Quality Management Sessional (IPE 314)
Submission 02
Deadline: 03 Sep, 2018
Answer sheet
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

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

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

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

9.)
Kaizen is a Japanese term meaning
a.
Just-in-time (JIT)
b. Continuous improvement
c. A
foolproof 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
triology

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

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

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

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

22.)
Kaizen implementation involves which metric
a. Cycle time

b.
Turnaround time
c. Takt time
d. Average count of defective part

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

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

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

26.) Who
was the founder of the control chart ?
a. Philp Crosby
b. Joseph Juran
c. W Edwards Deming
d. Walter A. Shewhart

27.)
What does dispersion refers to

a.
Variability
b.
Spread
c.
Location of mean
d. None of
these

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

31.)
What is the goal of six sigma
a. All of
these
b.
shorten the cycle time
c. Reduce
variation
d.
minimize defects

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

c.
Poka-yoke diagram
d. Kaizen
diagram

35.)
What does the character D expands to, in the term DMAIC, under quality management
a.
Define
b.
Definite
c.
Describe
d.
Definition

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

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

56.)
Which Japanese term, is the real place of value addition
a.
Gembutsu
b.
Kaizen
c.
Seri
d. Gemba

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

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

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