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Score: 29/50 (58.00%)

Code: 5126

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

- A) Weight  
C) Density  
B) **Mass (Correct)**  
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 (Correct)**  
C) Any where on its circumference  
B) Any where on its radius  
D) Any where on its diameter

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

- A)  $h/2$   
C)  **$h/4$**   
B)  $h/3$  (Incorrect)  
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 (Correct)**  
C) At the diameter  
B) On the circumference  
D) At the radius

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

- A) Stable (Incorrect)  
C) **Unstable**  
B) Neutral  
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  
C) **Triangle (Correct)**  
B) Rhombus  
D) Cone

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

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

11. Which is elastic material?

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

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% (Incorrect)  
C) **300%**  
B) 200%  
D) 400%

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

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

15. What is the unit of strain?

- A)  $\text{Kg/cm}^2$   
C) Metre (Incorrect)  
B)  $\text{Newton/metre}^2$   
D) **No unit**

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

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

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

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

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

- A) L (Incorrect)  
C) l  
B)  **$\Delta l$**   
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 (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 (Incorrect)      D) **Ultimate stress**

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 (Incorrect)  
C) **Youngs Modulus**      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<sup>2</sup>? (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<sup>2</sup>      B) **10 kg/mm<sup>2</sup> (Correct)**  
C) 100 kg/mm<sup>2</sup>      D) 1000 kg/mm<sup>2</sup>

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 kg/mm<sup>2</sup>      B) 12.5 kg/mm<sup>2</sup>  
C) 125 kg/mm<sup>2</sup>      D) **12500 kg/mm<sup>2</sup> (Correct)**

35. What is the safe stress if the ultimate stress of a material is 35 kg/mm<sup>2</sup> 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 (Incorrect)      B) Brand of the materials  
C) **Quantity, availability and transportation of materials**      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  
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**C)  $h/4$**   
D)  $h/5$

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B)  **$3r/8$  (Correct)**  
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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 (Incorrect) B) Neutral  
**C) Unstable** 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 (Incorrect) B) Rhombus  
**C) Triangle** D) Cone

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

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