

Student: Nishank

Score: 18/50 (36.00%)

Code: 2542

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

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

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

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

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

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

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

11. Which is elastic material?

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

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

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

12. Which is thermo plastic material?

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

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)

13. 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%

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)

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

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

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

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

15. What is the unit of strain?

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

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 (Incorrect)
 C) **Triangle**
 D) Cone

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

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

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

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

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

- A) L (Incorrect)
 B) **Δl**

C) l D) e

19. Which one is the ratio of stress?

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

20. Which force acts on rivets?

- A) Tensile force (Incorrect) B) Compressive force
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 B) **Hooks law**
C) Joules law D) Charles law (Incorrect)

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**
C) Bulk modulus D) Yield point (Incorrect)

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 (Incorrect) B) **Torsional stress**
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/mm^2 ? ($\pi = 22/7$)

- A) 1757 N (Incorrect) B) 1575 N
C) **1571.4 N** 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 (Incorrect) B) **10 kg/mm²**
C) 100 D) 1000
kg/mm² 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 B) 12.5 kg
kg/mm² /mm²
C) 125 D) **12500 kg/mm² (Correct)**
kg/mm²

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) B) 0.7
C) 1.43 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** B) Drawing
C) Specification (Incorrect) D) Plan

37. Which authority publishes schedule of rates?

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

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/-**
C) Rs.572/- (Incorrect) 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
C) 540 W (Correct) D) 640 W

41. Which affects the centre of gravity of the object

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

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C) Any where on its circumference D) Any where on its diameter

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its base?

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

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C) At the point of intersection of its diagonals (Correct) D) At the corners

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

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

47. 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

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

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

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

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

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

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