

June 2026

GOVT ITI HOLENARSIPURA

Question Paper

Duration: 90 Mins

Total Marks: 25

ID: ITISKILL3771ZH

Student Name: _____	Roll No: _____
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1. Which is thermo plastic material?

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

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

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

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

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

4. What is the formula for bulk modulus?

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

5. 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) 0.0001968 | D) 0.0001786 |

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

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

7. Which one is the ratio of stress?

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

8. Which is thermosetting plastic?

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

9. What is the ratio between stress and strain?

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

10. What is the unit of strain?

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

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

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

12. 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/mm ² | B) 1 kg/mm ² |
| C) 10 kg /mm ² | D) 100 kg/mm ² |

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

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

14. Which force acts on rivets?

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

15. Which force acts on crank shaft?

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

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

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

17. 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?

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|----------|-----------|
| A) 0.001 | B) 0.1 |
| C) 0.01 | D) 0.0001 |

18. Which is elastic material?

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

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

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

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

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

21. 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) 1577 N | B) 1757 N |
| C) 1571.4 N | D) 1575 N |

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

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

23. What is the youngs 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 kg/mm^2 | B) 12500 kg/mm^2 |
| C) 1.25 kg/mm^2 | D) 12.5 kg / mm^2 |

24. What is the safe stress if the ultimate stress of a material is 35 kg/mm^2 and factor of safety is 5?

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

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

- | | |
|------|---------------|
| A) l | B) e |
| C) L | D) Δl |