

Duration: 180 Mins

Total Marks: 98

ID: ITISKILL5156QC

Student Name: _____ Roll No: _____

1. Which heat treatment process is done to refine the grain structure of the steel?

- | | |
|----------------|--------------|
| A) Normalising | B) Tempering |
| C) Annealing | D) Hardening |

2. What is the estimation of milling cost of a rectangular block size 100 X 80 X60 mm, if cost of the milling is Rs.2/sq.cm?

- | | |
|-------------|-------------|
| A) Rs.572/- | B) Rs.652/- |
| C) Rs.752/- | D) Rs.960/- |

3. Which standard schedule of rates to be considered for estimation?

- | | |
|---|---|
| A) Standard schedule of rates of the current year | B) Standard schedule of rates of the average of last 5 years |
| C) Standard schedule of rates of the last year | D) Standard schedule of rates of the average of the last 10 years |

4. What describes the detailed specification for the item of work?

- | | |
|--|--------------------------------------|
| A) Quality, Quantity, Workmanship, Method of execution | B) Tax, Transport, Overhead expenses |
| C) Colour | D) Maintenance, Stock, Cost |

5. What is the safe stress if the ultimate stress of a material is 35 kg/mm² and factor of safety is 5?

- | | |
|--------|----------|
| A) 0.7 | B) 1.43 |
| C) 7 | D) 0.143 |

6. Which process steel is heated in a carbonaceous atmosphere for the penetration of carbon?

- | | |
|------------------------|-------------------|
| A) Induction hardening | B) Case hardening |
| C) Nitriding | D) Carburising |

7. What is the ratio between the change in dimension to its original dimension of the substance?

- | | |
|---------------------|-----------|
| A) Poisson's ratio | B) Stress |
| C) Factor of safety | D) Strain |

8. What is the weight of the iron ball has volume of 250 cc and density 7.5 gm/cc?

- | | |
|--------------|--------------|
| A) 1785 gram | B) 1750 gram |
| C) 1875 gram | D) 1975 gram |

9. Which authority publishes schedule of rates?

- | | |
|---------------------|--------------------------|
| A) Individual | B) Corporate |
| C) Partnership firm | D) Government department |

10. What is a under estimate?

- | | |
|--|---|
| A) An estimate perfectly matches with actual | B) An estimate is exceeded the actual estimate |
| C) No work started as per estimate | D) An estimate is fell short of the actual estimate |

11. Which law states that within elastic limit stress is directly proportional to strain?

- | | |
|----------------|----------------|
| A) Hooks law | B) Joules law |
| C) Newtons law | D) Charles law |

12. What is the term used for maximum stress attained by a material before rupture?

- | | |
|-----------------------|-------------------|
| A) Ultimate stress | B) Tensile stress |
| C) Compressive stress | D) Working stress |

13. What is the term, for the details of materials, brand name, grade of quality, rating of current and voltage etc.?

- | | |
|--------------------|-------------------------------|
| A) Price catalogue | B) Specification of materials |
| C) Drawing | D) Raw materials |

14. Which IE rules are to be verified on completion of wiring on any new installation?

- | | |
|-------------------|-------------------|
| A) IE Rules, 1967 | B) IE Rules, 1956 |
| C) IE Rules, 1960 | D) IE Rules, 1961 |

15. What is the other term used for reference table?

- | | |
|---------------|----------------------|
| A) Dictionary | B) Bibliography |
| C) Biography | D) Information Table |

16. What is the ratio between stress and strain?

- A) Factor of safety
- B) Young's Modulus
- C) Yield point
- D) Poisson's ratio

17. What is the centre of gravity of a rectangular body?

- A) At the corners
- B) Shorter side of rectangle
- C) Longer side of rectangle
- D) At the point of intersection of its diagonals

18. What is the total cost of Air-conditioners installed in a college, 40 class room-each 1 Air-conditioner, Computer lab 5 Air- conditioners and conference hall 5 Air-conditioners (Cost of one air conditioner Rs.30000/- including installation)?

- A) Rs.10 lakhs
- B) Rs. 20 lakhs
- C) Rs. 15 lakhs
- D) Rs. 12 lakhs

19. Which state of equilibrium's example is A cone resting on its tip?

- A) Stable
- B) Neutral
- C) Unstable
- D) Horizontal

20. What is the unit of strain?

- A) Newton/metre²
- B) No unit
- C) Metre
- D) Kg/cm²

21. What is the centre of gravity of a rectangular body?

- A) Shorter side of rectangle
- B) At the corners
- C) Longer side of rectangle
- D) At the point of intersection of its diagonals

22. Which force acts on rivets?

- A) Compressive force
- B) Bending force
- C) Shear force
- D) Tensile force

23. What is colour of a metal piece when heated to 250 Degree C while doing the tempering process?

- A) Blue
- B) Brown
- C) Purple
- D) Pale

24. Which specification is other than general specification?

- A) Main specification
- B) Detailed specification
- C) Brief specification
- D) Bulk specification

25. Where the centre of gravity of a circle lies?

- A) Any where on its circumference
- B) At its centre
- C) Any where on its radius
- D) Any where on its diameter

26. What is the ratio of change in length to original length?

- A) Volumetric strain
- B) Linear strain
- C) Lateral strain
- D) Poisson's ratio

27. What is the tensile stress if a square rod of 10 mm side is tested for a tensile load of 1000 kg?

- A) 100 kg/mm²
- B) 10 kg /mm²
- C) 1 kg/mm²
- D) 1000 kg/mm²

28. What is the main factor to be considered while preparing a detailed estimate?

- A) Quantity, availability and transportation of materials
- B) Location of material
- C) Brand of the materials
- D) Shape of material

29. Which one is included in machining estimation sheet?

- A) Transport cost
- B) Tax
- C) Raw material cost
- D) Advertisement cost

30. What are the various stages of heat treatment?

- A) Heating, Soaking and Quenching
- B) Quenching, Cooling and Heating
- C) Soaking, Quenching and Cooling
- D) Heating, Cooling and Quenching

31. Which symbol is used to express change in length?

- A) Δl
- B) e
- C) L
- D) l

32. How much time is allowed normally in soaking zone for a 10mm thick metal piece while hardening?

- A) 20 minutes
- B) 15 minutes
- C) 10 minutes
- D) 5 minutes

33. What is the name of a booklet, the rates of various terms are indicated?

- A) Price bank
- B) Price bunch
- C) Price catalogue
- D) Price tag

34. What is the name of the heat treatment process, where the metal is heated and quenched in water or oil?

- A) Normalising and Tempering
- B) Tempering
- C) Annealing
- D) Hardening

35. Which force acts on crank shaft?

- A) Torsional stress
- B) Tensile stress
- C) Compressive stress
- D) Shear stress

36. What is the weight of a rectangular block of a cast iron of

250cm X 20cm X 8cm (density of cast iron is 7.8 gm/cm³)?

- A) 372 kg B) 525 kg
C) 410 kg D) 312 kg

37. What is the name of the point at which all the weight of the body concentrated?

- A) Centre of gravity B) Centroid
C) Initial point D) Central point

38. Who prepares the cost of estimation?

- A) Operator B) Estimator
C) Quality Inspector D) Draughts man

39. What is the purpose of tempering a steel?

- A) To increase the hardness B) To reduce the brittleness
C) To remove the ductility D) To increase the brittleness

40. What is the centre of gravity of a sphere?

- A) At the centre B) At the diameter
C) At the radius D) On the circumference

41. What is the name of the structure formed, if a steel is heated for about 723 Degree C?

- A) Martensite B) Austenite
C) Ferrite D) Cementite

42. Which one is related to estimation of work?

- A) Bill of material B) Hand book
C) Packing D) Information table

43. What is the centre of gravity of a solid hemisphere from its base?

- A) $3r/8$ B) $r/2$
C) $3r/4$ D) $4r/5$

44. Which state of equilibrium's example is, A cone resting on its base?

- A) Stable B) Neutral
C) Both A and B D) Un-stable

45. What is the centre of gravity of a semi circle of diameter 12 cm?

- A) 2.75 cm B) 2.54 cm
C) 2.24 cm D) 3.25 cm

46. What is the tensile strain if a force of 3.2 KN is applied to a bar of original length 2800 mm extends the bar by 0.5 mm?

- A) 0.0001968 B) 0.0001786

C) 0.0001867

D) 0.0001687

47. Where the centre of gravity of a circle lies?

- A) Any where on its circumference B) Any where on its radius
C) At its centre D) Any where on its diameter

48. What is the total construction cost of a house construction area of 3000 sq.ft. (cost of construction Rs.2000/- per sq.ft including material and labour)?

- A) Rs.6,000,000 B) Rs.30,000,000
C) Rs.60,00,000 D) Rs.6,00,000

49. What is the maximum percentage of stretch of its original length is allowable for elastic materials?

- A) 300% B) 200%
C) 400% D) 100%

50. What is the name of the point at which all the weight of the body concentrated?

- A) Initial point B) Central point
C) Centre of gravity D) Centroid

51. What are the various types of heat treatment processes?

- A) Tempering, Cooling, Packing and Solling B) Annealing, Normalising, Hardening and Tempering
C) Hardening, Soaking, Painting and Packing D) Normalising, Heating, Cooling and Painting

52. What is an over estimate?

- A) When an estimate is exceeded to actual estimate B) When an estimate perfectly matches the actual estimate
C) No work started as per estimate D) When an estimate is fell short of the actual estimate

53. What percentage of water absorbed by a good building stone?

- A) Less than 10% B) Less than 5%
C) Less than 20% D) Less than 8%

54. What is the relative permittivity of rubber?

- A) Between 2 and 3 B) Between 12 and 14
C) Between 8 and 10 D) Between 5 and 6

55. What is the total cost of painting of a class room including ceiling, if the size of length is 6m, breadth is 5m and height is 4m. (Painting + labour cost Rs.150/- per sq.m)

- A) Rs.16700/- B) Rs.17700/-
C) Rs.15000/- D) Rs.18700/-

56. Which hand book referred by machine engineer?

- A) Mark standard B) Parry's cheorikal
C) CRC D) Oxford Dictionary

57. Which is thermo plastic material?

- A) Nylon B) Butyl rubber
C) Neoprene D) Vinyl polymers

58. Which one is the ratio of stress?

- A) Load and time B) Load and diameter
C) Load and area D) Load and direction

59. Which state of equilibrium's example is A cone resting on its tip?

- A) Neutral B) Unstable
C) Stable D) Horizontal

60. What is the other term of pocket reference in engineering works?

- A) Good book B) Hand book
C) Hand tool D) New book

61. Which one of the following geometrical shape's centre of gravity lies from its base is 1/3 of its height?

- A) Cone B) Square
C) Rhombus D) Triangle

62. Which one of the following geometrical shapes centre of gravity lies from its base is 1/3 of its height?

- A) Square B) Rhombus
C) Cone D) Triangle

63. Which process produce equilibrium conditions?

- A) Annealing and Normalising B) Normalising and Tempering
C) Normalising and Tempering D) Annealing and Hardening

64. How much strain is developed in an iron rod of 1 metre length gets elongated by 1 cm, if a force of 100 kg is applied at one end?

- A) 0.0001 B) 0.01
C) 0.001 D) 0.1

65. Which one is the most reliable estimate?

- A) Preliminary estimate B) Plinth area estimate
C) Cube rate estimate D) Detailed estimate

66. What is the minimum permissible size of aluminium wire used in estimation?

- A) 5 sq.mm B) 1.5 sq.mm
C) 2.5 sq.mm D) 3.5 sq.mm

67. What is the ratio of ultimate load to area of original cross section?

- A) Ultimate stress B) Yield point
C) Youngs modulus D) Factor of safety

68. Which affects the centre of gravity of the object

- A) Density B) Weight
C) Shape D) Mass

69. What is a total cost?

- A) Raw materials cost and machining cost B) Raw material cost only
C) Machining cost only D) Advertisement cost only

70. What is the total labour charges for a particular wiring work completed in 2 days by one electrician and one helper.(Electrician @ ₹800/day and helper @ Rs 400/day)

- A) Rs. 3000 B) Rs. 2400
C) Rs. 2000 D) Rs. 1400

71. What is the name of heat treatment process done to relieve strain and stress?

- A) Tempering B) Normalising
C) Hardening D) Annealing

72. What is the minimum permissible area of conductor (U/G cable) for three and half cores cable?

- A) 25 sq.mm B) 100 sq.mm
C) 50 sq.mm D) 5 sq.mm

73. What is the centre of gravity of a right circular cone from its base?

- A) h/3 B) h/2
C) h/5 D) h/4

74. What is the ratio between ultimate stress to working stress?

- A) Modulus of rigidity B) Bulk modulus
C) Young's modulus D) Factor of safety

75. What is the term used for the method of calculating various quantities and expenditure on a particular job or process?

- A) Estimation B) Plan
C) Drawing D) Specification

76. What force will be required to punch a hole of 10 mm dia

in a 1 mm thick plate, if the allowable shear stress is 50N/mm^2 ? ($\pi = 22/7$)

- A) 1571.4 N
- B) 1575 N
- C) 1577 N
- D) 1757 N

77. Which is a kind of surface hardening process?

- A) Nitriding
- B) Cementite
- C) Tempering
- D) Ferrite

78. Which affects the centre of gravity of the object?

- A) Mass
- B) Weight
- C) Density
- D) Shape

79. Which of the impurity in cast iron makes it hard and brittle?

- A) Manganese
- B) Phosphorus
- C) Sulphur
- D) Silicon

80. Which is the suitable nitriding process for all alloyed and unalloyed steels?

- A) Nitriding in Quenching tank
- B) Nitriding in salt-bath
- C) Silver nitriding
- D) Gas nitriding

81. Which is elastic material?

- A) Celluloid
- B) Nylon
- C) Polycarbonates
- D) Polystyrenes

82. What is the total wattage in a room if 2 tube lights of 50W rating, 2 fans of 80W rating, 2 numbers of light points of 60W rating, one fan point of 60W rating and one 3 pin socket of 100W rating?

- A) 540 W
- B) 340 W
- C) 440 W
- D) 640 W

83. What is the total cost to assemble 10 personal computer systems, spares cost as given for one system: 1 TB hard disc Rs.4500/-, Intel i3 mother board Rs.7000/-, SMPS Rs.2500/-, monitor Rs.6000/-, keyboard Rs.1000/-, other material cost (Switches, USB, Cabl

- A) Rs.225000/-
- B) Rs.265000/-
- C) Rs.250000/-
- D) Rs.275000/-

84. What is the centre of gravity of a sphere?

- A) At the radius
- B) At the diameter
- C) On the circumference
- D) At the centre

85. What is the young's modulus if a wire of 2m long, 0.8 mm² in cross section increases its length by 1.6 mm on suspension of 8 kg weight from it?

- A) 1.25 kg/mm²
- B) 125 kg/mm²
- C) 12500 kg/mm²
- D) 12.5 kg/mm²

86. What is the ratio between lateral strain and longitudinal strain?

- A) Poisson's ratio
- B) Young's modulus
- C) Hooks law
- D) Bulk modulus

87. What cables are used for 132KV lines?

- A) Extra high tension
- B) High tension
- C) Super tension
- D) Extra super voltage

88. What is the centre of gravity of a right circular cone from its base?

- A) h/5
- B) h/2
- C) h/4
- D) h/3

89. Which state of equilibrium's example is, A cone resting on its base?

- A) Neutral
- B) Bothe A and B
- C) Un-stable
- D) Stable

90. What is the formula for bulk modulus?

- A) Shear stress/Shear strain
- B) Volumetric stress/Volumetric strain
- C) Compressive stress/Compressive strain
- D) Tensile stress/Tensile strain

91. What is the ratio of shear stress to shear strain?

- A) Modulus of rigidity
- B) Yield point
- C) Modulus of elasticity
- D) Bulk modulus

92. What is the centre of gravity of a solid hemisphere from its base?

- A) r/2
- B) 3r/8
- C) 4r/5
- D) 3r/4

93. Which is thermosetting plastic?

- A) Melamine resins
- B) Polystyrenes
- C) Celluloid
- D) Vinyl polymers

94. What is the total estimation cost for making the component of 8 drilled hole dia 10 mm and 4 Numbers of M6 taps in the plate, if Rs.8/- per drilled holes and Rs.12 per drill and tap?

- A) Rs.112
- B) Rs.102
- C) Rs.110
- D) Rs.100

95. What is the use of engineering drawing?

- A) For colourful appearance B) For increasing the cost
C) For reducing the cost D) For estimation of material
and execution of work

C) Dictionary of materials

D) Type of reference work or
other collection of
instruction

96. What is the centre of gravity of a semi circle of diameter
12 cm?

- A) 3.25 cm B) 2.24 cm
C) 2.75 cm D) 2.54 cm

98. What is the process of heat treatment?

A) The process of cooling to
measure the dimensions

B) The process of heating
and cooling to change the
structure and properties

C) The process of heating
and bending as per our
requirement

D) The process of heating to
change the dimensions

97. What is a hand book?

- A) Model book of various B) Design book of latest
works works