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Code: 4427

1. 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

2. 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

3. 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

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

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

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

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

6. What is the maximum percentage of stretch of its original length is allowable for elastic materials?

- A) 100%
B) 200%
C) **300% (Correct)**
D) 400%

7. 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

8. What is the unit of strain?

- A) Kg/cm²
B) Newton/metre²
C) Metre
D) **No unit (Correct)**

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

- A) L
B) **delta l (Correct)**
C) I
D) e

10. 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)**

11. 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

12. What is the ratio between stress and strain?

- A) Yield point
B) Factor of safety
C) **Youngs Modulus (Correct)**
D) Poisson's ratio

13. Which is thermosetting plastic?

- A) Vinyl polymers
B) Polystyrenes
C) Celluloid (Incorrect)
D) **Melamine resins**

14. 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/mm²? (Pi = 22/7)

- A) 1757 N
B) 1575 N
C) **1571.4 N (Correct)**
D) 1577 N

15. 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

16. 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 kg/mm²
B) 12.5 kg/mm²
C) 125 kg/mm²
D) **12500 kg/mm² (Correct)**

17. What is the safe stress if the ultimate stress of a material is 35 kg/mm² and factor of safety is 5?

- A) 0.143
B) 0.7
C) 1.43
D) **7 (Correct)**

18. What is the other term used for reference table?

- A) Dictionary
C) Bibliography

- B) Biography
D) Information Table (Correct)

19. Which hand book referred by machine engineer?

- A) Parry's cheorikal
C) Mark standard (Correct)
D) Oxford Dictionary

20. What is a hand book?

- A) Model book of various works
C) Design book of latest works
B) Type of reference work or other collection of instruction (Correct)
D) Dictionary of materials

21. Which standard schedule of rates to be considered for estimation?

- A) Standard schedule of rates of the last year
C) Standard schedule of rates of the average of last 5 years (Incorrect)
B) Standard schedule of rates of the average of the last 10 years
D) Standard schedule of rates of the current year

22. What is an over estimate?

- A) When an estimate is exceeded to actual estimate (Correct)**
C) When an estimate perfectly matches the actual estimate
B) When an estimate is fell short of the actual estimate
D) No work started as per estimate

23. What is the name of a booklet, the rates of various terms are indicated?

- A) Price bank
C) Price tag
B) Price bunch
D) Price catalogue (Correct)

24. What is the term, for the details of materials, brand name, grade of quality, rating of current and voltage etc.?

- A) Drawing
C) Raw materials
B) Specification of materials (Correct)
D) Price catalogue

25. What is the other term of pocket reference in engineering works?

- A) Hand tool
C) Good book
B) Hand book (Correct)
D) New book

26. What is a total cost?

- A) Raw material cost only
C) Raw materials cost and machining cost (Correct)
B) Machining cost only
D) Advertisement cost only

27. What is the minimum permissible area of conductor (U/G cable) for three and half cores cable?

- A) 25 sq.mm
C) 5 sq.mm
B) 50 sq.mm (Correct)
D) 100 sq.mm

28. Which of the impurity in cast iron makes it hard and brittle?

- A) Silicon
C) Manganese
B) Sulphur (Correct)
D) Phosphorus

29. Which specification is other than general specification?

- A) Brief specification
C) Detailed specification
B) Bulk specification
D) Main specification (Incorrect)

30. What percentage of water absorbed by a good building stone?

- A) Less than 10%
C) Less than 8%
B) Less than 20%
D) Less than 5% (Correct)

31. What is the relative permittivity of rubber?

- A) Between 2 and 3 (Correct)**
C) Between 8 and 10
B) Between 5 and 6
D) Between 12 and 14

32. What is the weight of a rectangular block of a cost iron of 250cm X 20cm X 8cm (density of cast iron is 7.8 gm/cm³)?

- A) 312 kg**
C) 410 kg
B) 372 kg (Incorrect)
D) 525 kg

33. What is the total cost of painting of a class room including ceiling, if the size of length is 6m, breadth is 5m and height is 4m. (Painting + labour cost Rs.150/- per sq.m)

- A) Rs.15000/-
C) Rs.17700/- (Correct)
B) Rs.16700/-
D) Rs.18700/-

34. What is the total construction cost of a house construction area of 3000 sq.ft. (cost of construction Rs.2000/- per sq.ft including material and labour)?

- A) Rs.30,000,000
C) Rs.6,00,000
B) Rs.60,00,000 (Correct)
D) Rs.6,000,000

35. What is the total cost of Air-conditioners installed in a college, 40 class room-each 1 Air-conditioner, Computer lab 5 Air- conditioners and conference hall 5 Air-conditioners (Cost of one air conditioner Rs.30000/- including installation)?

- A) Rs.10 lakhs
C) Rs. 12 lakhs
B) Rs. 20 lakhs
D) Rs. 15 lakhs (Correct)

36. Which affects the centre of gravity of the object

- A) Weight
C) Density

B) Mass (Correct)
D) Shape

37. 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

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

- A) $h/2$
C) $h/4$ (Correct)

B) $h/3$
D) $h/5$

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

- A) $4r/5$
C) $3r/4$

B) $3r/8$ (Correct)
D) $r/2$

40. 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

41. Which one of the following geometrical shape's centre of gravity lies from its base is $1/3$ of its height?

- A) Square
C) Triangle (Correct)

B) Rhombus
D) Cone

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

- A) 2.24 cm
C) 3.25 cm

B) 2.54 cm
D) 2.75 cm (Incorrect)

43. What is the process of heat treatment?

A) The process of heating and cooling to change the structure and properties (Correct)

- B) The process of heating to change the dimensions
D) The process of heating and bending as per our requirement

C) The process of cooling to measure the dimensions

44. What are the various stages of heat treatment?

- A) Heating, Cooling and Quenching
C) Heating, Soaking and Quenching (Correct)

B) Quenching, Cooling and Heating
D) Soaking, Quenching and Cooling

45. Which heat treatment process is done to refine the grain structure of the steel?

- A) Annealing
C) Hardening

B) Normalising (Correct)
D) Tempering

46. What is the name of heat treatment process done to relieve strain and stress?

- A) Normalising
C) Hardening

B) Annealing (Correct)
D) Tempering

47. Which process steel is heated in a carbonaceous atmosphere for the penetration of carbon?

- A) Case hardening
C) Carburising (Correct)

B) Nitriding
D) Induction hardening

48. Which is the suitable nitriding process for all alloyed and unalloyed steels?

- A) Silver nitriding
C) Nitriding in Quenching tank

B) Nitriding in salt-bath (Correct)
D) Gas nitriding

49. How much time is allowed normally in soaking zone for a 10mm thick metal piece while hardening?

- A) 5 minutes (Correct)**
C) 15 minutes

B) 10 minutes
D) 20 minutes

50. What is the purpose of tempering a steel?

- A) To reduce the brittleness**
C) To increase the hardness (Incorrect)

B) To remove the ductility
D) To increase the brittleness