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Score: 34/50 (68.00%)

Code: 6147

1. Which affects the centre of gravity of the object?

- A) Weight
 B) **Mass**
 C) Density (Incorrect)
 D) Shape

2. What is the name of the point at which all the weight of the body concentrated?

- A) Initial point
 B) **Centre of gravity (Correct)**
 C) Centroid
 D) Central point

3. Where the centre of gravity of a circle lies?

- A) **At its centre (Correct)**
 B) Any where on its radius
 C) Any where on its circumference
 D) Any where on its diameter

4. What is the centre of gravity of a right circular cone from its base?

- A) $h/2$
 B) $h/3$
 C) **$h/4$ (Correct)**
 D) $h/5$

5. What is the centre of gravity of a rectangular body?

- A) Longer side of rectangle
 B) Shorter side of rectangle
 C) **At the point of intersection of its diagonals (Correct)**
 D) At the corners

6. What is the centre of gravity of a solid hemisphere from its base?

- A) $4r/5$
 B) **$3r/8$**
 C) $3r/4$
 D) $r/2$ (Incorrect)

7. What is the centre of gravity of a sphere?

- A) **At the centre**
 B) On the circumference (Incorrect)
 C) At the diameter
 D) At the radius

8. Which state of equilibrium's example is A cone resting on its tip?

- A) Stable
 B) Neutral
 C) **Unstable (Correct)**
 D) Horizontal

9. Which one of the following geometrical shapes centre of gravity lies from its base is $1/3$ of its height?

- A) Square
 B) Rhombus

C) **Triangle**

D) Cone (Incorrect)

10. Which state of equilibrium's example is, A cone resting on its base?

- A) Un-stable (Incorrect)
 B) Neutral
 C) **Stable**
 D) Bothe A and B

11. Which is elastic material?

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

12. Which is thermo plastic material?

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

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

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

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

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

15. What is the unit of strain?

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

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

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

17. 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)**

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

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

19. Which one is the ratio of stress?

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

20. Which force acts on rivets?

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

21. 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

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

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

23. 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)

24. 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

25. 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

26. 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

27. What is the ratio between stress and strain?

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

28. Which force acts on crank shaft?

- A) Shear stress B) **Torsional stress**
(Correct)

- C) Tensile stress D) Compressive stress

29. Which is thermosetting plastic?

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

30. 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) 1757 N B) 1575 N
C) **1571.4 N** (Correct) D) 1577 N

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

- A) 1 kg/mm² B) **10 kg/mm²**
(Correct)
C) 100 kg/mm² D) 1000 kg/mm²

32. 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
C) 0.0001867 D) 0.0001968

33. 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**
C) 0.001 D) 0.0001 (Incorrect)

34. 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) 1.25 kg/mm² B) 12.5 kg/mm²
C) 125 kg/mm² D) **12500 kg/mm²**
(Correct)

35. 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) 0.7
C) 1.43 D) **7** (Correct)

36. What is a under estimate?

- A) No work started as per estimate B) An estimate perfectly matches with actual
C) **An estimate is fell short of the actual estimate** (Correct) D) An estimate is exceeded the actual estimate

37. What is the main factor to be considered while preparing a detailed estimate?

- A) Shape of material B) Brand of the materials
C) Quantity, availability and transportation of materials (Correct)
D) Location of material

38. Which authority publishes schedule of rates?

- A) Individual (Incorrect) B) Corporate
C) Partnership firm **D) Government department**

39. Which IE rules are to be verified on completion of wiring on any new installation?

- A) IE Rules, 1956 (Correct)** B) IE Rules, 1960
C) IE Rules, 1961 D) IE Rules, 1967

40. What is the total labour charges for a particular wiring work completed in 2 days by one electrician and one helper.(Electrician @ ₹800/day and helper @ Rs 400/day)

- A) Rs. 2000 **B) Rs. 2400 (Correct)**
C) Rs. 3000 D) Rs. 1400

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C) Density D) Shape

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C) Triangle (Correct) D) Cone

50. Which state of equilibrium's example is, A cone resting on its base?

- A) Un-stable B) Neutral
C) Stable D) Both A and B (Incorrect)