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Score: 63/78 (80.77%)

Code: 8610

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 (Incorrect)
C) Centroid
B) Centre of gravity
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) $h/4$ (Correct)
B) $h/3$
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
C) Unstable
B) Neutral (Incorrect)
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 (Correct)
B) Neutral
D) Both A and B

11. 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 (Correct)
D) 2.75 cm

12. Which is elastic material?

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

13. Which is thermo plastic material?

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

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

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

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

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

16. What is the unit of strain?

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

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

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

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

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

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

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

20. Which one is the ratio of stress?

A) Load and area (Correct)
B) Load and direction
C) Load and diameter
D) Load and time

21. Which force acts on rivets?

A) Tensile force
B) Compressive force
C) Shear force (Correct)
D) Bending force

22. 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

23. 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)

24. 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)

25. 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

26. 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

27. 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

28. What is the ratio between stress and strain?

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

29. Which force acts on crank shaft?

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

30. Which is thermosetting plastic?

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

31. 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

32. 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
B) **10 kg /mm² (Correct)**
C) 100 kg/mm²
D) 1000 kg/mm²

33. 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

34. 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

35. 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)

36. 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)

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

A) Dictionary
B) Biography
C) Bibliography
D) Information Table (Correct)

38. Which hand book referred by machine engineer?

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

39. What is a hand book?

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

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

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

41. What is an over estimate?

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

42. What is a under estimate?

- A) No work started as per estimate B) An estimate perfectly matches with actual (Incorrect)
C) An estimate is fell short of the actual estimate D) An estimate is exceeded the actual estimate

43. What is the term used for the method of calculating various quantities and expenditure on a particular job or process?

- A) Estimation (Correct)** B) Drawing
C) Specification D) Plan

44. 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

45. Which authority publishes schedule of rates?

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

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

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

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

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

48. What is the use of engineering drawing?

- A) For estimation of material and execution of work (Correct)** B) For colourful appearance
C) For reducing the cost D) For increasing the cost

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

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

50. Which one is related to estimation of work?

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

51. What is a total cost?

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

52. Who prepares the cost of estimation?

- A) Operator B) Quality Inspector
C) Estimator (Correct) D) Draughts man

53. Which one is included in machining estimation sheet?

- A) Transport cost B) Advertisement cost
C) Raw material cost (Correct) D) Tax

54. What is the minimum permissible size of aluminium wire used in estimation?

- A) 1.5 sq.mm (Correct)** B) 2.5 sq.mm
C) 5 sq.mm D) 3.5 sq.mm

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

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

56. Which one is the most reliable estimate?

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

57. 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

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

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

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

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

60. What cables are used for 132KV lines?

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

61. Which specification is other than general specification?

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

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

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

63. What is the relative permittivity of rubber?

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

64. What is the weight of the iron ball has volume of 250 cc and density 7.5 gm/cc?

- A) 1750 gram **B) 1875 gram (Correct)**
C) 1975 gram D) 1785 gram

65. 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 (Correct)** B) 372 kg

- C) 410 kg D) 525 kg

66. What is the total estimation cost for making the component of 8 drilled hole dia 10 mm and 4 Numbers of M6 taps in the plate, if Rs.8/- per drilled holes and Rs.12 per drill and tap?

- A) Rs.102 B) Rs.100
C) Rs.112 (Correct) D) Rs.110

67. What is the estimation of milling cost of a rectangular block size 100 X 80 X60 mm, if cost of the milling is Rs.2/sq.cm?

- A) Rs.652/- **B) Rs.752/- (Correct)**
C) Rs.572/- D) Rs.960/-

68. 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 (Incorrect)
C) 540 W D) 640 W

69. 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

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

71. 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, Cables)

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

72. 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

73. 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)

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