

Duration: 90 Mins

Total Marks: 25

Q.ID: ITISKILL6940XC

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

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

Answer: B) Factor of safety

2. 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

3. What is the formula for bulk modulus?

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

Answer: B) Volumetric stress/Volumetric strain

4. What is the unit of strain?

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

Answer: B) No unit

5. Which force acts on crank shaft?

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

Answer: A) Torsional stress

6. 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

Answer: C) 10 kg/mm^2

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

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

Answer: A) Strain

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

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

Answer: B) Modulus of rigidity

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

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

Answer: C) Linear strain

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

- A) e B) L
C) l D) Δl

Answer: D) Δl

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

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

Answer: D) Ultimate stress

12. Which is thermo plastic material?

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

Answer: C) Vinyl polymers

13. 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) 12500 kg/mm^2 D) 125 kg/mm^2

Answer: C) 12500 kg/mm^2

14. Which is thermosetting plastic?

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

Answer: B) Melamine resins

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

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

Answer: B) Poisson's ratio

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

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

Answer: C) 300%

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

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

Answer: A) Ultimate stress

18. 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) 0.0001968
- C) 0.0001786
- D) 0.0001867

Answer: C) 0.0001786

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

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

Answer: B) 7

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

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

Answer: B) Hooks law

21. Which force acts on rivets?

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

Answer: A) Shear force

22. What is the ratio between stress and strain?

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

Answer: D) Youngs Modulus

23. Which is elastic material?

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

Answer: A) Nylon

24. 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) 0.01
- B) 0.001
- C) 0.1
- D) 0.0001

Answer: A) 0.01

25. 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) 1575 N
- C) 1571.4 N
- D) 1577 N

Answer: C) 1571.4 N