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Score: 19/50 (38.00%)

Code: 6572

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**
 C) Centroid
 D) Central point (Incorrect)

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**
 D) At the corners (Incorrect)

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

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

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

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

8. 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 (Correct)**
 D) Cone

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

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

10. What is the centre of gravity of a semi circle of diameter 12 cm?

- A) 2.24 cm
 B) **2.54 cm**
 C) 3.25 cm (Incorrect)
 D) 2.75 cm

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% (Incorrect)
 C) **300%**
 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**
C) Load and diameter (Incorrect)
- B) Load and direction
D) Load and time

20. Which force acts on rivets?

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

21. What is the formula for bulk modulus?

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

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

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

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

- A) Tensile stress
C) Working stress
- B) Compressive stress (Incorrect)
D) **Ultimate stress**

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

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

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

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

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

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

27. What is the ratio between stress and strain?

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

28. Which force acts on crank shaft?

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

29. Which is thermosetting plastic?

- A) Vinyl polymers (Incorrect)
C) Celluloid
- B) Polystyrenes
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/mm^2 ? ($\pi = 22/7$)

- A) 1757 N
C) **1571.4 N**
- B) 1575 N (Incorrect)
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/mm^2
C) 100 kg/mm^2
- B) **10 kg/mm^2 (Correct)**
D) 1000 kg/mm^2

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**
C) 0.0001867
- B) 0.0001687 (Incorrect)
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
C) 0.001 (Incorrect)
- B) **0.01**
D) 0.0001

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/mm^2
C) 125 kg/mm^2
- B) 12.5 kg/mm^2
D) **12500 kg/mm^2 (Correct)**

35. 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
C) 1.43
- B) 0.7 (Incorrect)
D) **7**

36. What is the term used for the method of calculating various quantities and expenditure on a particular job or process?

- A) **Estimation**
C) Specification
- B) Drawing
D) Plan (Incorrect)

37. Which authority publishes schedule of rates?

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

38. What is the relative permittivity of rubber?

- A) **Between 2 and 3 (Correct)**
B) Between 5 and 6
C) Between 8 and 10
D) Between 12 and 14

39. What is the estimation of milling cost of a rectangular block size 100 X 80 X60 mm, if cost of the milling is Rs.2/sq.cm?

- A) Rs.652/-
B) **Rs.752/- (Correct)**
C) Rs.572/-
D) Rs.960/-

40. What is the total wattage in a room if 2 tube lights of 50W rating, 2 fans of 80W rating, 2 numbers of light points of 60W rating, one fan point of 60W rating and one 3 pin socket of 100W rating?

- A) 340 W
B) 440 W (Incorrect)
C) **540 W**
D) 640 W

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

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

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

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

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

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

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