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Score: 12/50 (24.00%)

Code: 5634

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- A) Square
C) **Triangle**
- B) Rhombus (Incorrect)
D) Cone

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

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

11. Which is elastic material?

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

12. Which is thermo plastic material?

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

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

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

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

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

15. What is the unit of strain?

- A) Kg/cm^2
C) Metre
- B) Newton/metre² (Incorrect)
D) **No unit**

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

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

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

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

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

- A) L (Incorrect)
C) l
- B) **Δl**
D) e

19. Which one is the ratio of stress?

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

20. Which force acts on rivets?

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

21. What is the formula for bulk modulus?

- A) Tensile stress/Tensile strain
C) Volumetric stress/Volumetric strain (Correct)
- 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 (Correct)
D) Charles law

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

- A) Tensile stress (Incorrect)
C) Working stress
- B) Compressive stress
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 (Correct)
- B) Yield point
D) Youngs modulus

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 (Incorrect)
C) Tensile stress
- B) Torsional stress
D) Compressive stress

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
D) 1577 N (Incorrect)

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 (Incorrect)
- B) 10 kg/mm^2
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 (Correct)
C) 0.0001867
- B) 0.0001687
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
- B) 0.01 (Correct)
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 (Incorrect)
C) 125 kg/mm^2
- B) 12.5 kg/mm^2
D) 12500 kg/mm^2

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 (Incorrect)
C) 1.43
- B) 0.7
D) 7

36. What is a under estimate?

- A) No work started as per estimate
C) An estimate is fell short of the actual estimate (Correct)
- B) An estimate perfectly matches with actual
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
C) Quantity, availability and transportation of materials
- B) Brand of the materials
D) Location of material (Incorrect)

38. Which authority publishes schedule of rates?

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

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

- A) **IE Rules, 1956**
C) IE Rules, 1961 (Incorrect)
B) IE Rules, 1960
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
C) Rs. 3000
B) **Rs. 2400 (Correct)**
D) Rs. 1400

41. Which affects the centre of gravity of the object

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

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B) **Centre of gravity**
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D) Any where on its diameter

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

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

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

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

49. Which one of the following geometrical shape's centre of gravity lies from its base is $1/3$ of its height?

- A) Square
C) **Triangle (Correct)**
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D) Cone

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