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Code: 3363

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**
B) Any where on its radius
C) Any where on its circumference (Incorrect)
D) Any where on its diameter

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

- A) $h/2$
B) $h/3$ (Incorrect)
C) **$h/4$**
D) $h/5$

4. What is the centre of gravity of a rectangular body?

- A) Longer side of rectangle (Incorrect)
B) Shorter side of rectangle
C) **At the point of intersection of its diagonals**
D) At the corners

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

- A) $4r/5$
B) **$3r/8$ (Correct)**
C) $3r/4$
D) $r/2$

6. What is the centre of gravity of a sphere?

- A) **At the centre**
B) On the circumference (Incorrect)
C) At the diameter
D) At the radius

7. Which is elastic material?

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

8. Which is thermo plastic material?

- A) Butyl rubber
B) Nylon
C) Neoprene (Incorrect)
D) **Vinyl polymers**

9. 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%

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

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

11. What is the unit of strain?

- A) Kg/cm^2
B) Newton/metre^2
C) Metre
D) **No unit (Correct)**

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

- A) L
B) **Δl (Correct)**
C) I
D) e

13. Which one is the ratio of stress?

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

14. Which force acts on rivets?

- A) Tensile force
B) Compressive force
C) **Shear force**
D) Bending force (Incorrect)

15. What is the formula for bulk modulus?

- A) Tensile stress/Tensile strain (Incorrect)
B) Compressive stress/Compressive strain
C) **Volumetric stress/Volumetric strain**
D) Shear stress/Shear strain

16. Which law states that within elastic limit stress is directly proportional to strain?

- A) Newtons law
B) **Hooks law**
C) Joules law
D) Charles law (Incorrect)

17. What is the ratio of ultimate load to area of original cross section?

- A) Factor of safety (Incorrect)
B) Yield point
C) **Ultimate stress**
D) Youngs modulus

18. Which force acts on crank shaft?

- A) Shear stress
B) **Torsional stress (Correct)**
C) Tensile stress
D) Compressive stress

19. 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/mm²
C) 100 kg/mm²
B) 10 kg /mm² (Correct)
D) 1000 kg/mm²

20. 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)
C) 0.0001867
B) 0.0001687
D) 0.0001968

21. Which hand book referred by machine engineer?

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

22. 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

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

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

24. What is the main factor to be considered while preparing a detailed estimate?

- A) Shape of material
C) Quantity, availability and transportation of materials (Correct)
B) Brand of the materials
D) Location of material

25. Which authority publishes schedule of rates?

- A) Individual
C) Partnership firm
B) Corporate
D) Government department (Correct)

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

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

27. What is the use of engineering drawing?

A) For estimation of material and execution of work

- B) For colourful appearance
C) For reducing the cost
D) For increasing the cost (Incorrect)

28. Which one is related to estimation of work?

- A) Bill of material (Correct)
C) Information table
B) Packing
D) Hand book

29. 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

30. 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

31. Which one is the most reliable estimate?

- A) Preliminary estimate
C) Cube rate estimate
B) Plinth area estimate (Incorrect)
D) Detailed estimate

32. What describes the detailed specification for the item of work?

- A) Quality, Quantity, Workmanship, Method of execution (Correct)
C) Tax, Transport, Overhead expenses
B) Colour
D) Maintenance, Stock, Cost

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

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

34. What cables are used for 132KV lines?

- A) High tension (Incorrect)
C) Extra high tension
B) Super tension
D) Extra super voltage

35. Which specification is other than general specification?

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

36. What is the relative permittivity of rubber?

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

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

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

38. What is the total wattage in a room if 2 tube lights of 50W rating, 2 fans of 80W rating, 2 numbers of light points of 60W rating, one fan point of 60W rating and one 3 pin socket of 100W rating?

- A) 340 W
B) 440 W
C) 540 W (Correct)
D) 640 W

39. 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 @ ₹400/day)

- A) Rs. 2000
B) Rs. 2400 (Correct)
C) Rs. 3000
D) Rs. 1400

40. What is the total cost to assemble 10 personal computer systems, spares cost as given for one system: 1 TB hard disc Rs.4500/-, Intel i3 mother board Rs.7000/-, SMPS Rs.2500/-, monitor Rs.6000/-, keyboard Rs.1000/-, other material cost (Switches, USB, Cable)

- A) Rs.275000/- (Correct)
B) Rs.250000/-
C) Rs.225000/-
D) Rs.265000/-

41. 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
B) Rs.60,00,000 (Correct)
C) Rs.6,00,000
D) Rs.6,000,000

42. 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
B) Rs. 20 lakhs
C) Rs. 12 lakhs
D) Rs. 15 lakhs (Correct)

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

A) At its centre

C) Any where on its circumference

B) Any where on its radius

D) Any where on its diameter (Incorrect)

44. 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

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

A) Stable

C) Unstable

B) Neutral (Incorrect)

D) Horizontal

46. What are the various types of heat treatment processes?

A) Annealing, Normalising, Hardening and Tempering (Correct)

C) Hardening, Soaking, Painting and Packing

B) Normalising, Heating, Cooling and Painting

D) Tempering, Cooling, Packing and Soiling

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

A) Annealing

C) Hardening

B) Normalising (Correct)

D) Tempering

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

D) Gas nitriding (Incorrect)

49. What is the name of the heat treatment process, where the metal is heated and quenched in water or oil?

A) Hardening

C) Annealing

B) Normalising and Tempering (Incorrect)

D) Tempering

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

A) 5 minutes

C) 15 minutes (Incorrect)

B) 10 minutes

D) 20 minutes