CBCS SCHEME

21CV584

USN | | | | | | | | | | |

Question Paper Version : A

Fifth Semester B.E. Degree Examination, June/July 2024
Quality Control and Quality Assurance

Time: 1 hr.] [Max. Marks: 50

INSTRUCTIONS TO THE CANDIDATES

1. Answer all the **fifty** questions, each question carries one mark.
2. Use only **Black ball point pen** for writing / darkening the circles.
3. **For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.**
4. Darkening two circles for the same question makes the answer invalid.
5. **Damaging/overwriting, using whiteners** on the **OMR** sheets are strictly prohibited.

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1. Finding ways to do better than standard and breaking through the unprecedented levels of performance is called
   a) Quality planning b) Quality Improvement
   c) Quality inspection d) Quality Assurance

2. What should the company focus on to achieve quality more economically?
   a) Appraisal cost b) Prevention cost
   c) External failure cost d) Internal failure cost

3. Select which one is not an external failure cost
   a) Testing b) Helpline support c) Warranty work d) Complaint resolution

4. PDCA cycle stands for
   a) Plan – Define – Check – Act b) Prepare – Define – Correct – Act
   c) Prepare – Do – Correct – Act d) Plan – Do – Check – Act

5. Quality is "Fitness of purpose or use" stated by
   a) Juran b) Crossby c) W. Edward d) IBM

6. The following quality guru is associated with the cost of non-confirmance.
   a) Imai b) Taguchi c) Feigenbaum d) Ishikawa

7. QIP stands for
   a) Quality Improvement Program b) Quality Imparts Process
   c) Quality Import Procedure d) None of these

8. _____ is a part of quality management focused on providing confidence that quality requirements will be fulfilled.
   a) Quality b) Quality assurance c) Quality updating d) Quality management

9. Identify the benefits of quality.
   a) Gives positive company image
   b) Increases market share, transfer into improved profit
   c) Creates an atmosphere for high employee morale, which improves productivity
   d) All the above

10. Performance of a product is
   a) How long the product lasts
   b) Whether the product is capable of doing the intended job
   c) How easy it is to repair the product
   d) How often the product fails.

11. _____ are quality management and quality assurance standards.
   a) ISO 22000 b) ISO 14000 c) ISO 9000 d) None of these

12. Who is known as father of TQM?
   a) Edward Deming b) Joseph Juran c) Philip Crossby d) Kaorn Ishikawa

13. The pillar of TQM which recognizes that product quality is a result of process quality.
   a) Customer focus b) Process management
   c) Employee Empowerment d) Continuous Improvement

14. The aspiration of the company in a short duration is called
   a) Vision Statement b) Mission statement
   c) Quality policy statement d) Submission statement

15. The quality policy is approved by
   a) Quality Improvement Team b) Quality Council
   c) Quality Control Team d) Quality Assurance Team

16. The latest version of ISO 9001 in ISO 900 family
   a) ISO 9001 : 2000 b) ISO 9001 : 2022 c) ISO 9001 : 2015 d) ISO 9001 : 2008

17. ISO 14000 standards are for
   a) Administration b) Environment Management System
   c) Quality Management System d) Supply Chain System

18. Benchmarking is not a
   a) Systematic search for best practices
   b) Systematic search for initiating competitions
   c) Systematic search for innovative ideas
   d) Systematic search for highly effective operating procedures

19. Direct comparison with competitor is done with the following form of benchmarking.
   a) Internal benchmarking b) Competitive benchmarking
   c) Functional benchmarking d) Generic benchmarking

20. One of the following is not a quality management principle on the basis of which ISO : 2015 and ISO 9001 : 2015 are based on
   a) Customer focus b) Leadership
   c) Customer dissatisfaction d) Evidence based decision making.

21. One among the following is not a advantage of statistical quality control
a) Increase in cost b) Improves consistency
c) Defect identification and correction d) Improves decision making

22. The most common measures of central tendencies
a) Mode b) Median c) Mean d) All of these

23. The mean of the range of tested values 5, 10, 3, 6, 4, 8, 9, 6 will be _____
a) 6 b) 6.375 c) 5.375 d) 10

24. As per IS 456-2000, the number of samples needed for 16-30 m^3 of concrete is
a) 2 samples b) 4 samples c) 3 samples d) 6 samples

25. Number of samples needed for 180 m^3 of concrete as per IS 456-2000 recommendation is
a) 7 samples b) 6 samples c) 8 samples d) 4 samples

26. _____ days strength shall alone be the criteria for acceptance or rejection of concrete
a) 7 days b) 14 days c) 21 days d) 28 days

27. As per IS 456-2000, the individual variation of strength should not be more than _____ percent of the average
a) +10 b) +15 c) +7.5 d) +12

28. Along with 3 specimens for each sample for testing, additional specimen may be required for _____ days strength checking.
a) 3 days b) 14 days c) 7 days d) 21 days

29. Which among the following characteristic compressive strength compliance requirement is acceptable for M-20 and above grade concrete for mean of the group of 4 non-overlapping consecutive test results in N/mm^2 (IS 456-2000)
a) >/= fck + 0.85 × established standard deviation
b) fck + 2 N/mm^2
c) >/= fck + 1.2 × established standard deviation
d) fck + 5 N/mm^2

30. Standard deviation to be assumed for M-25 grade concrete for calculating characteristic compressive strength as per IS 456-2000 is
a) 3.5 b) 4.0 c) 5.0 d) 4.5

31. Adding water more than required water cement ratio of design mix results in
a) Increased strength gain b) Reduced slump
c) Reduced workability d) Reduced strength gain

32. Separation of water from fresh finished concrete surface is called
a) segregation b) Bleeding c) Bailing d) Separation

33. Improper consolidation or compaction of concrete leads to
a) Bug holes b) Honey combing c) Cold joints d) All of these

34. Use of extra cement to surface finish of concrete work leads to
a) Craze and Flake off b) Late setting c) Segregation d) Rough finish

35. As per IS 269-1975, initial setting time of ordinary cement is
a) 15 minutes b) 60 minutes c) 30 minutes d) 600 minutes

36. Cement has to be tested within maximum of _____ period since the receipt of samples of testing is made
a) 1 week b) 3 months c) 6 months d) 15 days

37. IS 383 – 2016 is for
a) Course and fine aggregate for concrete - specification
b) 43 grade cement - specification
c) Code of practice for brick work
d) Steel - specification

38. If compressive strength test is done on individual bricks, then the minimum value should not fall below _____ percent of upper limit of class of brick.
a) 12% b) 10 c) 15 d) 20

39. Permissible number of defective bricks for efflorescence test of bricks for a lot size of 2001 to 10000 bricks should be
a) 1 b) 0 c) 2 d) 3

40. Test to be conducted on steel bars and wires used in concrete reinforcement
a) Tensile test b) Bend test c) Rebend test d) All of these

41. Minimum distance of point of impact from edge or shape discontinuity by Rebound hammer testing procedure should be
a) 20mm b) 30mm c) 10mm d) 50mm

42. The best practice of quality control in construction phase is / are
a) Inspect workmanship b) Document inspection findings
c) Corrective action d) All of these

43. Common NDT tests done at site does not include one among these
a) Core test b) Schmidt hammer test
c) USPV test d) Compression test

44. The concrete quality grading for a pulse velocity of 3.5 to 4.5 km/sec by cross probing will be
a) Good b) Excellent c) Doubtful d) Medium

45. Process of evaluating a building to be ready for service is called
a) Handover b) Commissioning c) Checking d) Evaluating

46. Ultrasonic testing is done on materials to determine
a) Yield strength b) Hardness
c) Ultimate tensile strength d) Cracks below the surface

47. Probable accuracy of prediction of concrete strength by rebound hammer test will be ______ percent of compression strength.
a) ± 25%   b) ± 10%   c) ± 5%   d) ± 30%

48. Influential factors of Rebound hammer test numbers depends on
a) Type of cement and aggregates   b) Surface condition
c) Age of concrete   d) All of these

49. In USPV test, the estimated strength of concrete may vary from actual strength by _____ percent.
a) 20   b) 5   c) 10   d) 15

50. USPV test method is used to know
(i) Homogeneity of concrete
(ii) Presence of cracks, voids
(iii) Value of dynamic elastic modulus of concrete
(iv) Quality of concrete in relation to standard requirement
a) Only (i) and (ii)   b) (i), (ii) and (iv)
c) All (i), (ii), (iii) and (iv)   d) (ii) only

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