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Answer Key

Duration: 90 Mins

Total Marks: 25

Q.ID: ITISKILL3771ZH

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

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

Answer: C) 7

2. 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 = 22/7)

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

Answer: A) 1571.4 N

3. Which one is the ratio of stress?

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

Answer: C) Load and area

4. What is the formula for bulk modulus?

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

Answer: D) Volumetric stress/Volumetric strain

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

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

Answer: D) Strain

6. Which is elastic material?

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

Answer: D) Nylon

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

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

Answer: D) Ultimate stress

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

- A) Modulus of rigidity B) Bulk modulus

- C) Modulus of elasticity D) Yield point

Answer: A) Modulus of rigidity

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

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

Answer: B) Poisson's ratio

10. What is the unit of strain?

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

Answer: A) No unit

11. 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 B) 0.001
C) 0.1 D) 0.01

Answer: D) 0.01

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

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

Answer: D) delta l

13. What is the ratio between stress and strain?

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

Answer: D) Youngs Modulus

14. Which is thermo plastic material?

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

Answer: D) Vinyl polymers

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

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

Answer: C) Linear strain

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

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

Answer: A) Ultimate stress

17. Which force acts on crank shaft?

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

Answer: B) Torsional stress

18. Which force acts on rivets?

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

Answer: D) Shear force

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

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

Answer: D) Factor of safety

20. 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) 0.0001968 D) 0.0001867

Answer: B) 0.0001786

21. Which is thermosetting plastic?

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

Answer: A) Melamine resins

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

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

Answer: B) 300%

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

- A) 1 kg/mm^2 B) 100
C) 1000 D) 10 kg
 kg/mm^2 /mm^2

Answer: D) 10 kg /mm^2

24. 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) 12.5 kg B) 1.25
 /mm^2 kg/mm^2
C) 125 D) 12500
 kg/mm^2 kg/mm^2

Answer: D) 12500 kg/mm^2

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

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

Answer: D) Hooks law