

Menoufia University
Faculty of Engineering,
Civil Eng. Department
Final Examination, 2020-2021
Date of Exam 18 / 8 / 2020



Subject: Construction project
management
Code: CVE-755
Year : PHD (Level 700)
Time Allowed : 3 hours
Total Marks : 100 marks

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- Systematic arrangement of calculations, neat drawings and clear answers are essential.
 - Any data not given can be reasonably assumed. The exam consists of five questions.
- All of them must be answered. All dimensions in meter.
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(Only Course Notes are allowed)

CHOOSE or circle the correct answer

1-A fundamental attribute of TQM is

- Drawing control charts
- Having team meetings
- Top management's direct involvement
- Meeting ISO 9000 audit
- All of the above

2-Drawing control charts requires

- Calculation of statistics from data
- Adjusting the machines
- Teamwork training of workers
- Top management involvement
- Meetings with suppliers

3-Inspection assures that

- The process is in control
- Workers are motivated
- Product meets specification
- Quality problems are solved

- Supplier quality is acceptable

4-A control chart displays

- Whether workers are motivated
- Top management takes interest in quality
- Inspectors are doing their job
- Process variability
- Process capability

5-Process capability =1 indicates that

- Suppliers can be trusted
- Workers are motivated
- Process is in control
- There are no random variations
- Some fraction of production is outside specs

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6-SPC helps determine

- If assignable causes are disturbing the process
- If vendor performance is falling
- If customers are happy
- If customers are motivated
- If top management is involved

7-Vision states

- Where the workers want to go after work
- Whether we should use SPC
- Whether we should use inspection
- Where the company wants to be in the long run
- That customers are the boss

8-Quality is wanting generally because

- Workers lack team spirit
- No competition exists
- People don't know

9-DOE identifies

- Causes of delayed shipments
- Factors that affect the output
- Traffic congestion points
- Control limits
- Why meetings are not running smoothly

10-Interaction implies

- Effect of one factor depends on where some other factor is set

- Managers moving about
- Team meetings
- Xbar and R charts looking similar
- Teamwork

11-Weather variation is difficult to explain because

- Atmosphere is too large a system
- We cannot plot temperature on Xbar charts
- Don't understand the process behind it
- Experts have not taken trouble to explain weather

12-The case of waiting too long at the elevator is

- A well-structured problem
- A candidate for control charts
- Indication of timely arrival at work
- Ignoring external customers
- None of the above

13-The difference between manufacturing and service is

- Nonexistent
- Products cannot be inventoried
- Service can't be backordered
- Production is instantaneous
- Service is consumed as Produced

14-Service quality cannot be managed

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when

- No vendors are involved
- Customer expectations are not known
- Workers don't meet regularly with management
- Consultants are not consulted
- Histogram cannot be drawn

15-Accuracy can be improved by

- Use of Xbar charts
- Team meetings
- TQM principles
- Management talking to workers
- Customer visits

16-Design of Experiments implies

- Good instruments used in the lab
- Team meetings in product trials
- A method to find factor effects
- Aesthetic quality of products
- Careful recording of data

17-Cause-effect diagram is used in

- Problem identification
- Field visits
- Vendor surveys
- Problem analysis
- Negotiating with unions

18-Cost of quality is really

- A way to prioritize actions
- Cost of production
- Cost of sales

- Cost of high-quality products
- An accounting jargon

19-The Baldrige Award is

- A ISO 9000 requirement
- An indication of SPC being used
- Indication of no competition
- Indication that TQM programs are effective
- All of the above

20-TQM does not imply

- Strong external customer orientation
- Partnership with vendors
- Meticulously re-stocking defective products
- Training
- Team meetings

21-Precision in production means

- Workers are well-trained
- Hi-tech equipment is used
- Instruments are kept clean
- Parts produced have little or no variation
- Shop uses control charts

22-Accuracy implies

- We know customer targets
- Computerized machines
- Average performance is on target
- All products are of same size

23-Six sigma is

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- Latest Japanese Quality Theory
- A BMW
- $C_{pk} = 2.0$

24-The American model for TQM is

- ISO 9000
- ISO 14000
- The Baldrige Award criteria
- Use of control charts
- Use of quality circles in the shop

25-Six Sigma implies

- A statistical method
- A trouble-shooting method
- Teams are effective
- 3 defects per million in output
- All above

26-A service cannot be

- Stored
- Inspected
- Targeted
- Appraised
- Flowcharted

27-SPC implies

- Statistical process control
- Use of control charts
- Fixing assignable causes
- Sometimes leaving the process alone
- All above

28-A Stable Process has

- No defects in output
- 3 ppm output
- Good control on vendors
- Motivated workers
- No variation with time in Output

29-Fishbone diagrams are drawn

- To find customer needs
- To find the cost of quality
- To brainstorm causes of an effect
- To screen workers' suggestions
- To explain what the process does

30-Process Flow Charts help explain

- Process steps and their relationship
- Cost of quality
- A clause in ISO 9000
- Customer complaints
- Assignable causes

31-Quality control does not apply to

- Drawing flow charts
- Drawing control charts
- Driving
- Idea generation
- PTA meetings

32-Strategy implies

- What level of quality the customers want
- What the company has to do to reach its vision
- How competitive we are

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- Practices on the shop floor
- Workers can talk to management

33-QFD is the way to

- Fix typing errors
- Fix sampling plans
- Conduct quality circle meetings
- Develop product specs

34-A key reason for lost productivity is

- Not implementing TQM
- Mgmt. not listening to workers
- The hidden factory

35-Most auto accidents are

- Correlated with fuel efficiency
- Caused by chance
- Preventable
- At 6 sigma level
- Caused by bad design

36-A system involves

- Components
- An overall objective or mission
- Humans, procedures, technology
- Environment in which it operates
- All above

37-A process is predictable if

- We can forecast its output
- It is always at the same level
- It has no humans involved
- The data can be plotted on a chart
- The same workers stay employed

38-The quantity sigma (σ) indicates

- Trend in the process
- Dispersion in the data
- Lack of attention by workers
- Average
- Range

39-When you have too many factors on a fish-bone chart, then

- Take top ten
- Take top five
- Inquire to find which factors are suspected to be significant
- Conduct design of experiments
- Talk to customers

40-The word Control implies

- Inspecting every item
- Plotting charts
- Using a signal to adjust the process
- Management by Objectives
- Team control the shop

41-QFD is a method for

- Controlling quality in production
- Controlling quality in restaurants
- Finding out what customer wants
- Translating customer needs to product specs
- Quality circles

42-A Capable Process

- Is never outside control limits

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- Meets or exceeds spec requirements
- Has no defects in output
- Has good management support
- Is ISO 9000 certified

43-DOE may fail because

- Control charts are incorrectly drawn
- No team involvement
- A key factor has been left out
- Top management not visible
- Workers overzealous

44-TQM is part of

- Strategic management
- ISO 9000 certification
- QS 9000 certification
- Hospital management
- Project reviews

45-The word target in quality means

- The specification
- The control limits
- Xbar points on the chart
- The ideal quality requirement
- Six sigma production

46-Six sigma requires

- Process knowledge
- An indulging mindset
- Action on causes of defects
- DOE trials
- All above

47-Spec limits are used for

- Talking to workers about quality
- Adjusting control charts
- Finding process capability
- Drawing R charts
- Troubleshooting

48-ISO 9002 requires

- Constantly holding meetings with customers
- Frequent vendor visits
- Getting production and inspection/installation methods certified
- Getting final inspection methods shipshape
- Team deliberations for quality

49-Quality is a problem because

- Modern processes are too complex
- Workers don't do the job
- It is expensive to control
- All processes have some variation
- Management do not fund projects

50-A Reaction Plan is

- A flow chart
- An afterthought
- A way to produce good products
- A checklist to use when things don't look right
- A way to check incoming parts