variation
- d. customer need

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59.) Compute count of operators required for an process, given takt time = 11 minutes and cycle time = 40 minutes

- a. 4.6
- b. 4.0
- c.

3.0

d.

3.6

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60.)

When a sample measurement falls inside the control limits, it means that

- a. The process limits cannot be determined statistically
- b. Each unit manufactured is good enough to sell
- c. The process output exceeds the requirements
- d. If there is no other pattern in the samples, the process is in control

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