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Code: 7045

1. What is the name of the point at which all the weight of the body concentrated?

- A) Initial point
 B) **Centre of gravity**
 C) Centroid
 D) Central point (Incorrect)

2. 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

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

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

4. 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)

5. Which one of the following geometrical shapes centre of gravity lies from its base is $1/3$ of its height?

- A) Square (Incorrect)
 B) Rhombus
 C) **Triangle**
 D) Cone

6. Which is elastic material?

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

7. Which one is the ratio of stress?

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

8. 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

9. Which force acts on crank shaft?

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

10. Which is thermosetting plastic?

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

11. 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^2 ? ($\pi = 22/7$)

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

12. 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

13. 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**
 C) 0.001 (Incorrect)
 D) 0.0001

14. What is the youngs modulus if a wire of 2m long, 0.8mm^2 in cross section increases its length by 1.6 mm on suspension of 8 kg weight from it?

- A) 1.25
 B) 12.5 kg/mm^2
 C) 125
 D) **12500 kg/mm^2 (Correct)**

15. 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 (Incorrect)
 D) **Standard schedule of rates of the current year**

16. What is an over estimate?

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

17. 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

18. 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

D) Location of material (Incorrect)

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

A) Drawing (Incorrect)

B) Specification of materials

C) Raw materials

D) Price catalogue

20. 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 (Incorrect)

D) For increasing the cost

21. Which one is related to estimation of work?

A) Bill of material

B) Packing

C) Information table (Incorrect)

D) Hand book

22. 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

23. Who prepares the cost of estimation?

A) Operator (Incorrect)

B) Quality Inspector

C) Estimator

D) Draughts man

24. Which one is included in machining estimation sheet?

A) Transport cost

B) Advertisement cost (Incorrect)

C) Raw material cost

D) Tax

25. 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

C) 5 sq.mm

D) 100 sq.mm (Incorrect)

26. 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

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

A) Quality, Quantity, Workmanship, Method of execution

B) Colour

C) Tax, Transport, Overhead expenses (Incorrect)

D) Maintenance, Stock, Cost

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

A) Silicon (Incorrect)

B) Sulphur

C) Manganese

D) Phosphorus

29. What cables are used for 132KV lines?

A) High tension

B) Super tension

C) Extra high tension (Incorrect)

D) Extra super voltage

30. What is the relative permittivity of rubber?

A) Between 2 and 3

B) Between 5 and 6 (Incorrect)

C) Between 8 and 10

D) Between 12 and 14

31. 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

32. 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/- (Incorrect)

B) Rs.752/-

C) Rs.572/-

D) Rs.960/-

33. 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

C) Rs. 3000

D) Rs. 1400 (Incorrect)

34. 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/- (Incorrect)

C) Rs.17700/-

D) Rs.18700/-

35. 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, Cabl

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

36. Which affects the centre of gravity of the object

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

37. What is the name of the point at which all the weight of the body concentrated?

- A) Initial point **B) Centre of gravity**
C) Centroid (Incorrect) D) Central point

38. 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

39. 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

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

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

41. 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 (Incorrect)
C) Triangle D) Cone

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

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

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

- A) Annealing, Normalising, Hardening and Tempering** B) Normalising, Heating, Cooling and Painting (Incorrect)
C) Hardening, Soaking, Painting and Packing D) Tempering, Cooling, Packing and Solling

44. What is the name of the structure formed, if a steel is heated for about 723 Degree C?

- A) Cementide (Incorrect) **B) Austenite**
C) Martensite D) Ferrite

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

- A) Annealing **B) Normalising (Correct)**
C) Hardening D) Tempering

46. Which process produce equilibrium conditions?

- A) Annealing and Hardening B) Normalising and Tempering (Incorrect)
C) Annealing and Normalising D) Normalising and Tempering

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

- A) Case hardening B) Nitriding (Incorrect)
C) Carburising D) Induction hardening

48. Which is a kind of surface hardening process?

- A) Cementide B) Ferrite
C) Nitriding D) Tempering (Incorrect)

49. What is colour of a metal piece when heated to 250 Degree C while doing the tempering process?

- A) Blue **B) Brown**
C) Purple (Incorrect) D) Pale

50. What is the purpose of tempering a steel?

- A) To reduce the brittleness** B) To remove the ductility
C) To increase the hardness D) To increase the brittleness (Incorrect)