

MONTHLY TEST

Q. ID: ITISKILL6833HE

February 2026

GOVT. ITI.AMMASANDRA,

Answer Key

Duration: 60 Mins

Total Marks: 25

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

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

Answer: B) 300%

2. 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) 10 kg/mm² D) 1 kg/mm²

Answer: C) 10 kg/mm²

3. What is the unit of strain?

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

Answer: D) No unit

4. Which force acts on crank shaft?

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

Answer: C) Torsional stress

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

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

Answer: B) Ultimate stress

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

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

Answer: A) Linear strain

7. What is the formula for bulk modulus?

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

Answer: A) Volumetric stress/Volumetric strain

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

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

Answer: C) Modulus of rigidity

9. Which force acts on rivets?

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

Answer: A) Shear force

10. 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

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

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

Answer: B) Ultimate stress

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

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

Answer: A) Strain

13. Which is thermosetting plastic?

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

Answer: C) Melamine resins

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

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

Answer: C) Hooks law

15. Which one is the ratio of stress?

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

Answer: C) Load and area

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

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

Answer: C) Poisson's ratio

17. Which is thermo plastic material?

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

Answer: A) Vinyl polymers

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) 0.0001786
C) 0.0001867 D) 0.0001968

Answer: B) 0.0001786

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

- A) l B) e
C) L D) Δl

Answer: D) Δl

20. 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/mm² B) 125 kg/mm²
C) 1.25 kg/mm² D) 12500 kg/mm²

Answer: D) 12500 kg/mm²

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

- A) Factor of safety B) Modulus of rigidity

C) Bulk modulus

D) Young's modulus

Answer: A) Factor of safety

22. 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

23. 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) 1575 N
C) 1757 N D) 1577 N

Answer: A) 1571.4 N

24. Which is elastic material?

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

Answer: C) Nylon

25. 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

Answer: D) 0.01
