

Duration: 30 Mins

Total Marks: 50

ID: ITISKILL55443H

Student Name: _____ Roll No: _____

1. What are the various stages of heat treatment?

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

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

2. Which is elastic material?

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

9. What is the use of engineering drawing?

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

3. What is an over estimate?

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

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

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

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

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

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

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

5. 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. 20 lakhs | B) Rs. 15 lakhs |
| C) Rs. 12 lakhs | D) Rs.10 lakhs |

12. 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.16700/- |
| C) Rs.15000/- | D) Rs.18700/- |

6. 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. 2400 | B) Rs. 3000 |
| C) Rs. 1400 | D) Rs. 2000 |

13. What is a under estimate?

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

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

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

14. Which force acts on rivets?

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

8. What is the purpose of tempering a steel?

15. Which is thermosetting plastic?

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

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

- A) Centre of gravity
- C) Centroid

- B) Central point
- D) Initial point

- A) 0.0001
- C) 0.01

- B) 0.1
- D) 0.001

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

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

18. 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
- C) 540 W
- B) 340 W
- D) 440 W

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

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

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

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

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

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

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

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

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

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

24. Which is thermo plastic material?

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

25. Which force acts on crank shaft?

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

26. 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?

27. What is the formula for bulk modulus?

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

28. 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
- C) 1757 N
- B) 1575 N
- D) 1577 N

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

- A) Δl
- C) L
- B) l
- D) e

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

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

31. 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
- C) 0.143
- B) 0.7
- D) 7

32. Which one is included in machining estimation sheet?

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

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

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

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

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

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

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

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

- A) $3r/8$
C) $3r/4$

- B) $r/2$
D) $4r/5$

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

- A) $3r/8$
C) $r/2$

- B) $3r/4$
D) $4r/5$

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

- A) Neutral
C) Un-stable

- B) Both A and B
D) Stable

39. Which one is related to estimation of work?

- A) Hand book
C) Information table

- B) Bill of material
D) Packing

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

- A) Cone
C) Triangle

- B) Rhombus
D) Square

41. Which process produce equilibrium conditions?

- A) Annealing and Hardening
C) Normalising and Tempering

- B) Annealing and Normalising
D) Normalising and Tempering

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

- A) Standard schedule of rates of the last year
C) Standard schedule of rates of the current year

- B) Standard schedule of rates of the average of the last 10 years
D) Standard schedule of rates of the average of last 5 years

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

- A) 1.25 kg/mm^2
C) 125 kg/mm^2

- B) 12.5 kg/mm^2
D) 12500 kg/mm^2

44. 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
C) 1000 kg/mm^2

- B) 10 kg/mm^2
D) 1 kg/mm^2

45. What is the weight of a rectangular block of a cast iron of $250 \text{ cm} \times 20 \text{ cm} \times 8 \text{ cm}$ (density of cast iron is 7.8 gm/cm^3)?

- A) 312 kg
C) 410 kg

- B) 372 kg
D) 525 kg

46. Which one is the ratio of stress?

- A) Load and diameter
C) Load and direction

- B) Load and area
D) Load and time

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

- A) Induction hardening
C) Case hardening

- B) Carburising
D) Nitriding

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

- A) Working stress
C) Compressive stress

- B) Ultimate stress
D) Tensile stress

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

- A) Less than 20%
C) Less than 5%

- B) Less than 10%
D) Less than 8%

50. Which hand book referred by machine engineer?

- A) Mark standard
C) Parry's cheorikal

- B) Oxford Dictionary
D) CRC