

- 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 B) Compressive force
C) **Shear force (Correct)** 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 (Correct)**
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**
C) Tensile stress (Incorrect) D) Compressive stress

29. Which is thermosetting plastic?

- A) Vinyl polymers B) Polystyrenes
C) Celluloid (Incorrect) 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 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/mm^2 B) **10 kg/mm^2 (Correct)**
C) 100 D) 1000
 kg/mm^2 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)** 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 (Correct)**
C) 0.001 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 B) 12.5 kg
 kg/mm^2 /mm^2
C) 125 D) **12500**
 kg/mm^2 **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 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

B) Corporate

C) Partnership firm

D) Government department (Correct)

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

41. Which affects the centre of gravity of the object

A) Weight

B) Mass

C) Density

D) Shape (Incorrect)

42. 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

43. 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

44. 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) $h/5$

45. 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)

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

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 (Correct)

B) On the circumference

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

C) Unstable (Correct)

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

B) Rhombus

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 (Correct)

D) Both A and B