

June 2026

Question Paper

Duration: 30 Mins

Total Marks: 98

ID: ITISKILL1796TO

Student Name: _____	Roll No: _____
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1. Which is a kind of surface hardening process?

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

2. What is an over estimate?

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

3. 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 |

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

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

5. 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 |

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

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

7. Which is thermosetting plastic?

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

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

- | | |
|-----------|--|
| A) Colour | B) Quality, Quantity, Workmanship, Method of execution |
|-----------|--|

- | | |
|-----------------------------|--------------------------------------|
| C) Maintenance, Stock, Cost | D) Tax, Transport, Overhead expenses |
|-----------------------------|--------------------------------------|

9. What is the purpose of tempering a steel?

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

10. What is a under estimate?

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

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

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

12. 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) Annealing |
| C) Tempering | D) Hardening |

13. Which one is the ratio of stress?

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

14. 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) 440 W |
| C) 540 W | D) 340 W |

15. 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 |

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

- A) Stable
C) Both A and B

- B) Neutral
D) Un-stable

17. Which hand book referred by machine engineer?

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

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

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

19. Which one of the following geometrical shape's centre of gravity lies from its base is $\frac{1}{3}$ of its height?

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

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

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

21. What is the formula for bulk modulus?

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

22. Which process produce equilibrium conditions?

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

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

- A) $\frac{h}{5}$
C) $\frac{h}{4}$
- B) $\frac{h}{2}$
D) $\frac{h}{3}$

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

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

25. 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
C) Rs.110
- B) Rs.112
D) Rs.100

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

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

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

- A) $\frac{h}{3}$
C) $\frac{h}{4}$
- B) $\frac{h}{5}$
D) $\frac{h}{2}$

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

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

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

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

30. What is the process of heat treatment?

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

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

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

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

- A) e
C) l
- B) delta l
D) L

33. What is the relative permittivity of rubber?

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

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

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

35. What is the use of engineering drawing?

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

36. 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.18700/- |
| C) Rs.15000/- | D) Rs.16700/- |

37. Which specification is other than general specification?

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

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

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

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

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

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

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

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

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

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

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

43. What is a hand book?

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

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

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

45. 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) 0.0001 |
| C) 0.1 | D) 0.01 |

46. 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) 12500 kg/mm ² |
| C) 12.5 kg/mm ² | D) 125 kg/mm ² |

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

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

48. 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.275000/- | D) Rs.250000/- |

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

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

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

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

51. Which is thermo plastic material?

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

52. 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) 372 kg |
| C) 410 kg | D) 525 kg |

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

- | | |
|-------------------|-------------------|
| A) $\frac{4r}{5}$ | B) $\frac{3r}{4}$ |
| C) $\frac{r}{2}$ | D) $\frac{3r}{8}$ |

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

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

55. Which affects the centre of gravity of the object

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

56. Which is elastic material?

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

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

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

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

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

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

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

60. 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) 0.0001867 | B) 0.0001968 |
| C) 0.0001786 | D) 0.0001687 |

61. Which force acts on rivets?

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

62. Which force acts on crank shaft?

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

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

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

64. What is a total cost?

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

65. Which one is related to estimation of work?

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

66. 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 @ ₹400/day)

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

67. What is the estimation of milling cost of a rectangular block size 100 X 80 X 60 mm, if cost of the milling is ₹2/sq.cm?

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

68. 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 ₹30000/- including installation)?

- | | |
|--------------|--------------|
| A) ₹10 lakhs | B) ₹20 lakhs |
| C) ₹12 lakhs | D) ₹15 lakhs |

69. 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/mm ² | B) 1 kg/mm ² |
| C) 10 kg /mm ² | D) 1000 kg/mm ² |

70. What is the unit of strain?

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

71. Which one is the most reliable estimate?

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

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

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

73. What cables are used for 132KV lines?

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

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

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

75. 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

76. What is the ratio between stress and strain?

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

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

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

78. 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.6,00,000 B) Rs.60,00,000
C) Rs.6,000,000 D) Rs.30,000,000

79. 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

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

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

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

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

82. 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 current year
C) Standard schedule of rates of the last year D) Standard schedule of rates of the average of last 5 years

83. Which authority publishes schedule of rates?

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

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

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

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

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

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

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

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

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

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

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

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

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

90. Who prepares the cost of estimation?

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

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

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

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

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

93. Which one is included in machining estimation sheet?

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

94. 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) 1757 N B) 1571.4 N
C) 1577 N D) 1575 N

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

A) Tempering, Cooling,
Packing and Solling
C) Annealing, Normalising,
Hardening and Tempering

B) Hardening, Soaking,
Painting and Packing
D) Normalising, Heating,
Cooling and Painting

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

A) Yield point

B) Ultimate stress

C) Youngs modulus

D) Factor of safety

97. Which one of the following geometrical shapes centre of gravity lies from its base is $\frac{1}{3}$ of its height?

A) Triangle

B) Cone

C) Rhombus

D) Square

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

A) Any where on its
circumference

B) Any where on its diameter

C) Any where on its radius

D) At its centre