

Duration: 90 Mins

Total Marks: 90

ID: ITISKILL1679LG

Student Name: _____ Roll No: _____

1. What is the ratio of change in length to original length?
 - A) Lateral strain
 - B) Linear strain
 - C) Poisson's ratio
 - D) Volumetric strain

2. What is the term used for maximum stress attained by a material before rupture?
 - A) Tensile stress
 - B) Working stress
 - C) Ultimate stress
 - D) Compressive stress

3. What are the various stages of heat treatment?
 - A) Quenching, Cooling and Heating
 - B) Heating, Cooling and Quenching
 - C) Heating, Soaking and Quenching
 - D) Soaking, Quenching and Cooling

4. 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 to change the dimensions
 - D) The process of heating and bending as per our requirement

5. Which force acts on rivets?
 - A) Compressive force
 - B) Tensile force
 - C) Shear force
 - D) Bending force

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

7. 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.102
 - B) Rs.112
 - C) Rs.100
 - D) Rs.110

8. What is the centre of gravity of a semi circle of diameter 12 cm?
 - A) 2.24 cm
 - B) 2.75 cm
 - C) 2.54 cm
 - D) 3.25 cm

9. 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) 1000 kg/mm²
 - C) 1 kg/mm²
 - D) 10 kg/mm²

10. What is the ratio between the change in dimension to its original dimension of the substance?
 - A) Strain
 - B) Poisson's ratio
 - C) Stress
 - D) Factor of safety

11. What is the maximum percentage of stretch of its original length is allowable for elastic materials?
 - A) 400%
 - B) 200%
 - C) 300%
 - D) 100%

12. 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.60,00,000
 - B) Rs.6,00,000
 - C) Rs.30,000,000
 - D) Rs.6,000,000

13. What are the various types of heat treatment processes?
 - A) Hardening, Soaking, Painting and Packing
 - B) Tempering, Cooling, Packing and Solling
 - C) Normalising, Heating, Cooling and Painting
 - D) Annealing, Normalising, Hardening and Tempering

14. What is the weight of a rectangular block of a cost iron of 250cm X 20cm X 8cm (density of cast iron is 7.8 gm/cm³)?
 - A) 372 kg
 - B) 410 kg
 - C) 312 kg
 - D) 525 kg

15. Which one is the most reliable estimate?

- A) Preliminary estimate
- C) Detailed estimate

- B) Plinth area estimate
- D) Cube rate estimate

- A) Rs. 15 lakhs
- C) Rs. 20 lakhs

- B) Rs.10 lakhs
- D) Rs. 12 lakhs

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

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

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

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

18. Which one is included in machining estimation sheet?

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

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

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

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

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

21. What is the use of engineering drawing?

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

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

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

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

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

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

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

25. 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)?

26. What is the ratio between stress and strain?

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

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

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

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

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

29. Which hand book referred by machine engineer?

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

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

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

31. 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
- C) 0.001
- B) 0.1
- D) 0.01

32. What is a total cost?

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

33. What is a hand book?

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

34. 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.960/-
- C) Rs.572/-
- B) Rs.752/-
- D) Rs.652/-

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

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

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

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

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

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

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

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

39. Which is elastic material?

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

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

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

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

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

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

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

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

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

44. Which is thermosetting plastic?

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

45. Which specification is other than general specification?

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

46. Which one is related to estimation of work?

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

47. What cables are used for 132KV lines?

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

48. What is a under estimate?

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

49. 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

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

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

51. Which is thermo plastic material?

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

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

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

53. 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) 1577 N
- C) 1757 N
- D) 1575 N

54. Which authority publishes schedule of rates?

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

55. 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.275000/- B) Rs.225000/-
C) Rs.250000/- D) Rs.265000/-

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

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

57. What is the unit of strain?

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

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

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

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

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

60. Which affects the centre of gravity of the object

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

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

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

62. What is the youngs 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/mm^2 B) 12.5 kg/mm^2
C) 125 kg/mm^2 D) 12500 kg/mm^2

63. What is the relative permittivity of rubber?

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

64. 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

65. 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) 0.0001786
C) 0.0001867 D) 0.0001968

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

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

67. Which force acts on crank shaft?

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

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

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

69. 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. 1400
C) Rs. 2400 D) Rs. 2000

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

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

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

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

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

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

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

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

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

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

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

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

76. 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

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

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

78. Which one is the ratio of stress?

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

79. What is the formula for bulk modulus?

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

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

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

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

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

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

- A) Charles law B) Hooks law

- C) Joules law D) Newtons law

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

- A) e B) Δl
C) L D) l

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

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

85. Who prepares the cost of estimation?

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

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

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

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

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

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

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

89. 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) 440 W B) 340 W
C) 540 W D) 640 W

90. 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.17700/- B) Rs.15000/-
C) Rs.16700/- D) Rs.18700/-