

ITI QuizW/C 2 - 04- Apr-2026 09:28 AM

Q. ID: ITISKILL8714IW

April 2026

Trinity, College udhyavara udupi

Answer Key

Duration: 155 Mins

Total Marks: 50

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

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

Answer: C) 7

2. 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

3. Which affects the centre of gravity of the object

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

Answer: C) Mass

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

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

Answer: A) Factor of safety

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

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

Answer: C) $3r/8$

6. Which force acts on rivets?

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

Answer: D) Shear force

7. What is the formula for bulk modulus?

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

Answer: C) Volumetric stress/Volumetric strain

8. 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) 0.1 B) 0.01
C) 0.001 D) 0.0001

Answer: B) 0.01

9. Which is thermosetting plastic?

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

Answer: D) Melamine resins

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

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

Answer: C) Hooks law

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

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

Answer: C) Mass

12. 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) 340 W B) 540 W
C) 440 W D) 640 W

Answer: B) 540 W

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

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

Answer: D) Centre of gravity

14. Which force acts on crank shaft?

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

Answer: C) Torsional stress

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

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

Answer: C) Rs.752/-

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

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

Answer: B) Centre of gravity

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

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

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

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

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

Answer: C) 2.54 cm

19. 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

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

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

Answer: C) $h/4$

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

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

Answer: B) 2.54 cm

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

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

Answer: D) At its centre

23. 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) 0.0001687
- D) 0.0001867

Answer: B) 0.0001786

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

A) Bulk modulus

B) Hooks law

C) Poisson's ratio

D) Young's modulus

Answer: C) Poisson's ratio

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

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

Answer: B) Strain

26. Which is thermo plastic material?

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

Answer: A) Vinyl polymers

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

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

Answer: A) Ultimate stress

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

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

Answer: C) Linear strain

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

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

Answer: B) Unstable

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

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

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

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

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

Answer: C) Unstable

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

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

Answer: A) Stable

33. 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) Specification
- D) Drawing

Answer: A) Estimation

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

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

Answer: B) Modulus of rigidity

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

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

Answer: B) Triangle

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

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

Answer: D) $\frac{3r}{8}$

37. 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) 125 kg/mm²
- B) 1.25 kg/mm²
- C) 12.5 kg/mm²
- D) 12500 kg/mm²

Answer: D) 12500 kg/mm²

38. What is the ratio between stress and strain?

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

Answer: C) Young's Modulus

39. What is the relative permittivity of rubber?

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

Answer: A) Between 2 and 3

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

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

Answer: B) 300%

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

- A) l
- B) L
- C) e
- D) Δl

Answer: D) Δl

42. Which is elastic material?

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

Answer: A) Nylon

43. Which authority publishes schedule of rates?

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

Answer: D) Government department

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

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

Answer: D) Ultimate stress

45. 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

Answer: D) At its centre

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

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

Answer: B) 10 kg/mm²

47. What is the unit of strain?

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

Answer: B) No unit

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

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

Answer: A) Stable

49. 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/mm²? ($\pi = \frac{22}{7}$)

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

Answer: D) 1571.4 N

50. Which one is the ratio of stress?

A) Load and time

B) Load and direction

Answer: D) Load and area

C) Load and diameter

D) Load and area