

Duration: 60 Mins

Total Marks: 25

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

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

Answer: B) Ultimate stress

2. Which force acts on rivets?

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

Answer: D) Shear force

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

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

Answer: B) Hooks law

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

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

Answer: C) Linear strain

5. Which is thermo plastic material?

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

Answer: D) Vinyl polymers

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

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

Answer: A) Strain

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

- A) δl
- B) L
- C) l
- D) e

Answer: A) δl

8. 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/mm²
- B) 12500 kg/mm²

C) 12.5 kg /mm²

D) 125 kg/mm²

Answer: B) 12500 kg/mm²

9. What is the ratio between stress and strain?

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

Answer: A) Youngs Modulus

10. 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) 7
- C) 1.43
- D) 0.7

Answer: B) 7

11. Which one is the ratio of stress?

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

Answer: B) Load and area

12. What is the formula for bulk modulus?

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

Answer: A) Volumetric stress/Volumetric strain

13. 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) 100 kg/mm²
- C) 1 kg/mm²
- D) 10 kg /mm²

Answer: D) 10 kg /mm²

14. 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) 0.01
- C) 0.1
- D) 0.0001

Answer: B) 0.01

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

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

Answer: B) Modulus of rigidity

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

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

Answer: C) 300%

17. Which is elastic material?

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

Answer: D) Nylon

18. Which is thermosetting plastic?

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

Answer: A) Melamine resins

19. What is the unit of strain?

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

Answer: C) No unit

20. Which force acts on crank shaft?

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

Answer: C) Torsional stress

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

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

Answer: B) Ultimate stress

22. 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) 1757 N B) 1575 N
C) 1571.4 N D) 1577 N

Answer: C) 1571.4 N

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) 0.0001687 B) 0.0001867
C) 0.0001786 D) 0.0001968

Answer: C) 0.0001786

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

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

Answer: B) Factor of safety

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

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

Answer: C) Poisson's ratio