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**Score: 22/25 (88.00%)**

**Code: 2714**

1. Which is elastic material?

- A) Nylon (Correct)**                      B) Polystyrenes  
C) Celluloid                                D) Polycarbonates

2. Which is thermo plastic material?

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

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

- A) 100% (Incorrect)                      B) 200%  
**C) 300%**                                        D) 400%

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

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

5. What is the unit of strain?

- A) Kg/cm<sup>2</sup>                                      B)  
    Newton/metre<sup>2</sup>  
C) Metre                                        **D) No unit (Correct)**

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

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

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

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

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

- A) L    **B) delta l (Correct)**  
C) I    D) e

9. Which one is the ratio of stress?

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

10. Which force acts on rivets?

- A) Tensile force                              B) Compressive force  
**C) Shear force (Correct)**                D) Bending force

11. What is the formula for bulk modulus?

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

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

- A) Newtons law                                **B) Hooks law (Correct)**  
C) Joules law                                 D) Charles law

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 (Correct)**

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

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

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

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

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

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

17. What is the ratio between stress and strain?

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

18. Which force acts on crank shaft?

- A) Shear stress                                **B) Torsional stress (Correct)**  
C) Tensile stress                              D) Compressive stress

19. Which is thermosetting plastic?

A) Vinyl polymers

B) Polystyrenes

C) 0.0001867

D) 0.0001968

C) Celluloid

**D) Melamine resins  
(Correct)**

20. 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  $50\text{N/mm}^2$ ? ( $\pi = 22/7$ )

A) 1757 N

B) 1575 N

**C) 1571.4 N (Correct)**

D) 1577 N

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

A)  $1\text{ kg/mm}^2$

**B)  $10\text{ kg/mm}^2$   
(Correct)**

C)  $100\text{ kg/mm}^2$

D)  $1000\text{ kg/mm}^2$

22. 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) 0.0001786 (Correct)**

B) 0.0001687

23. 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) 0.01 (Correct)**

C) 0.001

D) 0.0001

24. What is the youngs modulus if a wire of 2m long,  $0.8\text{ mm}^2$  in cross section increases its length by 1.6 mm on suspension of 8 kg weight from it?

A) 1.25

B) 12.5 kg

$\text{kg/mm}^2$

$\text{/mm}^2$

C) 125

**D) 12500**

$\text{kg/mm}^2$

**$\text{kg/mm}^2$   
(Correct)**

25. What is the safe stress if the ultimate stress of a material is  $35\text{ kg/mm}^2$  and factor of safety is 5?

A) 0.143

B) 0.7

C) 1.43

**D) 7 (Correct)**