

Duration: 90 Mins

Total Marks: 25

ID: ITISKILL6940XC

Student Name: _____ Roll No: _____

1. What is the unit of strain?

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

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

2. 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) 0.0001867
B) 0.0001968
C) 0.0001687
D) 0.0001786

9. What is the formula for bulk modulus?

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

3. Which force acts on rivets?

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

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

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

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

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

11. Which is elastic material?

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

5. 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) 0.0001
C) 0.1
D) 0.01

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

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

6. 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) 125 kg/mm²
B) 1.25 kg/mm²
C) 12500 kg/mm²
D) 12.5 kg/mm²

13. What is the ratio between stress and strain?

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

7. 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) 1577 N
C) 1757 N
D) 1575 N

14. Which is thermosetting plastic?

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

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

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

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

- A) 7
B) 1.43

C) 0.143

D) 0.7

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

A) Yield point

B) Modulus of rigidity

C) Bulk modulus

D) Modulus of elasticity

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

A) 10 kg/mm^2

B) 100 kg/mm^2

C) 1 kg/mm^2

D) 1000 kg/mm^2

19. Which one is the ratio of stress?

A) Load and time

B) Load and direction

C) Load and diameter

D) Load and area

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

A) 200%

B) 300%

C) 400%

D) 100%

21. Which force acts on crank shaft?

A) Shear stress

B) Torsional stress

C) Tensile stress

D) Compressive stress

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

A) l

B) L

C) Δl

D) e

23. Which is thermo plastic material?

A) Butyl rubber

B) Nylon

C) Vinyl polymers

D) Neoprene

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

A) Yield point

B) Ultimate stress

C) Young's modulus

D) Factor of safety

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

A) Linear strain

B) Poisson's ratio

C) Lateral strain

D) Volumetric strain