

Student: Suman

Score: 38/50 (76.00%)

Code: 4786

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

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

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

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)  **$3r/8$  (Correct)**  
 C)  $3r/4$   
 D)  $r/2$

7. 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

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 (Correct)**  
 D) Cone

10. 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

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% (Incorrect)  
 B) 200%  
 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)  $\text{Kg/cm}^2$   
 B) Newton/metre<sup>2</sup>  
 C) Metre (Incorrect)  
 D) **No unit**

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

- A) **Linear strain (Correct)**  
 B) Lateral strain  
 C) Volumetric strain  
 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)  **$\Delta l$  (Correct)**  
 C) I  
 D) e

19. Which one is the ratio of stress?

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

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  
(Incorrect)  
C) **Volumetric stress/Volumetric strain**      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 (Incorrect)          B) **Torsional stress**  
C) Tensile stress                      D) Compressive stress

29. Which is thermosetting plastic?

- A) Vinyl polymers                      B) Polystyrenes (Incorrect)  
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  $50\text{N/mm}^2$ ? ( $\pi = 22/7$ )

- A) 1757 N                                B) 1575 N  
C) **1571.4 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)  $1\text{ kg/mm}^2$                               B)  **$10\text{ kg/mm}^2$  (Correct)**  
C) 100                                      D) 1000  
 $\text{kg/mm}^2$                                        $\text{kg/mm}^2$

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 mm<sup>2</sup> 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  
 $\text{kg/mm}^2$                                        $\text{/mm}^2$   
C) 125                                        D) **12500**  
 $\text{kg/mm}^2$                                        **$\text{kg/mm}^2$  (Correct)**

35. What is the safe stress if the ultimate stress of a material is  $35\text{ kg/mm}^2$  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**      D) An estimate is exceeded the actual estimate  
(Incorrect)

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 (Correct)**  
C) Density      D) Shape

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)**  
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43. Where the centre of gravity of a circle lies?

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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 (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  
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      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