

Duration: 60 Mins

Total Marks: 25

ID: ITISKILL5502JT

Student Name: _____	Roll No: _____
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1. What is the ratio between lateral strain and longitudinal strain?

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

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

- A) δl B) e
C) L D) l

3. 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) 1.43
C) 7 D) 0.143

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

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

5. Which one is the ratio of stress?

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

6. 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) 0.0001
C) 0.001 D) 0.01

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

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

8. Which is thermosetting plastic?

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

9. 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) 0.0001687
C) 0.0001867 D) 0.0001786

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

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

11. Which is elastic material?

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

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

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

13. What is the unit of strain?

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

14. Which force acts on crank shaft?

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

15. What is the formula for bulk modulus?

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

16. Which force acts on rivets?

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

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

- A) Factor of safety B) Youngs modulus

C) Ultimate stress

D) Yield point

A) Bulk modulus

B) Factor of safety

C) Modulus of rigidity

D) Young's modulus

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

A) Modulus of rigidity

B) Yield point

C) Modulus of elasticity

D) Bulk modulus

19. 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) 1575 N

B) 1571.4 N

C) 1577 N

D) 1757 N

20. Which is thermo plastic material?

A) Butyl rubber

B) Vinyl polymers

C) Neoprene

D) Nylon

21. What is the ratio between stress and strain?

A) Young's Modulus

B) Yield point

C) Poisson's ratio

D) Factor of safety

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

23. 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) 125

B) 12.5 kg

kg/mm^2

$/\text{mm}^2$

C) 1.25

D) 12500

kg/mm^2

kg/mm^2

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

A) 200%

B) 400%

C) 300%

D) 100%

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

A) 1000

B) 10 kg/mm^2

kg/mm^2

C) 1 kg/mm^2

D) 100 kg/mm^2