

Duration: 180 Mins

Total Marks: 98

Q.ID: ITISKILL5156QC

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

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

Answer: C) 5 minutes

2. 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.60,00,000
C) Rs.6,00,000 D) Rs.30,000,000

Answer: B) Rs.60,00,000

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

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

Answer: D) h/4

4. What are the various stages of heat treatment?

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

Answer: A) Heating, Soaking and Quenching

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

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

Answer: D) Standard schedule of rates of the current year

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

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

Answer: B) Annealing, Normalising, Hardening and Tempering

7. What is the centre of gravity of a semi circle of diameter 12

cm?

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

Answer: C) 2.54 cm

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

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

Answer: B) At the point of intersection of its diagonals

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

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

Answer: A) h/4

10. Which one is included in machining estimation sheet?

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

Answer: B) Raw material cost

11. 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.275000/-
C) Rs.265000/- D) Rs.250000/-

Answer: B) Rs.275000/-

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

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

Answer: B) Price catalogue

13. Which process produce equilibrium conditions?

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

Answer: B) Annealing and Normalising

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

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

Answer: D) Specification of materials

15. What is the purpose of tempering a steel?

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

Answer: A) To reduce the brittleness

16. Who prepares the cost of estimation?

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

Answer: A) Estimator

17. Which authority publishes schedule of rates?

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

Answer: C) Government department

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

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

Answer: C) $3r/8$

19. 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) 640 W B) 540 W
C) 340 W D) 440 W

Answer: B) 540 W

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

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

Answer: B) Factor of safety

21. 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) 312 kg B) 410 kg
C) 372 kg D) 525 kg

Answer: A) 312 kg

22. 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) 0.001 B) 0.01
C) 0.0001 D) 0.1

Answer: B) 0.01

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

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

Answer: B) Stable

24. What is the ratio between stress and strain?

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

Answer: C) Young's Modulus

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

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

Answer: C) Estimation

26. 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

Answer: B) Rs. 2400

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

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

Answer: C) Hand book

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

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

Answer: B) 1875 gram

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

- A) Hook's law B) Joules law
C) Charles law D) Newton's law

Answer: A) Hook's law

30. Which affects the centre of gravity of the object

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

Answer: C) Mass

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

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

Answer: D) Strain

32. 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.15000/-
B) Rs.18700/-
C) Rs.16700/-
D) Rs.17700/-

Answer: D) Rs.17700/-

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

- A) 1 kg/mm^2
B) 10 kg/mm^2
C) 1000 kg/mm^2
D) 100 kg/mm^2

Answer: B) 10 kg/mm^2

34. Which force acts on rivets?

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

Answer: B) Shear force

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

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

Answer: B) Unstable

36. 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) 12.5 kg/mm²
B) 1.25 kg/mm²
C) 125 kg/mm²
D) 12500 kg/mm²

Answer: D) 12500 kg/mm²

37. 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

Answer: C) Rs. 15 lakhs

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

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

Answer: D) 1.5 sq.mm

39. What is the unit of strain?

- A) Metre
B) Kg/cm^2
C) No unit
D) Newton/metre^2

Answer: C) No unit

40. What is a under estimate?

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

Answer: C) An estimate is fell short of the actual estimate

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

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

Answer: C) 2.54 cm

42. 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 50 N/mm^2 ? ($\pi = 22/7$)

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

Answer: A) 1571.4 N

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

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

Answer: B) $3r/8$

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

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

Answer: A) Brown

45. 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.100
B) Rs.112
C) Rs.110
D) Rs.102

Answer: B) Rs.112

46. Which force acts on crank shaft?

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

Answer: B) Torsional stress

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

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

Answer: D) Austenite

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

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

Answer: D) 50 sq.mm

49. Which is a kind of surface hardening process?

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

Answer: A) Nitriding

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

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

Answer: D) Triangle

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

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

Answer: C) At its centre

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

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

Answer: A) 300%

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

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

Answer: D) At the centre

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

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

Answer: C) Ultimate stress

55. What is the process of heat treatment?

- A) The process of heating to change the dimensions
- B) The process of cooling to measure the dimensions

- C) The process of heating and cooling to change the structure and properties
- D) The process of heating and bending as per our requirement

Answer: C) The process of heating and cooling to change the structure and properties

56. Which hand book referred by machine engineer?

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

Answer: B) Mark standard

57. What is a total cost?

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

Answer: D) Raw materials cost and machining cost

58. Which is thermo plastic material?

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

Answer: B) Vinyl polymers

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

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

Answer: D) Normalising

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

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

Answer: A) At the point of intersection of its diagonals

61. What is the formula for bulk modulus?

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

Answer: A) Volumetric stress/Volumetric strain

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

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

Answer: C) Stable

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

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

Answer: D) Less than 5%

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

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

Answer: B) Carburising

65. What is a hand book?

- A) Dictionary of materials B) Model book of various works
C) Design book of latest works D) Type of reference work or other collection of instruction

Answer: D) Type of reference work or other collection of instruction

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

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

Answer: A) Quality, Quantity, Workmanship, Method of execution

67. Which one is the most reliable estimate?

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

Answer: D) Detailed estimate

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

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

Answer: A) At the centre

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

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

Answer: C) Unstable

70. 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.960/-
C) Rs.652/- D) Rs.752/-

Answer: D) Rs.752/-

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

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

Answer: C) Poisson's ratio

72. 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

Answer: A) Centre of gravity

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

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

Answer: D) Triangle

74. Which is thermosetting plastic?

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

Answer: B) Melamine resins

75. Which one is the ratio of stress?

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

Answer: C) Load and area

76. What cables are used for 132KV lines?

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

Answer: A) Extra super voltage

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

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

Answer: C) Mass

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

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

Answer: A) Linear strain

79. What is the use of engineering drawing?

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

Answer: B) For estimation of material and execution of work

80. 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) 0.0001687 B) 0.0001867
C) 0.0001968 D) 0.0001786

Answer: D) 0.0001786

81. Which IE rules are to be verified on completion of wiring

on any new installation?

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

Answer: A) IE Rules, 1956

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

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

Answer: A) Modulus of rigidity

83. What is the relative permittivity of rubber?

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

Answer: A) Between 2 and 3

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

- A) Yield point
- B) Young's modulus
- C) Factor of safety
- D) Ultimate stress

Answer: D) Ultimate stress

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

- A) L
- B) l
- C) e
- D) Δl

Answer: D) Δl

86. 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

Answer: D) Hardening

87. Which one is related to estimation of work?

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

Answer: B) Bill of material

88. What is the safe stress if the ultimate stress of a material is 35 kg/mm^2 and factor of safety is 5?

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

Answer: D) 7

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

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

Answer: D) Annealing

90. Which is elastic material?

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

Answer: C) Nylon

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

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

Answer: C) Nitriding in salt-bath

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

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

Answer: C) Information Table

93. Which specification is other than general specification?

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

Answer: A) Detailed specification

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

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

Answer: B) Centre of gravity

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

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

Answer: B) Quantity, availability and transportation of materials

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

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

Answer: B) At its centre

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

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

Answer: B) Sulphur

98. What is an over estimate?

- A) When an estimate perfectly matches the actual estimate
- B) No work started as per estimate

C) When an estimate is fell short of the actual estimate D) When an estimate is exceeded to actual estimate

Answer: D) When an estimate is exceeded to actual estimate
