

Student: MOHAMMED HUSEIN MUJAVARA

Score: 34/50 (68.00%)

Code: 3059

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

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

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**      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      B) Rhombus

**C) Triangle**

D) Cone (Incorrect)

10. 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

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      **D) Vinyl polymers (Correct)**

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      **D) No unit (Correct)**

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

- A) Linear strain**      B) Lateral strain (Incorrect)  
 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 (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**  
C) Joules law (Incorrect) 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 (Incorrect) B) Young's modulus  
C) **Factor of safety** 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 (Incorrect) B) **Modulus of rigidity**  
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  
C) Celluloid D) **Melamine resins (Correct)**

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 (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)  $1\text{ kg/mm}^2$  B)  **$10\text{ kg/mm}^2$  (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  $35\text{ kg/mm}^2$  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 (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**

B) IE Rules, 1960

C) IE Rules, 1961 (Incorrect)

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)**

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C) Any where on its circumference

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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)  $4r/5$  (Incorrect)

**B)  $3r/8$**

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