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## Theory of Structures MCQ Test

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Below is the **Theory of Structures MCQ** test that checks your basic knowledge of the Theory of Structures. This **Theory of Structures MCQ Test** contains 20 Multiple Choice Questions. You have to select the right answer to the question. Finally, you can also take the Online Quiz from the Take **Theory of Structures Quiz** Button.

**Q1. What is the shape factor for a triangular section In plastic analysis?**

- A. 1.5
- B. 2.5
- C. 1.34
- **D. 2.34**

**Q2. Which of the following is the equivalent length of a column of length having both the ends fixed?**

- A. L
- **B. L/2**
- C. 2 L
- D. None of the above

**Q3. The maximum principal stress theory for the failure of a material at an elastic point is known as .....**

- A. Von Mises' theory
- **B. Rankine's theory**
- C. St. Venant's theory
- D. None of the above

**Q4. Which of the following is the correct statement?**

- A. If tensile stress is less than axial stress, the section experiences compressive stress
- B. If tensile stress is equal to axial stress, the section experiences compressive stress
- C. The moment of inertia is calculated about the axis about which bending takes place
- **D. All of the above**

**Q5. What is the ratio of the stresses produced by a suddenly applied load and by a gradually applied load on a bar?**

- A. 1
- **B. 2**
- C. 3
- D. 4

**Q6. What is called the load on a spring per unit deflection?**

- **A. Stiffness**
- B. Proof stress
- C. Proof load
- D. None of the above

**Q7. The co-efficient of wind resistance of a circular surface is .....**

- A.  $1/2$
- B.  $1/3$
- C.  $2/2$
- **D.  $2/3$**

**Q8. What is the ratio of lateral strain to axial strain of a homogeneous material?**

- A. Yield ratio
- B. Plastic ratio
- C. Hooke's ratio
- **D. Poisson's ratio**

**Q9. What is called the strain energy stored in a spring when subjected to greatest load without being permanently distorted?**

- A. Stiffness
- B. Proof load
- C. Proof stress
- **D. Proof resilience**

**Q10. What is co-efficient of wind resistance of a circular surface?**

- A. 1/2
- **B. 2/3**
- C. 3/2
- D. 1/3

**Q11. The assumption in the theory of bending of beams, is .....**

- A. Material is isotropic
- B. Material is homogeneous
- C. Each layer is independent to expand or to contract
- **D. All of the above**

**Q12. What is called the load on a spring per unit deflection?**

- **A. Stiffness**
- B. Proof load
- C. Proof stress
- D. Proof resilience

**Q13. The shear stress is not directly proportional to ..... in a shaft.**

- A. Angle of twist
- B. Radius of the shaft
- **C. Length of the shaft**
- D. Modulus of rigidity.

**Q14. The locus of the moment of inertia about inclined axes to the principal axis is .....**

- A. Circle
- **B. Ellipse**
- C. Parabola

- D. Straight line

**Q15. Which of the following option is known as the maximum strain theory for the failure of a material at the elastic limit?**

- A. Haig's theory
- B. Rankine's theory
- C. **St. Venant's theory**
- D. Von Mises's theory

**Q16. The shape factor of standard rolled beam section varies from**

- A. 1.20 to 1.30
- B. 1.30 to 1.40
- C. **1.10 to 1.20**
- D. 1.40 to 1.50

**Q17. Stress may be defined as**

- A. **Force per unit area**
- B. Force per unit length
- C. Force per unit volume
- D. None of the above

**Q18. The shape factor for a circular section, is ..... in plastic analysis.**

- A. 1.6
- B. 1.5
- C. **1.7**
- D. None of the above

**Q19. The forces in the members of simple trusses, may be analysed by**

- A. Method of joints
- B. Graphical method
- C. Method of sections
- D. **All of the above**

**Q20. Coefficient of wind resistance of a rectangular surface is .....**

- A.  $1/2$
- B.  $1/3$
- C.  $2/3$
- D.  $3/2$

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