MULTIPLE CHOICE PRACTICE QUESTIONS & ANSWER KEY 2ND YEAR WORKSHOP CALCULATION & SCIENCE (ALL TRADES)

Workshop Calculation & Science (2nd Year –All Trades)

MODULE 1 – FRICTION

1 : Which is the law of friction?
A : Friction force is independent over the area and shape of contacting surfaces
B : Frictional force is inversely proportional to the normal reaction C : Frictional force acts in the same direction of motion D : Frictional force is not a dependent on nature of contacting surface

2 : What is the direction of frictional force against a motional object?
A : Inclined to the object B : Opposite to the object C : Parallel to the object D : Perpendicular to the object

3 : Which force is directly proportional to the normal reaction between contacting surfaces?
A : Pulling force B : Pushing force C : Frictional force D : Allied force

4 : Which one of the following acts in between the wheels and roads, if vehicles are able to run on roads?
A : Friction B : Corrosion C : Erosion D : Motion

5 : Which is useful friction?
A : Rings in the cylinder B : Crank shaft bearings C : Wheel hub bearings D : Brake shoe lining

6 : Which is wasteful friction?
A : Rear axle gear B : Tyres on the floor C : Brake shoe lining D : Clutch lining

7 : Which is depends on the frictional force?
A : Type of metals B : Contact surfaces C : Quantity of the contacting metals D : Quality of metals

8 : How co-efficient of friction is expressed?
A : It is expressed as the ratio of force and area B : It is the ratio between frictional force and normal reaction C : It is the ratio between normal reaction and the mass of the object D : It is expressed as the ratio of weight and normal reaction

9 : What is the formula to find co-efficient of friction?
A: $\mu=F\times W$ B:$\mu=R/W$ C:$\mu=W/F$ D:$\mu=F/W$

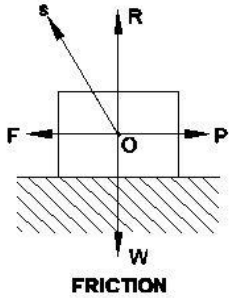
10 : Which symbol is used to denote co-efficient of friction?
A : α (Alpha) B : μ (Meu) C : β (Beta) D : γ (Gamma)

11 : What kind of friction is called if two objects are in contact at rest?
A : Sliding friction B : Rolling friction C : Static friction D : Angular friction

12 : Which is the correct statement?
A : Limiting friction is equal to sliding friction B : Rolling friction is more than the sliding friction C : Sliding friction is always less than limiting friction D : Limiting friction is always less than sliding friction

13 : What is the formula to find the force if the object is just move up the plane?
A :$W[\sin(\theta-\phi)]/\cos\phi$ B : $W[\sin(\theta+\phi)]/\cos\phi$ C : $W[\sin(\theta+\phi)]/\sin\phi$ D : $W[\cos(\theta+\phi)]/\cos\phi$

14 : Which of the angle is called angle of friction?

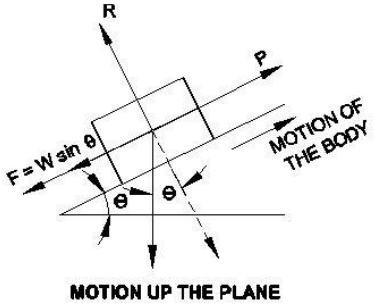


FRICTION

A : Angle – FOS B : Angle - ROS C : Angle - POS D : Angle – ROF

15 : What is the co-efficient of friction if the angle of friction is θ?
A : Sin θ B : Cos θ C : Tan θ D : Cot θ

16 : What denotes the letter 'R' in the given figure?



MOTION UP THE PLANE

A : Force B : Resistance C : Load D : Normal reaction

17 : What is the purpose of a lubricant?
A : To increase the pressure B : To increase friction C : To reduce friction D : To reduce pressure

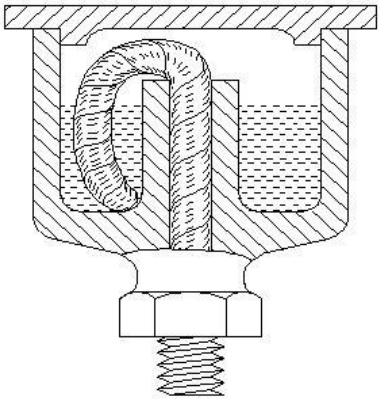
18 : What type of lubricant is used in wick feed lubrication system?
A :Lub-oil B : Grease C : Coolant D : Cutting oil

19 : Which lubrication system is provided with a ring oiler to splash lub-oil continuously around the parts?
A : Gravity feed system B : Pressure feed system C : Splash feed system D : Force feed system

20 : Which one is the three types of lubrication system in general use?
A : Force feed system, speed feed system, frictional feed system B : Velocity feed system, Speed feed system, Frictional feed system C : Gravity feed system, force feed system, splash feed system D : Splash feed system, Frictional force system, Speed feed system

21 : Which lubrication system employs oil holes in the machines?
A : Gravity feed system B : Force feed system C : Splash feed system D : Velocity feed system

22 : What is the name of the lubrication system?



A : Oil cup B : Wick feed C : Manual screw down D : Ring oiling

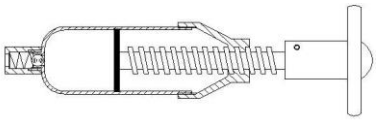
23 : Which is used to reduce the friction in machine parts?
A : Kerosene B : Petrol C : Water D : Lubricants

24 : Which is the main purpose of using the lubricant oil in engine moving parts
A : To increase the efficiency B : To reduce friction C : To improve carrying capacity D : To improve the durability

25 : Which is the correct statement?
A : Lubricants acts to prevent corrosion B : Lubricants acts as a seal C : Lubricants acts as a fuel D : Lubricants acts as a filter

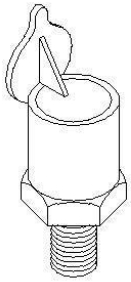
26 : What causes the efficiency of a machine by maintaining the lubrication?
A : Increases B : Decreases C : Remains same D : Does not affected

27 : What is the name of the instrument used for lubrication?



A : Oil -can B : Automatic hydraulic - Type pressure gun C : T-handle pressure gun D : Pressure grease gun

28 : Which principle of lubrication can be employed?
A : Pressure feed system B : Splash feed system C : Gravity feed system D : Force feed system



29 : Which way the coolant acts as a lubricant?
A : To carry away dust B : To carry away the heat C : To carry away moisture D : To carry away dryness

30 : What is the force required to move a body of mass 1000 kg if the co-efficient of friction is 0.4 (assume 1kg = 10 N)?
A : 4000 N B : 400 N C : 40 N D : 4 N

31 : What is the co-efficient of friction if a force of 30 N is required to move a body of mass 35 kg (Assume 1kg=10N)?
A : 8.57 B : 0.082 C : 0.0857 D : 0.0085

32 : How much force is required to move an object weights 20 kg, if the value of m = 0.24?
A : 4.8 kg B : 83.33 kg C : 1.2 kg D : 0.48 kg

33 : What is weight of an object could be moved by a force of 30 kg if co-efficient of friction is 0.0125?
A : 80 kg B : 2430 kg C : 72000 kg D : 2400 kg

34 : What is the angle of inclination if a weight of 150 kg is in equilibrium and the value of m is 0.5773?
A : 30° B : 45° C : 60° D : 90°

35 : How much force is required to just slide a 20 kg object lying on a horizontal table if the m is 0.2?
A : 2 kg B : 3 kg C : 4 kg D : 5 kg

36 : What is the force required to move a 20 kg object with a co-efficient of friction is 0.24?
A : 4.8 kg B : 0.48 kg C : 0.048 kg D : 0.0048 kg

37 : What is co-efficient of friction for pulling a load of 400 kg by a force of 40 kg?
A : 0.01 B : 0.2 C : 0.1 D : 0.02

38 : How much will be the co-efficient of friction for moving a body of mass 80 kg by a force of 40 kg on a horizontal surface?
A : 0.05 B : 0.5 C : 0.65 D : 0.45

39 : How much will be the weight of a body which will be moved by a horizontal force of 50 kg against a frictional resistance of 0.25?
A : 150 kg B : 200 kg C : 250 kg D : 300 kg

40 : What will be the approximate angle of inclination of an object if the co-efficient of friction m=0.84?
A : 60° B : 45° C : 40° D : 30°

41 : What is the work done to move a body of mass 60 kg to a distance of 5 meters, if the co-efficient if friction between body and the plane is 0.2?
A : 12 kg B : 60 kg C : 12 m-kg D : 60 m-kg

42 : How much work will be done in moving a 10 kg object residing on a horizontal plane through a distance of 10 meter (assume m= 0.15)?
A : 1.5 m-kg B : 15 m-kg C : 0.15 m-kg D : 150 m-kg

43 : How much force is required to stop a vehicle of mass 1000 kg running on a road with coefficient of friction between the tires and the road is 0.4?
A : 3000 kg B : 450 kg C : 350 kg D : 400 kg

44:The force of friction acts in a direction _____ to the direction of motion of object.
A:Same B:Opposite C:Perpendicular D:Downwards

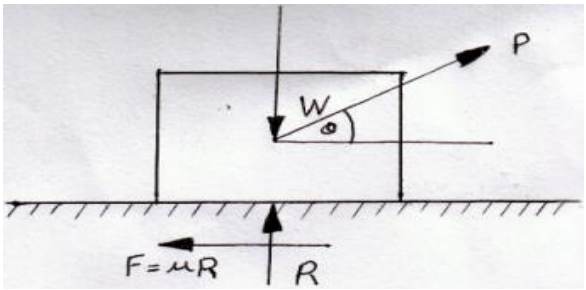
45:The force of friction depends upon
A:Nature of surface of contact B:Material of objects in contact C:Both ‘a’ and ‘b’ D:None

46:The body will move only when
A: Force of friction = applied force B :Force of friction < applied force C: Force of friction > applied force D: All of the above

47:The ratio of the limiting force of friction (F) to the normal reaction (R) is known as
A:Coefficient of friction B:Force of friction C:Angle of friction D:None of the above

48:The force of friction (F) is equal to
A:μR/2 B:μR C:2μR D:μR/3

49:The value of Normal reaction (R) for the following figure is



A: W – PSinθ B: W + PSinθ C: P – WSinθ D: P + WSinθ
(Where, W = Weight of block, P = Applied force, μ = Coefficient of friction, θ = Angle)

50:When the two surfaces in contact have a thick layer of lubricant in between them, it is known as
A:Solid friction B:Rolling friction C:Greasy friction D:Film friction

51:When the two surfaces in contact have a very thin layer of lubricant in between them, it is known as
A:Solid friction B:Rolling friction C:Greasy friction D:Film friction

52: Complete the sentence. Friction always _____

a. helps the motion b. opposes the motion c. both of these d. none of these

53: Which one of these characteristics does a smooth surface has?
a. Less frictional force b. More frictional force c. Sometimes less and sometimes more force d. All of above

54: Friction is a _____
a. Contact force b. Non-contact force c. Magnetic force d. None of these

55: What kind of substances are known as lubricants
a. Increase friction b. Decrease friction c. Increase or decrease friction d. None of these

56: On what force of friction depends?
a. Smoothness of surface b. Roughness of surface c. Inclination of surface d. All of above

57: Friction is a /an_____
a. Evil b. Foe c. Both (a) and (b) d. None

58. Lubricants _____
a. Increase friction b. Reduce friction c. Both (a) and (b) d. None

59. Rolling friction is smaller than?
a. Sliding friction b. Static friction c. Fluid friction d. All of the above

60: The coefficient of static friction is _____
a Less than the coefficient of kinetic friction b Greater than the coefficient of limiting friction
c Equal to the coefficient of kinetic friction d Equal to the tangent of the angle of friction

61: Which of the following kinetic friction is smaller?
a Limiting friction b Static friction c Rolling friction d Sliding friction

62. Which formula is used to calculate angle of static friction (Φ_s)?
a. $\tan^{-1} \mu_s$ b. $\sin^{-1} \mu_s$ c. $\cos^{-1} \mu_s$ d. none of the above

63.Which of the following surfaces will offer the least friction?
A. Vinyl floor B. Plywood C. Plastic D. Ice

64. Friction can be increased by
A. Using air cushion B. Lubricants C. Using sand D. Using ball bearings

65.A scooter weighs 120kg f. Brakes are applied so that wheels stop rolling and start skidding. Find the force of friction if the coefficient of friction is 0.4.
A. 60kg f B. 48kg f C. 25kg f D. 32kg f

66.A cubical block rests on an inclined plane of $\mu = 1/\sqrt{3}$, determine the angle of inclination when the block just slides down the inclined plane
A. 40° B. 50° C. 30° D. 20°

67.A mass of 4kg rests on a horizontal plane. The plane is gradually inclined until at an angle $\theta = 15°$ with the horizontal, the mass just begins to slide. What is the coefficient of static friction between the block and the surface?
A. 0.814 B. 0.27 C. 1.5 D. 3.5

68. The force of friction is maximum when the surface
A. Is on the point of motion B. Is at rest C. Is moving D. The friction remains same at all points

69.Mobil oil is used in scooters and bikes for which purpose?
A. As fuel B. For reducing friction C. For increasing friction D. None of these

70.Which of the following is used in powdered form as lubricant?
A. Graphite B. Chalk C. Salt D. Sugar

71. Increasing friction is necessary for which of the following?
A. Free wheel of bicycle B. Bicycle handle bar C. Chain of bicycle D. Ball bearing in front wheel

72. Least amount of friction is required in which of the following sports?
A. Car Race B. Football C. Ice Skating D. none of these

73. Which one of these characteristics does a smooth surface has?
A. Less frictional force B. More frictional force C. Sometimes less and sometimes more force D. All of above

74.why are ball bearings are used to reduce friction?
A. Ball bearing convert sliding friction into rolling friction B. Ball bearing convert rolling friction into sliding friction C. Ball bearing convert rolling friction into static friction D. None of these

75. Why synthetic rubber is preferred in tyres making?
A. Coefficient friction between road and synthetic rubber is large B. Coefficient friction between road and synthetic rubber is small C. Coefficient friction between road and synthetic rubber is same D. None of these

76.What does happen to coefficient of friction when weight of body is doubled

A. It remains same B. Double C. Zero D. None of these

77.Why We sprinkle fine powder on carom board?
A. To reduce friction. B. To increase friction C. To decorate D. None

78. Why Sportsmen use shoes with spikes?
A. To increase friction which prevents them from slipping B. To decrease friction which prevents them from slipping C. They love shoes with spikes D. None of these

79. Coefficient of friction is --------- for two elements.
A. Same B. Different C. Proportional D. None of the above

80. Value of coefficient of friction is----------
A. Less than 1 B.2 C.3 D. 4

81. Lubricant should have the property of ----------
A. Tenacity B. lubricity c. Friction D. Temper

82. The purpose of adequate lubricant in machinery is-
A. to increase the productivity of the machine B. to increase the age of the machine C. in order to ensure that all parts of the machine work smoothly D. all of the above

83. Limiting frictional force is_____ as compared to applied external force.
A. Equal B. Greater than C. lesser than D. none of the above

84. Maximum frictional force produced between two fixed surfaces is called_____
A. limiting friction B. static friction C. rolling friction D. sliding friction

85.Due to frictional force, life of machine _____
A. Decreases B. Increases C. remains same D. none of the above

86. Frictional force between two stationary surfaces is called_____ friction
A. limiting friction B. static friction C. rolling friction D. sliding friction

87. When one block is sliding over another block, then the force generated at the point of contact is known as_____
A. Dynamic frictional force B. Static frictional force C. limiting frictional force D. None of the above

ANSWERS

1:A; 2:B; 3:C; 4:A; 5:D; 6:A; 7:B; 8:B; 9:D; 10:B; 11:C; 12:C; 13:B; 14:B; 15:C; 16:D; 17:C; 18:A; 19:C; 20:C; 21:A; 22:B; 23:D; 24:B; 25:A; 26:A; 27:C; 28:C; 29:B; 30:A; 31:C; 32:A; 33:D; 34:A; 35:C; 36:A; 37:C; 38:B; 39:B; 40:C; 41:D; 42:B; 43:D; 44:B; 45:C; 46:B; 47:A; 48:B; 49:A; 50: D 51:C; 52:B; 53:A; 54:A; 55:B; 56:D; 57:C; 58:B; 59:D; 60:D; 61:C; 62:A; 63:D; 64:C; 65:B; 66:C; 67:B; 68:A; 69:D; 70:A 71:B; 72:C; 73:A; 74:A; 75:A; 76:A; 77:A; 78:A; 79:A; 80:A; 81:B; 82:A; 83:A; 84:A; 85:A; 86:B; 87:A

MODULE 2 - CENTRE OF GRAVITY

01 : Which affects the centre of gravity of the object?
A : Weight B : Mass C : Density D : Shape

02 : 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

03 : Where the centre of gravity of a circle lies?
A : At its centre B : Anywhere on its radius C : Anywhere on its circumference D : Anywhere on its diameter

04 : What is the centre of gravity of a right circular cone from its base?
A : h/2 B : h/3 C : h/4 D : h/5

05 : 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

06 : What is the centre of gravity of a solid hemisphere from its base?
A : 4r/5 B : 3r/8 C : 3r/4 D : r/2

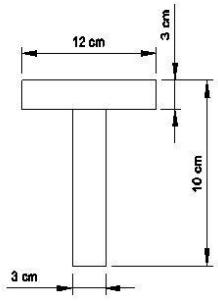
07 : What is the centre of gravity of a sphere?
A : At the centre B : On the circumference C : At the diameter D : At the radius

08: Which state of equilibriums example is A cone resting on its tip?
A : Stable B : Neutral C : Unstable D : Horizontal

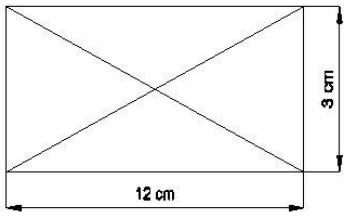
09 : Which one of the following geometrical shape's centre of gravity lies from its base is 1/3 of its height?
A : Square B : Rhombus C : Triangle D : Cone

10 : Which state of equilibriums' example is, A cone resting on its base?
A : Un-stable B : Neutral C : Stable D : Bothe A and B

11 : Where is the centre of gravity in 'T' section?

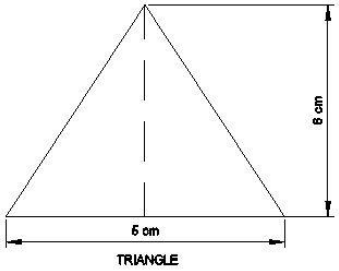


A : 8.545 cm B : 6.5 cm C : 8.02 cm D : 7.5 cm
12 : What is the centre of gravity of the rectangle?



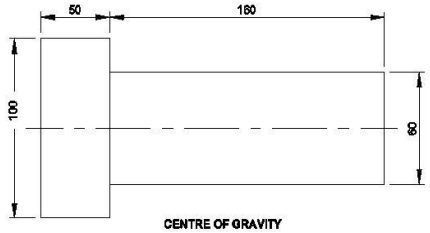
A : (6,3) B : (6,6) C : (6,1.5) D : (1.5, 3)

13 : What is the centre of gravity of the lamina?



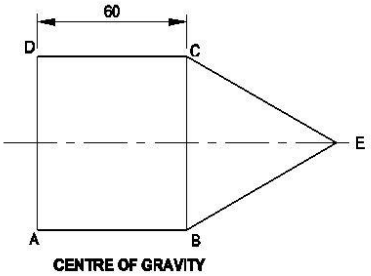
A : 1.55 cm B : 2.0 cm C : 1.5 cm D : 1.45 cm

14 : What is the centre of gravity of the object?



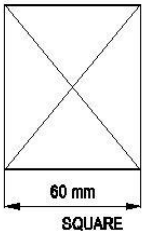
A : 90.6 mm B : 90.0 mm C : 89.2 mm D : 89.25 mm

15 : What is the centre of gravity of the conical object?



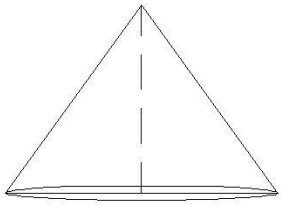
A : 42.5 mm B : 44.3 mm C : 42.3 mm D : 43.85 mm

16 : What is the centre of gravity of the square?



A : (30, 20) B : (20,30) C : (30, 30) D : (25, 30)

17 : What is the centre of gravity of the cone base 10cm and height 50 cm?



A : 10.5 cm B : 12.5 cm C : 11.25 cm D : 12.75 cm

18 : What is the centre of gravity of a semi circle of diameter 12 cm?
A : 2.24 cm B : 2.54 cm C : 3.25 cm D : 2.75 cm

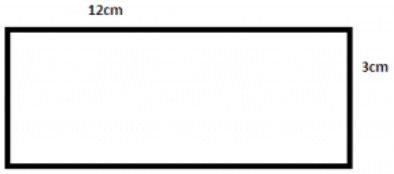
19. The point through which the whole weight of the body acts is called _____
(a)Inertial point (b)Center of gravity (c) Centroid (d) Central point

20. The point at which the total area of a plane figure is assumed to be concentrated is called _____
(a) Centroid (b) Centre of gravity (c) Central point (d) Inertial point

21. Where will be the centre of gravity of a uniform rod lies?
(a) At its end (b) At its middle point (c) At its centre of its cross sectional area (d) Depends upon its material

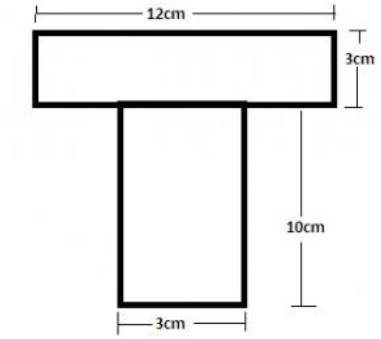
22. Where the center of gravity of a circle lies?
(a) At its centre (b) Anywhere on its radius (c) Anywhere on its circumference (d) Anywhere on its diameter

23. Where will be the center of gravity of the following section will lie In coordinates?



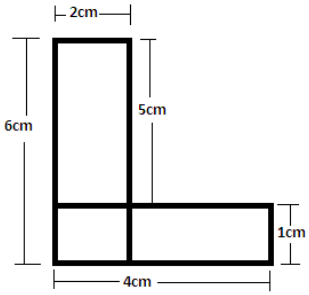
(a)(6,3) (b)(6,6) (c)(6,1.5) (d)(1.5,3)

24. Where will be the centre of gravity of the T section shown in the figure?



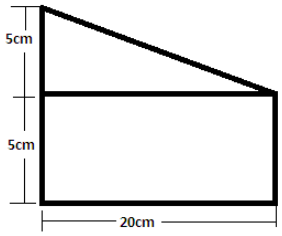
(a)At8.545cm (b)At6.5cm (c)At5cm (d)At9.25cm

25. Where will be the center of gravity of the L-section shown in the figure?



(a)(1.28,2.64) (b)(1.45,3.24) (c)(1.64,3.28) (d)(2.24,3.68)

26. Where will be the center of gravity of the figure shown ?



(a)(3.45,4.52) (b)(3.59,7.42) (c)(3.66,8.84) (d)(3.88,8.88)

27. Where will be the center of gravity of an I section will be if the dimension of upper web is 2x10cm, lower web is 2×20 and that of flange is 2x15cm If the y-axis will pass through the center of the section?
(a)7.611cm (b)9.51cm (c)9.31cm (d)11.5cm

28. The point through which the whole weight of the body acts is called _____
(a) Inertial point (b) Center of gravity (c) Centroid (d) Central point

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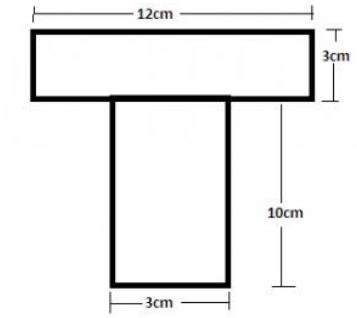
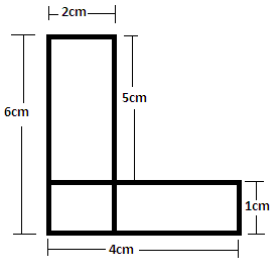
(a) (6,3) (b) (6,6) (c) (6,1.5) (d) (1.5,3)

33. Where will be the centre of gravity of the T section shown in the figure?



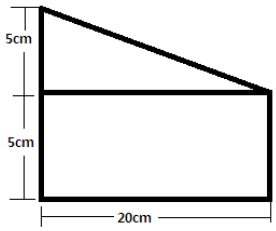
(a) At 8.545cm (b) At 6.5cm (c) At 5cm (d) At 9.25cm

34. Where will be the center of gravity of the L-section shown in the figure?



(a) (1.28,2.64) (b) (1.45,3.24) (c) (1.64,3.28) (d) (2.24,3.68)

35. Where will be the center of gravity of the figure shown ?



(a) (3.45, 4.52) (b) (3.59, 7.42) (c) (3.66, 8.84) (d) (3.88, 8.88)

36. Where will be the center of gravity of an I section will be if the dimension of upper web is 2x10cm, lower web is 2×20 and that of flange is 2x15cm If the y-axis will pass through the center of the section?

(a) 7.611cm (b) 9.51cm (c) 9.31cm (d) 11.5cm

37. Which of the following laminas do not have centroid at its geometrical centre?

a. Circle b. Equilateral triangle c. Right angled triangle d. None of the above

38. What is the C.G of an isosceles triangle of base 20 cm and side 40?

a. 12.90 cm b. 13.28 cm c. 19.36 cm d. 38.72 cm

39. If a material has no uniform density throughout the body, then the position of centroid and center of mass are _____

a. identical b. not identical c. independent upon the density d. unpredictable

40. What is the centroidal distance of an equilateral triangle of side 2 m?

a. 0.866 m b. 0.769 m c. 1.000 m d. 0.577 m

41. What is the angle made by side of a square lamina, if it is freely suspended from a corner with the horizontal?

a. 0^o b. 45^o c. 90^o d. 180^o

42. The centre of gravity is the ratio of _____ to _____

A. The product of centroid and weight to the total weight B. The addition of centroid and weight to the total weight C. The subtraction of centroid and weight to the total weight D. The product of centroid and weight to the total mass

43. The centre of mass is the ratio of _____ to _____

A. The product of centroid and mass to the total weight B. The addition of centroid and weight to the total weight C. The subtraction of centroid and weight to the total weight D. The product of centroid and mass to the total mass

44. A simple method to find the center of gravity of a body is the usage of

A. stop watch B. plumb line C. pendulum D. screw gauge

45. center of gravity is usually located where

A. More weight is concentrated B. Less weight is concentrated C. Less mass is concentrated D. More mass is concentrated

46. Center of gravity of an object depends on its

A. Weight B. Mass C. Density D. Shape

47. The center of gravity of a uniform lamina lies at

A. The bottom surface B. The center of bottom portion C. The midpoint of its axis D. All of the above

48. Center of gravity of a solid cone lies on the axis at the height

A. One-fourth of the total height above base B. One-third of the total height above base C. One-half of the total height above base D. None of the above

49. Center of gravity of a thin hollow cone lies on the axis at a height of a

A. One-fourth of the total height above base B. One-third of the total height above base C. One-half of the total height above base D. None of the above

50. The center of gravity of a triangle lies at the point of

A. concurrence of medians B. Intersection of its altitudes C. Intersection of bisector of angles D. Intersection of diagonals

ANSWERS

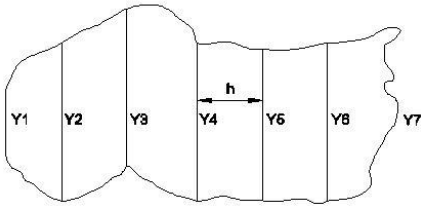
1:B; 2:B; 3:A; 4:C; 5:C; 6:B; 7:A; 8:C; 9:C; 10:C; 11:A; 12:C; 13:B; 14:A; 15:B; 16:C; 17:B; 18:B; 19:B; 20:A; 21:B 22:A 23:C 24:A 25:A 26:B 27:B 28:B 29:A 30:B 31:A 32:C 33:A 34:A 35:B 36:B 37:C 38:A 39:B 40:D 41:B 42:A 43:D 44:B 45:D 46:B 47:C 48:A 49:B 50:A

MODULE 3 - AREA OF CUT OUT REGULAR AND IRREGULAR SURFACES

1 : Which formula is suitable for the area of a circle, whose diameter is (d)?
A : $\pi d^2 / 4$ B : πr C : $2\pi r$ D : πd

2 : What is the circumference of a semi circle?
A : $\pi r + 2r$ B : $\pi d / 4$ C : $2\pi r^2$ D : $\pi d^2 / 4$

3 : What is the area of irregular shape by Sampson's is rule?

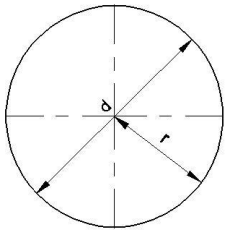


LENGTH OF BELTS

A : $h/3 [y_1+y_7+4 (y_2+y_4+y_6)+2(y_3+y_5]$ B : h/2 [y1 + y7] C : $h/3 [y_2+y_4+y_6]$ D : $h/2 [y_1 +y_7+(y+y_5)]$

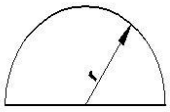
4 : What is the name called biggest chord of the circle?
A : Arc B : Diameter C : Radius D : Diagonal

5 : What is the formula for circumference of a circle?



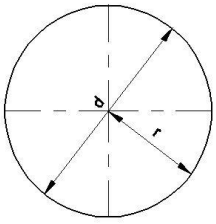
A : πr^2 B : $\pi d^2 / 4$ C : $2 \pi r$ D : πr

6 : What is the formula for area of the semi circle?



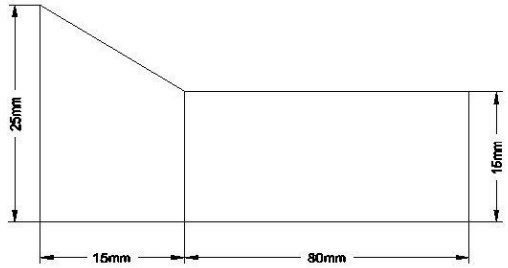
SEMI CIRCLE

7 : What is the formula for area of the circle?



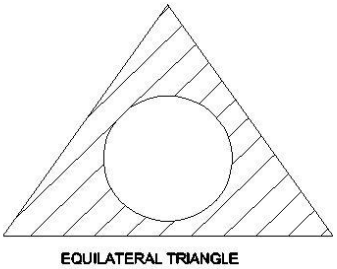
A : $\pi d^2 / 2$ B : πr^2 C : $2\pi r$ D : $\pi d / 2$

8 : What is the area of the irregular surface?



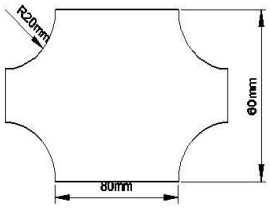
A : 1400 mm² B : 1450 mm² C : 1500 mm² D : 1200 mm²

9 : What is the area of the shaded portion, Equilateral Triangle side is 6cm and circle radius is 1.5cm?



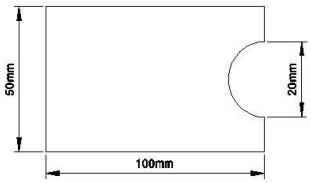
A: 8.52 cm² B: 12.75 cm² C: 9.5 cm² D: 12.25 cm²

10: What is the area of the irregular surfaces?



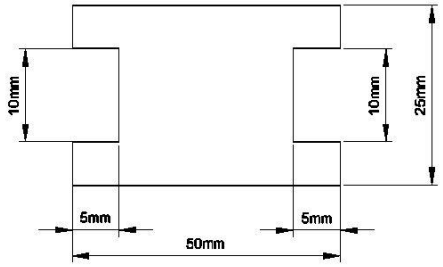
A : 2500 mm² B : 3544 mm² C : 3250 mm² D : 3444 mm²

11: What is the area of the irregular surfaces?



A : 4800 mm² B : 4820 mm² C : 4830 mm² D : 4843 mm

12: What is the area of irregular surfaces?



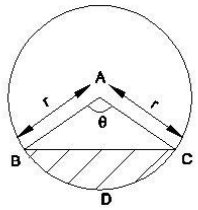
A : 1350 mm² B : 1175 mm² C : 1150 mm² D : 1250 mm²

13 : What is the length of arc of a sector, whose perimeter is 64.8cm and radius is 12.4 cm?
A : 40 cm B : 45 cm C : 40.8 cm D : 42 cm

14 : What is the length of arc of the sector whose radius is 15 cm and the intended angle is 30°?
A : 7.85 cm B : 7.25 cm C : 6.75 cm D : 6.85 cm

15 : What is the area of the sector, if the diameter is 12 cm and the angle is 60°?
A : 18.0 cm² B : 17.75 cm² C : 19.00 cm² D : 18.84 cm²

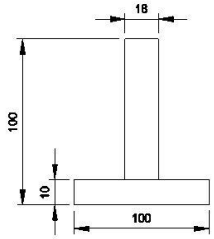
16 : What is the formula for area of the segment of a circle?



A : Area of the sector - Area of the triangle B : Area of the circle C : Area of the sector D : Area of the triangle - Area of the sector

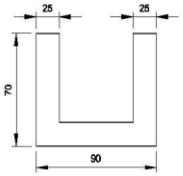
17 : What is the area of the circle, if the circumference of the circle is 44cm?
A : 128 cm² B : 130 cm² C : 154 cm² D : 129 cm²

18 : What is the area of the irregular surfaces?
A : 2600 unit² B : 2590 unit² C : 2625 unit² D : 2620 unit²



A : 2600 unit² B : 2590 unit² C : 2625 unit² D : 2620 unit²

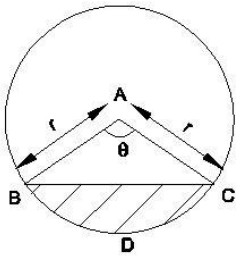
19 : What is the area of the irregular surfaces?



A : 4200 B : $4300.00 C : $4500.00 D : 4400

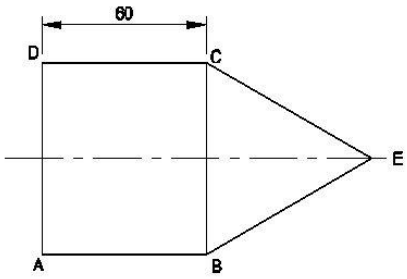
20 : What is the radius of the circle if the angle of sector is 90° and the area of the circle is 196 cm2?
A : 15.77 cm B : 15 cm C : 14.85 cm D : 14.95 cm

21 : What is the formula for perimeter of a sector?



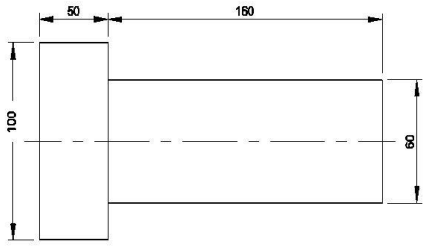
A : 2l + r B : l + 2r C : πr² D : 2πr

22 : What is the area of conical object?



A : 5100 mm² B : 5120 mm² C : 5125 mm² D : 5158.8 mm²

23 : What is the area of the lamina?



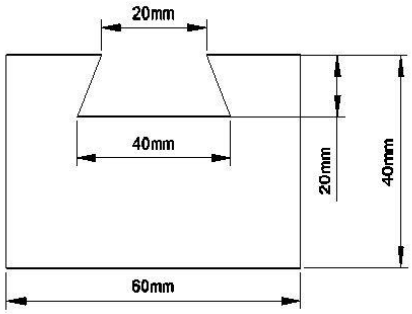
A : 14,800 mm² B : 14,600 mm² C : 14,650 mm² D : 14,750 mm²

24 : What is the area of the sector, whose diameter is 40 mm and angle is 120°?
A : 418.66 mm² B : 400.50 mm² C : 415.5 mm² D : 416.6 mm²

25 : What is the length of arc of a sector, whose radius is 15 cm and angle is 40°?
A : 9.75 cm B : 9.8 cm C : 10.60 cm D : 10.4 cm

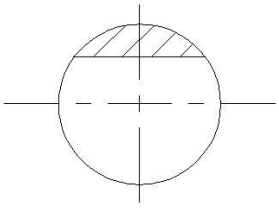
26 : What is the length of arc of a sector whose radius is 3.6 cm and angle is 36°?
A : 2.10 cm B : 2.26 cm C : 22.6 cm D : 21.0 cm

27 : What is the area of the surface?



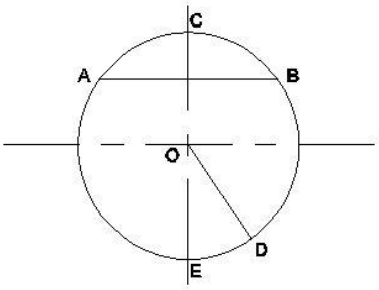
A : 1750 mm² B : 1775 mm² C : 1805 mm² D : 2600 mm²

28 : What is the name of the shaded portion?



A : Segment B : Sector C : Arc D : Chord

29 : Which line is called as chord?



A : ED B : AB C : OD D : OE

30 : What is the area of the circle, whose diameter is 50 cm?
A : 1900 cm^2 B : 1950 cm^2 C : 1962.5 cm^2 D : 1960 cm^2

31 : What is the name of the region of a circle between any two point on the circumference?
A : Arc B : Segment C : Sector D : Chord

32 : What is the radius of the circle, whose circumference is 440 cm?
A : 71.5 cm B : 70 cm C : 70.5 cm D : 72.2 cm

33 : What is the area of a circular surface if the radius is 14 cm?
A : 615.44 cm^2 B : 614.5 cm^2 C : 612.25 cm^2 D : 612.44 cm^2

34 : What is the circumference of a circle whose diameter is 7 cm?
A : 22 cm B : 44 cm C : 25 cm D : 21 cm

35 : What is the radius of a circle whose diameter is 44 cm?
A : 44 cm B : 22 cm C : 23 cm D : 20 cm

36 : What is the diameter of the circle, if the area of the circle is 78.5cm^2?
A : 5 cm B : 10 cm C : 15 cm D : 5.5 cm

37 : What is the area of the circle if the radius is 10 cm?
A : 314 cm^2 B : 31.4 cm^2 C : 30.4 cm^2 D : 3.14 cm^2

38 : What is the radius of the semicircle, if the circumference of the semicircle is 28.26 cm?
A : 5.49 cm B : 6.49 cm C : 8.5 cm D : 8.75 cm

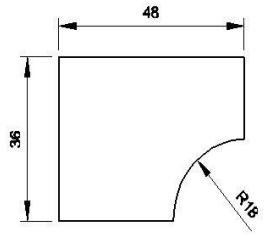
39 : What is the diameter of the semicircle, if the circumference of the semicircle is 21.98 cm?
A : 8.55 cm B : 8 cm C : 7.55 cm D : 7 cm

40 : What is the area of the semicircle, if the diameter is 14 cm?
A : 70 cm^2 B : 76.93 cm^2 C : 75.06 cm^2 D : 86.93 cm^2

41 : What is the diameter of the circle, if the area of the circle is 706.5cm^2?
A : 29 cm B : 29.5 cm C : 30 cm D : 30.5 cm

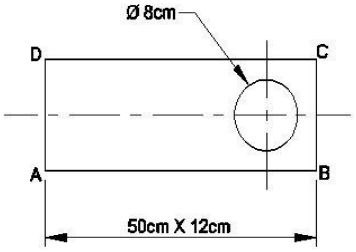
42 : What is the diameter of the circle, if the circumference is 31.4 cm?
A : 5 cm B : 10 cm C : 8 cm D : 8.5 cm

43 : What is the area of the lamina?



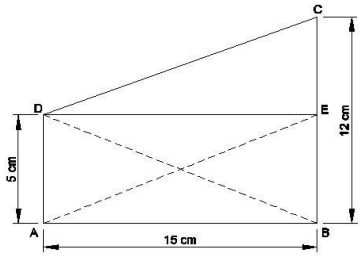
A : 1470.55 B : 1473.66 C : 1472 D : 1472.5

44 : What is the area of the irregular lamina?



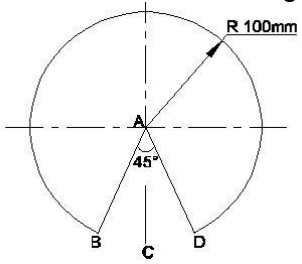
A : 550 cm² B : 549.76 cm² C : 560 cm² D : 555 cm²

45 : What is the area of the lamina?



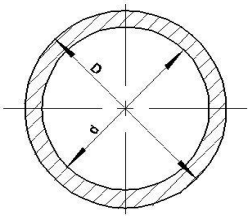
A : 125.5 cm² B : 120.5 cm² C : 127.5 cm² D : 126.5 cm²

46 : What is the area of irregular surfaces?



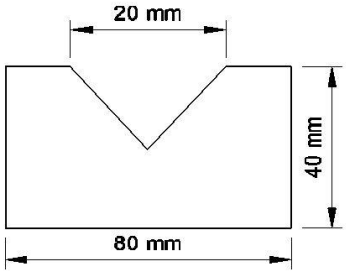
A : 27,475 mm² B : 27,500 mm² C : 27,350 mm² D : 26,500 mm²

47 : What is the area of shaded portion whose OD = 38 mm, ID = 32 mm?



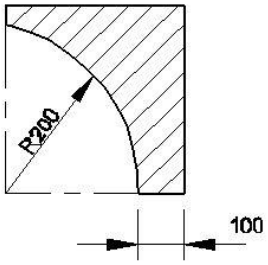
A : 325.4 mm² B : 329.7 mm² C : 305.5 mm² D : 320.5 mm²

48 : What is the area of irregular surfaces whose equilateral triangle size is 20 mm?



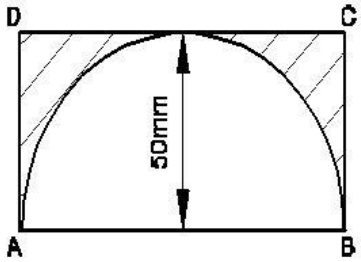
A : 3000 mm² B : 3080 mm² C : 3026.8 mm² D : 3060 mm²

49 : What is the area of shaded portion. Whose square size 300mm?



A : 58,000 mm² B : 58,400 mm² C : 59,000 mm² D : 58,600 mm²

50 : What is the area of shaded portion?



A : 1000 mm² B : 1500 mm² C : 1100 mm² D : 1075 mm²

51: A cylindrical pencil sharpened at one edge is the combination of
(a) two cylinders (b) a hemisphere and a cylinder (c) a cone and a cylinder (d) frustum of a cone and a cylinder

52: A shuttlecock used for playing badminton has the shape of the combination of
(a) a cylinder and a sphere (b) a sphere and a cone (c) a cylinder and a hemisphere (d) frustum of a cone and a hemisphere

53: The slant height of the frustum of a cone having radii of two ends as 5 cm and 2 cm respectively and height 4 cm is
(a) √26 cm (b) 5 cm (c) √65 cm (d) 25 cm

54: The total surface area of a hemispherical solid having radius 7 cm is
(a) 462 cm² (b) 294 cm² (c) 588 cm² (d) 154 cm²

55: A solid formed on revolving a right angled triangle about its height is
(a) cylinder (b) sphere (c) right circular cone (d) two cones

56. The surface area of a sphere is 616 cm2. Its radius is
(a) 7 cm (b) 14 cm (c) 21 cm (d) 28 cm

57. A cylinder and a cone are of same base radius and of same height. The ratio of the volume of the cylinder to that of the cone is
(a) 2 : 1 (b) 3 : 1 (c) 2 : 3 (d) 3 : 2

58. The volume of a sphere is 4851 cm3. Its diameter is
(a) 3.5 cm (b) 7 cm (c) 14 cm (d) 21 cm

59. A piece of paper is in the shape of a semicircular region of radius 10 cm. It is rolled to form a right circular cone. The slant height is
(a) 5 cm (b) 10 cm (c) 15 cm (d) 20 cm

60. The base radii of two circular cones of the same height are in the ratio 3 : 5. The ratio of their volumes are
(a) 9 : 25 (b) 5 : 3 (c) 9 : 5 (d) 3 : 25

61. The curved surface area of glass having radii 3 cm and 4 cm respectively and slant height 10 cm is
(a) 55 cm^2 (b) 110 cm^2 (c) 220 cm^2 (d) 440 cm^2

62. If two solid hemispheres of same base radius are joined together along their bases, then curved surface area of this new solid is
(a) $3\pi r^2$ (b) $4\pi r^2$ (c) $5\pi r^2$ (d) $6\pi r^2$

63. The radii of the top and bottom of a bucket of slant height 13 cm are 9 cm and 4 cm respectively. The height of the bucket is
(a) 10 cm (b) 12 cm (c) 15 cm (d) 16 cm

64. A surahi is the combination of
(a) a sphere and a cylinder (b) a hemisphere and a cylinder (c) two hemispheres (d) a cylinder and a cone

65. Match the column :

(1) Surface area of cuboid	(A) $\pi r^2 h$
(2) Surface area of closed right cylinder	(B) $2\pi r\,(h + r)$
(3) Total surface area of right cone	(C) $\pi rl + \pi r^2$
(4) Total surface area of hemisphere	(D) $3\pi r^3$ (E) $3\pi r^2$ (F) $2[lb + bh + lh]$

(a) 1 → A, 2 → C, 3 → D, 4 → E (b) 1 → F, 2 → B, 3 → C, 4 → E (c) 1 → B, 2 → C, 3 → D, 4 → E (d) 1 → F, 2 → E, 3 → C, 4 → A

66. A cube whose edge is 20 cm long, has circles on each of its faces painted black. What is the total area of the unpainted surface of the cube if the circles are of the largest possible areas?
(a) 90.72 cm^2 (b) 256.72 cm^2 (c) 330.3 cm^2 (d) 514.28 cm^2

67. If two solid hemispheres of the same base radius r are joined together along their bases, then curved surface area of this new solid is [NCERT Exemplar Problems]
(a) $4\pi r^2$ (b) $6\pi r$ (c) $3\pi r^2$ (d) $8\pi r^2$

68. The radius (in cm) of the largest right circular cone that can be cut out from a cube of edge 4.2 cm is
(a) 4.2 (b) 2.1 (c) 8.1 (d) 1.05

69. How many bags of grain can be stored in a cuboid granary 12 m × 6 m × 5 m. If each bag occupies a space of 0.48 m3?
(a) 750 (b) 75 (c) 1500 (d) 375

70. In a swimming pool measuring 90 m × 40 m, 150 men take a dip. If the average displacement of water by a man is 8 m3, then rise in water level is
(a) 27.33 c (b) 30 cm (c) 31.33 cm (d) 33.33 cm

71. Match the column:

(1) Volume of right cylinder	(A) $2lbh$
(2) Volume of cuboid	(B) $l \times b \times h$
(3) Volume of right cone	(C) $\pi r^2 h$
(4) Volume of sphere	(D) $\frac{1}{3}\pi r^2 h$
	(E) $2\pi r^2 h$
	(F) $\frac{4}{3}\pi r^3$

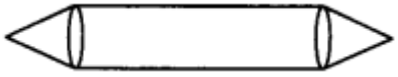
(a) 1 → C, 2 → A, 3 → D, 4 → F (b) 1 → C, 2 → A, 3 → D, 4 → E (c) 1 → C, 2 → B, 3 → D, 4 → F (d) 1 → C, 2 → A, 3 → F, 4 → D

72. Given that 1 cu. cm of marble weighs 25 g, the weight of a marble block of 28 cm in width and 5 cm thick, is 112 kg. The length of the block is
(a) 36 cm (b) 37.5 cm (c) 32 cm (d) 26.5 cm

73. A sphere and a cube have equal surface areas. The ratio of the volume of the sphere to that of cube is
(a) $\sqrt{\pi} : \sqrt{6}$ (b) $\sqrt{6} : \sqrt{\pi}$
(c) $\sqrt{\pi} : \sqrt{3}$ (d) $\sqrt{3} : \sqrt{\pi}$

74. A sphere of diameter 18 cm is dropped into a cylindrical vessel of diameter 36 cm, partly filled with water. If the sphere is completely submerged, then the water level rises (in cm) by [Delhi 2011]
(a) 3 (b) 4 (c) 5 (d) 6

75. The shape of a gilli, in the gilli-danda game (see Fig.), is a combination of



(a) two cylinders (b) a cone and a cylinder (c) two cones and a cylinder (d) two cylinders and a cone

76. A right circular cylinder of radius r cm and height h cm (h > 2r) just encloses a sphere of

diameter [NCERT Exemplar Problems]
(a) r cm (b) 2r cm (c) h cm (d) 2h cm

77. During conversion of a solid from one shape to another, the volume of the new shape will [NCERT Exemplar Problems]
(a) increase (b) decrease (c) remain unaltered (d) be doubled

78. A rectangular block 6 cm × 12 cm × 15 cm is cut into exact number of equal cubes. The least possible number of cubes will be
(a) 6 (b) 11 (c) 3 (d) 40

79. A river 1.5 m deep and 36 m wide is flowing at the rate of 3.5 km per hour. The amount of water that runs into the sea per minute (in cubic metres) is
(a) 31500 (b) 3150 (c) 3150000 (d) 6300

80. The number of coins, 1.5 cm in diameter and 0.2 cm thick to be melted to form a right circular cylinder of height 10 cm and diameter 4.5 cm is
(a) 350 (b) 400 (c) 450 (d) 500

81. The shape of a glass (tumbler) (see Fig.) is usually in the form of [NCERT Exemplar Problems]

(a) A cone (b) frustum of a cone (c) a cylinder (d) a sphere

82. A shuttle cock used for playing badminton has the shape of the combination of
(a) a cylinder and a sphere (b) a cylinder and a hemisphere (c) a sphere and a cone (d) frustum of a cone and a hemisphere

83. A cone is cut through a plane parallel to its base and then the cone that is formed on one side of that plane is removed. The new part that is left over on the other side of the plane is called
(a) a frustum of a cone (b) cone (c) cylinder (d) sphere

84. In a right circular cone, the cross-section made by a plane parallel to the base is a
(a) circle (b) frustum of a cone (c) sphere (d) hemisphere

85. A solid is hemispherical at the bottom and
conical (of same radius) above it. If the surface areas of the two parts are equal, then the ratio of its radius and the slant height of the conical part is.
(a) r : l = 1 : 2 (b) r : l = 1 : 5 (c) r : l = 1 : 51 (d) r : l = 1 : 4

86. Two cubes each with 6 cm edge are joined end to end. The surface area of the resulting cuboid is.
(a) 365 cm^2. (b) 360 cm^2. (c) 363 cm^2. (d) 364cm^2.

87. A cube of side 4 cm is cut into cubes of side 1 cm, then total surface area of all the small cubes is
(a) 385 cm^2 (b) 389 cm^2 (c) 384 cm^2 (d) 382 cm^2

88. The ratio of the volume of a cube to that of a sphere which will fit inside the cube is
(a) [6 : π] (b) [4 : π] (c) [7 : π] (d) [5 : π]

89. A cube of side 6 cm is cut into a number of cubes, each of side 2 cm. The number of cubes will be. (a) 09 (b) 27 (c) 68 (d)51

90.calculate the area of circular ring if the diameter of the outer circle is 20 mm the diameter of the inner circle is 15 mm.
(a) 72.4 mm^2 (b) 86.8 mm^2 (c) 137.5 mm^2 (d) 257.5 mm^2

91. How many cubes can be cut from cuboid of 10cm×9cm×6cm?
(a)9 (b)10 (c)18 (d)20

92: Volume of a hollow sphere is ___
(a)$4\pi(R^2-r^2)$ (b) $4\pi(R^3-r^3)$ (c) $4/3\pi(R^3-r^3)$ (d) $\pi(R^3-r^3)$

93. If the mean value diameter of ring =140 mm and diameter of wire of ring = 25mm then calculate surface area of ring?
(a)345.08 cm^2 (b)355.03 cm^2 (c)425.08 cm^2 (d)225.04 cm^2

Answers

1:A; 2:A; 3:A; 4:B; 5:C; 6:D; 7:B; 8:C; 9:A; 10:B; 11:D; 12:C; 13:A; 14:A; 15:D; 16:A; 17:C; 18:D; 19:C; 20:A; 21:B; 22:D; 23:B; 24:A; 25:D; 26:B; 27:D; 28:A; 29:B; 30:C; 31:B; 32:B; 33:A; 34:A; 35:B; 36:B; 37:A; 38:A; 39:C; 40:B; 41:C; 42:B; 43:B; 44:B; 45:C; 46:A; 47:B; 48:C; 49:D; 50:D;51:C; 52:D; 53:B; 54:A; 55:C; 56:A; 57:B; 58:D; 59:B; 60:A; 61:C; 62:B; 63:B; 64:A; 65:B; 66:D; 67:A; 68:B; 69:A; 70:D; 71:C; 72:C; 73:B; 74:A; 75:C; 76:B; 77:C; 78:D; 79:B; 80:C; 81:B; 82:D; 83:A; 84:A; 85:A; 86:B; 87:C; 88:A; 89:B; 90:C; 91:C 92:C; 93:A

MODULE 4 – ALGEBRA

1 .What is the value of 14x+3y+25x+2y?

A .17x + 27y B.16x + 28y C. 39x + 5y D. 44xy

2 . What is the multiplication value of $5a^2b \times 8a^5b^3$?

A .$40a^7b^4$ B . $40a^3b^2$ C . $40a^4b^7$ D .$40a^2b^3$

3 . What is the simplified value of (3x + 15) / 5x + 25)

A .5/3 B .3/5 C .-5/3 D .-3/5

4 . What is the value of x if 13+x =20?

A . 8 B . 7 C .9 D .13

5 .What is the value of x, if x (120) = 960?

A .6 B .7 C .8 D. 10

6 .What is the formula for $a^m \times a^n$?

A .a^{m+n} B .a^{m-n} C .a^{mn} D .na^m

7 . Which is the formula for a^m / a^n

A a^{m+n} B .a^{m-n} C .$a^{m \times n}$ D .$(a^m)^n$

8. What is the value of any number raised to the power of 0?

A . 0 B . 1 C. -1 D .α

9 .What is the value of $1 / a^m$?

A . a^m B . a^{-m} C . $\sqrt[m]{a}$ D .$\sqrt[a]{m}$

10 . Which is equal to $(a^m)^n$?

A .a^{m-n} B . a^{m+n} C . $a^m/^n$ D . a^{mn}

11 .What is the expanded form of $(a+b)^2$?

A .$a^2 + 2ab + b^2$ B .$a^2 - 2ab + b^2$ C .$a^2 + 2ab - b^2$ D .$-a^2 - 2ab + b^2$

12.What is the formula for $(a-b)^2$?

A .$a^2 - 2ab + b^2$ B .$a^2 + 2ab + b^2$ C .$a^2 - 2ab - b^2$ D .$-a^2 - 2ab - b^2$

13 . Which is equal to $(a+b)^2-(a-b)^2$?

A .2ab B .3ab C .4ab D .5ab

14 .What is the value of $a \times a^2 \times a^3 \times a^4$?

A .a^7 B .a^8 C. a^9 D .a^{10}

15. What is the value of $(a^5)^7$?

A .a^{35} B. a1² C .a^21 D .a^{22}

16 .What is the value of 625°?

A . 0 B . 1 C . 525 D .25

17 . What is the value of $1 / a^{-5}$?

A . a^5 B .a^{-5} C . 5a D . -5a

18 .What is the value of $5x^4 / 5x^3$?

A .5x B . $5x^2$ C .x D .$5x^4/^3$

19. What is the subtracted value of $3x - 4x^2 + 2y^2$ from $4y^2 - 2x + 8x^2$?

A . $2y^2 - 5x + 12x^2$ B . $2y^2 + 5x - 12x^2$ C . $2y^2 - 5x - 12x^2$ D . $-2y^2 - 5x + 12x^2$

20 . What is the value of adding (5x+2y), (4x - 7z) and (15z - 3y)?

A .9x - y + 8z B . x - 9y + 8z C .x + 9y + 8z D . 9x + y - 8z

21 .What is the value of $12x^3y^2 / 4x^2y$?

A .8xy B .16xy C . 3xy D .-3xy

22 .What is the value of x, if 3 (2x - 4) = -4x + 28 ?

A. 4 B . 8 C .6 D .12

23 . What is the value of x if (x + 2) / 2 = 19?

A .38 B .33 C .35 D .36

24 .What is the value of x if 11x+4=37?

A .2 B .3 C .4 D .5

25 .What is the value of $1/a^m$?

A .a^m B .a^{-m} C .$\sqrt{a^m}$ D .a1

26 . What is the value of $a^{m/n}$?

A . a^{m-n} B . a^{m+n} C . 1 / a^m D .$\sqrt[n]{a^m}$

27 .Which is the expansion of $a^3 + b^3$?

A . $(a-b)(a^2 + b^2 - ab)$ B . $(a+b)(a^2 + b^2 - ab)$ C .$a^3 + b^3 + 3ab(a+b)$ D. $a^3 - b^3 + 3ab(a-b)$

28 . What is the expansion of $(a+b+c)^2$?

A . $a^2 + b^2 + c^2 + 2(ab + bc + ca)$ B . $a^2 + b^2 + c^2 - 2ab + 2bc + 2ca$

C . $a^2 + b^2 + c^2 + 2ab - 2bc + 2ca$ D .$a^2 - b^2 - c^2 + 2ab + 2bc + 2ca$

29 . Which is expanded form of $a^3 - b^3$?

A . $(a+b)(a^2 - b^2 - ab)$ B .$(a-b)(a^2 + b^2 + ab)$ C. $(a-b)(a^2 - b^2 - ab)$ D . $(a-b)(a^2 - b^2 + ab)$

30 .What is the value of $(6^3) / ((-3)^3)$?

A .8 B . -8 C . 27 D .-27

31 .What is the value of $x^2 - y^2$ if (x+y) = 9, (x - y) = 4?

A .13 B .65 C .36 D. 46

32 . What is the value of 'X' if x - y = 6 and x + y = 8?

A .5 B .6 C .7 D .14

33.Solve : 7x-2x+x+3x

A . 9x B . 7x C .3x D .2x

34 . In $\frac{x}{2} + \frac{x}{3} = 15$, the value of x =____

A . 15 B .16 C . 17 D .18

35 .Find the value of $\frac{x}{3} + \frac{y}{9} + \frac{z}{2}$,if the value of x=6,y=-18,z=2

A. 1 B .2 C . 3 D . 4

36 .If (5x+3) = (15-x) the value of x is __

A .2 B .3 C . 4 D . 5

37 . If $A^2 + B^2 = 17$ and AB =4. Find the value of A + B

A . 5 B . 10 C . 14 D . 21

38 . If x = 2 and y = 1 the value of $x^4+y^4 -2x^2y^2$ is ___

A .8 B .9 C. 10 D 12

39 . Find the missing number : $\frac{3}{4} = \frac{1}{12}$ x ___

A. 6 B . 9 C . 11 D . 13

40 . The sum of three consecutive number is 126 . Find the sum of first two number

A .152 B . 114 C . 115 D .83

41 . Solve : 2x + 3y = 28 and 3x – 2y = 3

A . x=4,y=5 B . x=5,y=6 C .x=6,y=7 D .x=7,y=8

42 . Solve : 3(x-2)-(2x+1)=0

A . 3 B .7 C . 5 D .6

43. Solve : 4x-3y=14 and 7x+8y=51

A . x=5,y=2 B . x=6,y=4 C . x=7,y=5 D . x=8,y=6

44 .Solve the equation : $\frac{B}{3} - \frac{B}{4} = 1 - \frac{B}{6}$

A .3 B . 4 C .5 C . 6

45 .Slove : 3x+2y=2 ; 4x-3y=14

A . x=2,y=-2 B .x=3,y=3 C .x=4,y=5 D .x=5,y=-4

46 .Find the value of x in equation $3x^2+4x-5=0$

A . $\frac{-2\pm\sqrt{18}}{3}$ B . $\frac{-2\pm\sqrt{19}}{3}$ C . $\frac{-2\pm\sqrt{20}}{3}$ D . $\frac{-2\pm\sqrt{25}}{3}$

47 .Solve : $\frac{4}{5}\times 0.02 + 10.05 = 2$

A . 4.838 B . 5.033 C . 7.833 D . 9.683

48 .Simplify : -3(-x+5)+20=-10(x-3)+4

A . $\frac{22}{13}$ B . $\frac{29}{13}$ C . $\frac{31}{13}$ D . $\frac{35}{13}$

49 . Find the value of x and y in the following equations

5x+17y=61; 2y=3x

A . x=2,y=3 B . x=4,y=5 C . x=6,y=7 D . x=8,y=9

50 . Find the value of x and y in the following equations

$\sqrt{x+y}=3$; $\sqrt{x-y}=\sqrt{13}$

A . x=5,y=-4 B . x=11,y=-2 C . x=13,y=-1 D . x=15,y=8

51 . Solve the equation : $\frac{x}{2}+\frac{y}{3}=4$; 5x-6 =3y

A . x=$\frac{80}{7}$, y=$\frac{88}{7}$ B . x= $\frac{83}{13}$,y=$\frac{133}{13}$ C . x=$\frac{84}{19}$,y=$\frac{102}{19}$ D . x=$\frac{93}{23}$, y=$\frac{108}{11}$

52 . Solve the equations : $x^2+y^2=41$; $x^2-y^2=9$

A . x=5, y=-4 B . x=6, y=5 C . x=7, y=6 D . x=8, y=7

53 . Solve : $x^2+4x-12=0$

A . -6, 2 B . -8, 4 C . -9,5 D . -11,6

54 . Divide $x^5+2x^4-5x^3-x^2+4x-1$ by x^2-1

A . x^2+2x+1 B. x^2+4x+5 C . x^3+2x^2-4x+1 D . x^3+4x^2+4x+1

55 . Solve : $\frac{5}{x}+\frac{6}{y}=8$; $\frac{3}{2x}+\frac{4}{y}=\frac{7}{2}$

A . x=1,y=2 B. x=2,y=3 C . x=3,y=4 D . x=4,y=5

56 . Divide : $a^2 - a8ab + 15b^2$ by (a – 3b)

A . a – 2b B . a – 5b C . a - 7b D . a – 9b

57 . Find the value of following equation :

$\frac{2x-5}{5}-\frac{3x-4}{3}+\frac{2x+3}{6}-\frac{x+5}{5}=24$

A . $\frac{-725}{14}$ B . $\frac{733}{14}$ C . $\frac{743}{16}$ D . $\frac{756}{16}$

58 . Find the value of x in the following equation : $\frac{2x+5}{3x+7} = \frac{3}{4}$

A . -1 B.: -2 C . -3 D . -4

59. Find the value of x in the following equation :

$\frac{x}{4} - \frac{5x+8}{6} = \frac{2x+9}{3}$

A . $\frac{-48}{13}$ B . $\frac{-52}{15}$ C . $\frac{58}{13}$ D. $\frac{65}{12}$

60 .Solve : $(y-5)^2=(y+2)^2-7$

A . 2 B. 3 C. 4 D. 5

61 . Find the value of x and y in the following equations :

$\frac{x}{y} = 64$ and $2x+y=27$

A . $x=\frac{576}{43}, y=\frac{9}{43}$ B . $x=\frac{588}{11}, y=\frac{11}{42}$ C . . $x=\frac{693}{12}, y=\frac{15}{21}$ D . $x=\frac{697}{13}, y=\frac{16}{13}$

62 . Divide $6x^3+x^2+5x+3$ by $2x+1$

A . $3x^2+x+3$ B . $3x^2-x+3$ C . $3x^2+2x+3$ D . $3x^2+6x-4$

63.Solve : $\frac{3x+1}{2x+3} = \frac{5x-4}{5x}$

A. $\frac{2+\sqrt{-236}}{10}, \frac{2-\sqrt{-236}}{10}$ B. $\frac{4+\sqrt{-436}}{11}, \frac{4-\sqrt{436}}{11}$

C. $\frac{7-\sqrt{-736}}{13}, \frac{7+\sqrt{736}}{13}$ D. $\frac{8-\sqrt{983}}{17}, \frac{8+\sqrt{983}}{17}$

64. Sum of two numbers is 45 and their difference is 5. Find the numbers.

A x=30 , y=25 B. x=25,y=20 C. x=30,y=28 D. x=28,y=30

65. Find the value of x and y : $3x^2 + 3y^2 = 138$; $3x^2+7y^2 = 202$

A. x=3,y=5 B. x=4,y=6 C. x=5,y=7 D. x=6,y=8

66. Find the value of x and y : $x^3+y^3 = 91$; $x^3 - y^3 = 37$

A. x =4, y= 3 B. x=5,y=4 C. x=6,y=5 D. x-7,y=6

67. b=15 cm , l x b = 150 cm^2 , l = _____

A. 10cm B. 20cm C. 30cm D. 40cm

68. According to the law of indices : $a^m.a^n$ = _____

A. a^{m+n} B. a^{m-n} C. $a^m + a^n$ D. $a^m - a^n$

69. According to the law of indices : $a^n \div a^m$ = _____

A. $a^n + a^m$ B. $a^n - a^m$ C. a^{n+m} D. a^{n-m}

70. According to law of factorization : (a+b)(a-b) = _____

A $(a+b)^2$ B. $(a-b)^2$ C. a^2+b^2 D. a^2-b^2

71. According to law of factorization : $(a-b)^2$ = _____

A. $(a-b)^2 - 4ab$ B. $(a+b)^2 + 4ab$ C. $(a+b)^2 - 4ab$ D. $(a-b)^2 + 4ab$

72. $\frac{0}{3}$ = _____

A. 0 B. ∞ C. 3 D. 9

73. $(6x^2 - 3x + 5) - (2x^2 - 4x - 1)$ = _____

A. $4x^2 + x + 6$ B. $4x^2 - 4x - 1$ C. $4x^2 - 7x + 4$ D. $6x^2 - 7x + 4$

74. $2a^2b \times 4ab^2$ = _____

A. $8a^2b^3$ B. a^4b^2 C. $8a^3b^3$ D. $8a^3b^4$

75. 5^{-2} = _____

A. 5 B. 25 C. $\frac{1}{5}$ D. $\frac{1}{25}$

76. 8^0 = _____

A. 0 B. 1 C. 8 D. 64

77. $\frac{9}{0}$ = _____

A. 0 B. 1 C. 9 D. ∞

78. 25^1 = _____

A. 1 B. 2 C. 25 D. ∞

79. According to law of indices : $(a^n)^m$ = _____

A. a^{n-m} B. a^{n+m} C. $a^{n \times m}$ D. a^n/a^m

80. The sum of three consecutive numbers is 126 . Find the first number.

A. 40 B. 41 C. 42 D. 43

81. The sum of five times the number and four times the number is 36. Find the number.

A. 2 B. 4 C. 6 D. 8

82. A father is 50years old and his son is 22 years old . After how many years father's age will be twice the age of his son.

A. 2year B. 3 year C. 6 year D. 8 year

83. Solve : $(3x + 2)(3x - 2)$

A. $6x^2 + 4$ B. $6x^2 - 4$ C. $9x^2 + 2$ D. $9x^2 - 4$

84. If x = 3 and y = 2, find $x^2 + xy^2 - 2x^2y^2$

A. 21 B. -21 C. -51 D. -31

85. If r =2 and D = $\frac{r}{2}$, find $0.5D + 2r^2$.

A. 8.5 B. 10 C. 12 D. 16

86. If $\frac{p}{6} - \frac{1}{2} = \frac{p}{4} - \frac{p}{9}$, find the value of p

A.4 B.9 C.18 D.24

87. Find the value of x. $\sqrt{x-y} = 3$; $\sqrt{x+y} = \sqrt{13}$

A.2 B.5 C.7 D.11

88. Find the value of x. $\frac{9x+2}{6x-2} = \frac{5x}{2x+1}$

A.2 B.3 C.-2 D.-3

89. Match the following formulas

	Formula	values
a.	$(a+b)^2$	i. $(a+b)(a^2-ab+b^2)$
b.	$(a-b)^2$	ii. a^2+b^2-2ab
c.	(a^2-b^2)	iii. $(a+b)(a-b)$
d.	(a^3+b^3)	iv. a^2+b^2+2ab

A. a→ii , b→iv, c→iii, d→i B. a→iv , b→ii, c→iii, d→i

C. a→i , b→ii, c→iii, d→iv D. a→iii , b→iv, c→ii, d→i

90. Match the following formulas

	Formula	values
a.	$a^n.a^m$	i. a^nb^n
b.	$a^n \div a^m$	ii. a^{n+m}
c.	$(a^n)^m$	iii. a^{n-m}
d.	$(ab)^n$	iv. a^{nm}

A. a→i , b→ii, c→iii, d→iv B. a→ii , b→iii, c→iv, d→i

C. a→iii , b→ii, c→iv, d→i D. a→iv , b→iii, c→ii, d→i

ANSWER

1-C	2-A	3-B	4-B	5-C	6-A	7-B	8-B	9-B	10-D	11-A	12-A	13-C	14-D	15-A	16-B	17-A	18-C
19-A	20-A	21-C	22-A	23-D	24-B	25-B	26-D	27-B	28-A	29-B	30-B	31-C	32-C	33-A			
34-D	35-A	36-A	37-A	38-B	39-B	40-D	41-B	42-B	43-A	44-B	45-A	46-B	47-B	48-B			
49-A	50-B	51-C	52-A	53- A	54-C	55-A	56-B	57-A	58-A	59-B	60-A	61-A	62-B	63-A			
64-B	65-A	66-A	67-A	68-A	69-D	70-D	71-C	72-A	73-A	74-C	75-D	76-B	77-D	78-C			
79-C	80-B	81-B	82-C	83-D	84-C	85-A	86-C	87-D	88-A	89-B	90-B						

MODULE 5 – ELASTICITY

1 : Which is elastic material?

A : Nylon B : Polystyrenes C : Celluloid D : Polycarbonates

2 : Which is thermo plastic material?

A : Butyl rubber B : Nylon C : Neoprene D : Vinyl polymers

3 : What is the maximum percentage of stretch of its original length is allowable for elastic materials?

A : 100% B : 200% C : 300% D : 400%

4 : 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

5: What is the unit of strain?

A : Kg/cm² B : Newton/metre² C : Metre D : No unit

6 : What is the ratio of change in length to original length?

A : Linear strain B : Lateral strain C : Volumetric strain D : Poisson's ratio

7 : What is the ratio between lateral strain and longitudinal strain?

A : Hooks law B : Young's modulus C : Bulk modulus D : Poisson's ratio

8 : Which symbol is used to express change in length?

A : L B : δl C : I D : e

9 : Which one is the ratio of stress?

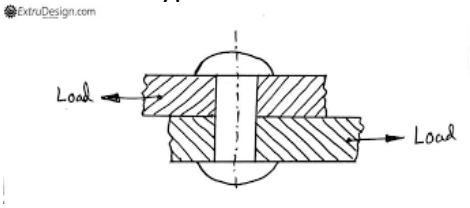
A : Load and area B : Load and direction

C : Load and diameter D : Load and time

10 : Which force acts on rivets?

A : Tensile force B : Compressive force C : Shear force D : Bending force

11 : Which type of stress?



A : Tensile stress B : Compressive stress

C : Shear stress D : Torsional stress

12 : What is the formula for bulk modulus?

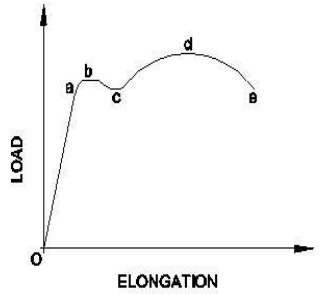
A : Tensile stress/Tensile strain B : Compressive stress/Compressive strain

C : Volumetric stress/Volumetric strain D : Shear stress/Shear strain

13 : Which law states that within elastic limit stress is directly proportional to strain?

A : Newton's law B : Hooks law C : Joules law D : Charles law

14 : What is the name of the point 'C'?



CURVE SHOWING RELATIONSHIP BETWEEN LOAD AND ELONGATION

A : Yield point B : Elastic limit C : Ultimate load D : Fracture

15 : 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

16 : What is the ratio between ultimate stress to working stress?

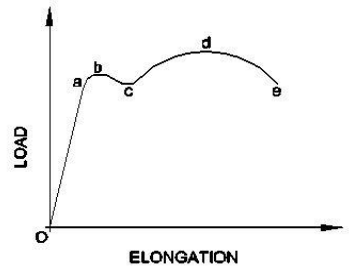
A : Bulk modulus B : Young's modulus

C : Factor of safety D : Modulus of rigidity

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

A : Factor of safety B : Yield point C : Ultimate stress D : Young's modulus

18 : What does the point 'b' denotes in the stress-strain graph?



CURVE SHOWING RELATIONSHIP BETWEEN LOAD AND ELONGATION

A : Elastic limit B : Yield point

C : Limit of proportionality D : Ultimate load

19 : What is the ratio of shear stress to shear strain?

A : Modulus of elasticity B : Modulus of rigidity

C : Bulk modulus D : Yield point

20 : What is the ratio between stress and strain?

A : Yield point B : Factor of safety C : Young's Modulus D : Poisson's ratio

21 : Which force acts on crank shaft?

A : Shear stress B : Torsional stress

C : Tensile stress D : Compressive stress

22: Which is thermosetting plastic?

A : Vinyl polymers B : Polystyrenes C : Celluloid D : Melamine resins

23 : 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 D : 1577 N

24 : 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 C : 100 kg/mm² D : 1000 kg/mm²

25 : What is the tensile strain if a force of 3.2 KN is applied to a bar of original length 2800 mm extend the bar by 0.5 mm?

A : 0.0001786 B : 0.0001687 C : 0.0001867 D : 0.0001968

26 : How much strain is developed in an iron rod of 1 meter 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 D : 0.0001

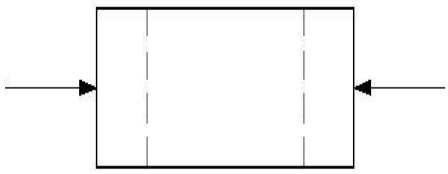
27 : What is the young's modulus if a wire of 2m long, 0.8 mm² in cross section increases its length by 1.6 mm on suspension of 8 kg weight from it?

A : 1.25 kg/mm² B : 12.5 kg /mm² C : 125 kg/mm² D : 12500 kg/mm²

28: 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

29 : Which type of stress?



A : Tensile stress B : Compressive stress
C : Shear stress D : Torsional stress

30 . Stress divided by strain=_____
A . Safety coefficient B . Modulus of rigidity
C . Modulus of elasticity D . Poisson's ratio

31 . As per Hooke's law, stress is _____to strain
A . Direct proportional B. Inversely proportional
C . Proportional D . double

32 . The ratio of shear stress and shear strain is _____
A. Safety coefficient B . Modulus of rigidity
C . Modulus of elasticity D . Poission's ratio

33 . Steel is _____ elastic as compared to rubber.
A . Less B . More C . Equally D . Can't say

34 . The ratio of _____ & _____ is modulus of elasticity.
A . stress , strain B . volume, mass
C . load, area D . Force, section change

35 . $Stress = \frac{\text{————}}{Area\ of\ cross-section}$
A . Stress B. Strain C . Force D . Length

36 . The MKS unit of stress is _____
A . Kg/mm^2 B . Kg/cm^2 C . N^2/mm^2 D . N/m^2

37 . Which metal gives the highest presumable strain if the value of load is constant through out
A . Steel B . Lead C . Brass D . Bronze

38 . A load of 10Kg is suspended from a vertical wire of 300.25cm length and 0.005 cm^2 cross-Section . After removing the force, the wires length reduces to 300cm.Find out the modulus of elasticity for wire or material.
A . 2.4×10^6 Kg/cm^2 B . 5.1×10^4 Kg/cm^2
C . 240.01×10^5 Kg/cm^2 D . 3.4×10^6 Kg/cm^2

39 . The external and internal diameters of a hollow pillar made of cast iron are 12" and 10" respectively. Find out how much lead can it bear on 3.5 ton per square inch ?
A . 57.60 Kg/ $inch^2$ B . 101.33 Kg/$inch^2$ C . 68.93 Kg/$inch^2$ D. 101.10 Kg/ $inch^2$

40 . A bolt of 2 cm diameter and 10 cm length can bear a load of 100 Kg. If $E= 2\times10^6$ Kg/cm^2 then calculate the increase in length of the bolt .
A . 0.000173cm B . 127×10^{-4} cm C. 207×10^{-6} cm D . 159×10^{-6} cm

41.A bolt of 50cm length and 10cm diameter can bear a load of 500Kg. If there is an increase of 1mm in the length of the bolt, then calculate the young's modulus.
A . 3184.71 Kg/cm^2 B. 3105 Kg/cm^2 C . 470.15 Kg/cm^2 D. 1021.57Kg/cm^2

42. Calculate the stress on the parallel shank of a 6mm diameter drill when a feed force of 400N is applied on the spindle.
A . 27.0 N/mm^2 B . 14.15 N/mm^2 C. 18.11 N/mm^2 D . 21.31N/mm^2

43 . Strain=_____

A . $\frac{Modulus\ of\ Elasticity}{Stress}$ B. $\frac{Change\ in\ size}{Original\ size}$

C . $\frac{Modulus\ of\ elasticity}{Original\ size}$ D . None of these

44 . Factor of safety=_____

A . $\frac{Ultimate\ stress}{Effective\ stress}$ B. $\frac{Maximum\ force}{Effective\ stress}$ C. $\frac{Ultimate\ stress}{Maximum\ force}$ D . None of these

45 . Ultimate stress =$\frac{\text{_____}}{Area\ of\ cross\ section}$

A . Ultimate stress B. Effective stress C. Maximum force D . None of these

46 . If a wire is stretched and doubled in length, then its Young's modulus would be ____

A . half B . same C . double D . four times

47 . The unit of modulus of elasticity is _____

A . Kg/cm B . Kg/m^3 C . Kg/cm^2 D . Kg m^3

48 . Young's modulus =_____

A . $\frac{Volume\ \ stress}{Volume\ strain}$ B . $\frac{Lateral\ strain}{Longitudinal\ strain}$ C . $\frac{Shear\ stress}{Shear\ strain}$ D . $\frac{Longitudinal\ stress}{Longitudinal\ strain}$

49 . Longitudinal strain =_____

A . $\frac{Increase\ in\ length}{Initial\ length}$ B . $\frac{Initial\ length}{Strain\ in\ length}$ C . $\frac{Stress}{Area}$ D . None of these

50 . Longitudinal stress =_____

A . $\frac{Suspended\ load(Force)}{Area\ of\ cross\ section}$ B . $\frac{Area\ of\ cross\ section}{Suspended\ load(Force)}$

C . $\frac{Strain}{Area\ of\ cross-section}$ D . $\frac{Strain}{Force}$

51 . The unit of strain is _____

A . Kg/cm^2 B . gm/cm^2 C . N/m^2 D . Unit less

ANSWER

1-A 2-D 3-C 4-B 5-D 6-A 7-D 8-B 9-A 10-C 11-C 12-C 13-B 14-A 15-D 16-C
17-C 18-A 19-B 20-C 21-B 22-D 23-C 24-B 25-A 26-B 27-D 28-D 29-B 30-C 31-A
32-B 33-A 34-A 35-C 36-D 37-D 38-A 39-B 40-D 41-A 42-B 43-B 44-A 45-C 46-B
47-C 48-D 49-A 50-A 51-D

MODULE 6 - HEAT TREATMENT

1 : What are the various types of heat treatment processes?

A : Annealing, Normalizing, Hardening and Tempering

B : Normalizing, Heating, Cooling and Painting

C : Hardening, Soaking, Painting and Packing

D : Tempering, Cooling, Packing and Solling

2 : What is the process of heat treatment?

A : The process of heating and cooling to change the structure and properties

B : The process of heating to change the dimensions

C : The process of cooling to measure the dimensions

D : The process of heating and bending as per our requirement

3 : What are the various stages of heat treatment?

A : Heating, Cooling and Quenching B : Quenching, Cooling and Heating

C : Heating, Soaking and Quenching D : Soaking, Quenching and Cooling

4 : What is the name of the structure formed, if a steel is heated for about 723°C?

A : Cementide B : Austenite C : Martensite D : Ferrite

5 : Which heat treatment process is done to refine the grain structure of the steel?

A : Annealing B : Normalizing C : Hardening D : Tempering

6 : What is the name of heat treatment process done to relieve strain and stress?

A : Normalizing B : Annealing C : Hardening D : Tempering

7 : Which process produce equilibrium conditions?

A : Annealing and Hardening B : Normalizing and Tempering

C : Annealing and Normalizing D : Normalizing and Tempering

8 : Which process steel is heated in a carbonaceous atmosphere for the penetration of carbon?

A : Case hardening B : Nitriding C : Carburizing D : Induction hardening

9 : Which is the suitable nitriding process for all alloyed and unalloyed steels?

A : Silver nitriding B : Nitriding in salt-bath

C : Nitriding in Quenching tank D : Gas nitriding

10 : What is the name of the heat treatment process, where the metal is heated and quenched

In water or oil?

A : Hardening B : Normalizing and Tempering C : Annealing D : Tempering

11 : Which is a kind of surface hardening process?

A : Cementide B : Ferrite C : Nitriding D : Tempering

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

A : 5 minutes B : 10 minutes C : 15 minutes D : 20 minutes

13 : What is colour of a metal piece when heated to 250°C while doing the tempering process?

A : Blue B : Brown C : Purple D : Pale

14 : 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

15 . What is the process for increasing toughness and decreasing brittleness.

A. Hardening B. Tempering C. Normalizing D. Annealing

16 . After heat treatment, a component cracks. What is the possible reason behind that?

A. It was heated for too long
B. It was not cleaned properly before heating
C. It was immediately cooled in brine
D. It was rapidly cooled in air

17 . To get a good result from annealing, the heated job of steel is cooled

A. Slowly in the furnace itself by switching off the supply of heat
B. By removing the job from the furnace and keeping it in open air
C. By removing the job from the furnace and keeping it in flow of air
D. By removing the job from the furnace and keeping it in a tank full of water

18 . Which heat treatment method is used to make a hard job suitable for machining?

A. Hardening B. Tempering C. Normalizing D. Annealing

19 . In order to soften the iron, which heat treatment method is required?

A. Normalizing B. Annealing C. Tempering D. Hardening

20 . Case hardening normally done for the steel that contain –

A. Low Carbon B. High Carbon C. High Chromium D.H.S.S.

21 . Tempering is done in order to-

A. Improve strength
B. Increase hardness
C. Decreasing stress
D. Increasing machining capability

22 . The method of heating high carbon steel at critical temperature and gradually cooling it is called-

A. Normalizing B. Annealing C. Hardening D. Tempering

23 . In order to remove excessive brittleness, chisel is processed with the method called-

A. Tempering B. Hardening C. Carburizing D. Annealing

24 . Carbon steel is tempered at –

A. 200^{o} c to 300^{o} c
B. 100^{o} c to 150^{o} c
C. 550^{o} c to 600^{o} c
D. 400^{o} c to 500^{o} c

25 . Measurement gauge should be wear resistance. By which of the following heat treatment methods can this property be included?

A. Normalizing B. Case hardening C. Annealing D. Tempering

26 . A job of carbon steel is heated a little above 730^{o} c. It is kept at this temperature for few hours and then cooled slowly. For this, which heat treatment method is used?

A. Normalizing B. Case hardening C. Hardening D. Annealing

27 . The properties of steel are changed by suitable heat treatment methods. Which method is suitable to increase abrasion resistance in steel?

A. Hardening B. Tempering C. Annealing D. Normalizing

28 . Which heat treatment method is generally used to remove internal stress by hardening tools?

A. Stabilizing B. Annealing C. Normalizing D. Tempering

29 . Which method creates a scale free layer on component?

A. Flame hardening
B. Case hardening
C. Nitriding
D. Induction hardening

30 . The objective of steel hardening is-

A. Increase cutting ability
B. Increase erasing resistance
C. Increase hardness
D. All of the above

31 . The purpose of annealing is to-

A. Soften the metal
B. Harden the metal
C. Improve the metal
D. Correct the formation of metal

32 . The first stage of case hardening carburizing. The purpose of carburizing is-

A. Increase the percentage of carbon in the steel job.
B. Increase the percentage of carbon in steel's core.
C. Increase the percentage of carbon on surface.
D. Decrease the percentage of carbon in the steel job.

33 . In which activity a metal's mechanical properties can be changed as desire by changing the Metal internal structure with the help of heating & cooling?

A. Mechanical treatment
B. Heat treatment
C. Electrical treatment
D. Chemical treatment

34 . What is the maximum temperature at which the internal structure of metal starts to change called?

A. Critical temperature
B. High critical temperature
C. Lower critical temperature
D. All of the above

35 . The objective of steel's tempering is

A. To get rid of internal stress
B. Control hardness and toughness
C. Decrease brittleness
D. All of the above

36 . Which methods are used under the process of heat treatment?

A. Normalizing B. Annealing C. Hardening D. All of the above

37 . The process of heating of steel till high critical point & then cooling in oil or water is called

A. Normalizing B. Lubrication C. Quenching D. Heat treatment

38 . The main benefit of flame hardening is-

A. The required part of the job can be heated.
B. The required spot of the job can be hardened.
C. Time saving
D. All of the above

39 . Delicate parts are quenched in oil. The possible reason behind this are –

A. To remove cracks
B. To remove brittleness
C. To soften them
D. To make them ductile

40 . The hardness of steel depend open-

A. Percentage value of carbon
B. The temperature at which it is heated
C. The rate of cooling
D. All of the above

41 . Sometimes, the case-hardened components are heated again at a temperature of 200^{o} c. The possible reason behind this are-

A. To remove quenching stress
B. To remove cracks
C. To increase ductility
D. To soften

42 . Due to increase in value of carbon in steel-

A. Hardness increases
B. Robustness increases
C. Robustness decreases
D. Ductility increases

43 . High speed steel is pre-heated before heating at the right hardening temperature. The reason behind this is –

A. To remove quenching stress
B. To remove cracks
C. To increase ductility
D. To soften

44 . Hardening is –

A. Heating steel below 400^{o} c and then cooling in water.
B. Heating steel 50^{o}c above high critical point and letting it stay inside after switching off the furnace.
C. Heating steel 50^{o}c above high critical point and immediately cooling in water.
D. Heating steel 50^{o}c above high critical point and cooling in steady air at room temperature.

45 . The lower critical temperature of high carbon steel is-

A. 900^{o}c B. 960^{o}c C. 560^{o}c D. 723^{o}c

46 . Carbon dissolves and makes solid solution during heat temperature. What is the process called ?

A. Ferrite B. Pearlite C. Austenite D. Cementite

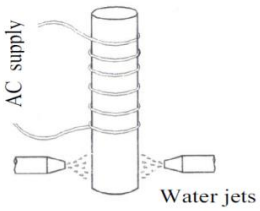
47 . Which of the following metals has not hardness ranging from 200^{o} c to 250^{o} c ?

A. High speed steel tool
B. High carbon steel tool
C. Cemented carbide tool
D. Stellite tool.

48 . Annealing is done in order to –

A. Increase the machine property
B. Increase hardness
C. Increase toughness
D. Reduce strain

49 . Name of the method shown in the figure below–



A. Induction hardening
B. Flame hardening
C. Case hardening
D. None of the above

50 . The process of heating metal below 400^{o} c and then cooling in water is called–

A. Normalizing
B. Case hardening
C. Annealing
D. Tempering

51 . The normalizing method in heat treatment is done to –

A. Improve ductility
B. Bring precision in coarse structure
C. Increase hardness
D. Increase brittleness

52 . For HSS hardening, the soft metal is first overheated and then cooled in –

A. Oil B. Air C. Water D. In ashes of dung cakes.

53 . What is the use of normalizing?

A. It improves machinability
B. It creates uniform fine grain structure
C. It increases brittleness
D. It improves toughness.

54 . When carbon steel is heated above high critical point and then cooled immediately, which property of steel is enhance.

A. Hardness B. Malleability C. Ductility D. Elasticity

ANSWER

1-A 2-A 3-C 4-B 5-B 6-B 7-C 8-C 9-B 10-A 11-C 12-A 13-B 14-A 15-B 16-C 17-A 18-D 19-B 20-A 21-A 22-A 23-A 24-A 25-D 26-D 27-A 28-D 29-D 30-D 31-A 32-C 33- B 34-B 35-D 36-D 37-C 38-D 39-A 40-D 41-A 42-A 43-B 44-C 45-D 46-C 47-B 48-A 49-A 50-D 51-B 52-B 53-B 54-A

MODULE 7 - PROFIT AND LOSS

1 : What is discount?

A : Selling price is less than Cost price

B : Selling price is greater than Cost price

C : The reduction given to the selling price of a product

D : Selling price + discount

2 : What is a profit?

A : Selling price - Cost price B : Cost price - Selling price

C : Selling price + Cost price D : Cost price + Selling price

3 : What is the term, if an article is purchased?

A : Selling price B : Cost price C : Margin price D : Discount price

4 : What is the expanded form of S.P?

A : Selected Price B : Special Price C : Selling Price D : Super Price

5 : Which is the short form of profit and loss statement?

A : P & L B : PR & LS C : PRO & LOS D : L & P

6 : What is denoted as 'I'?

A : Principal B : Interest C : Rate D : Year

7 : How the 'Principal' is denoted in simple interest calculation?

A : 'P' B : 'I' C : 'R' D : 'n'

8 : What is the formula for the calculation of simple interest?

A : $I = \frac{Pnr}{100}$ B . $I = \frac{100}{Pnr}$ C . $I = \frac{P \times r}{n \times 100}$ D . $I = \frac{P \times n}{r \times 100}$

9 : What is the formula for compound interest, if compounded Annually?

A : $A = P\left[1 + \frac{1}{2}\left(\frac{r}{100}\right)\right]^{2n}$ and C.I = A-P B . $A = P\left[1 + \frac{1}{4}\left(\frac{r}{100}\right)\right]^{4n}$ $and\ C.I = A - P$

C . $A = P\left[1 + \frac{r}{100}\right]^{n}$ $and\ C.I = A - P$ D . $A = \frac{Pnr}{100}$

10 : How the years is denoted in simple interest calculations?

A : P B : I C : n D : r

11 : How the profit / gain is expressed?

A : # B : $ C : % D : *

12: What is the formula to find Loss%?

A : $\frac{Loss \times 100}{C.P}$ B . $\frac{C.P}{Loss \times 100}$ C . $\frac{Loss + 100}{S.P}$ D . $\frac{S.P}{LOss + 100}$

13 : What is the cost price (C.P) formula if there is a profit?

A : $\left(\frac{100}{100 - Loss\%}\right) \times S.P$ B . $\left(\frac{100}{100 + Profit\%}\right) \times S.P$

C . $\left(\frac{100 + Profit\%}{100}\right) \times C.P$ D . $\left(\frac{100 - Loss\%}{100}\right) \times C.P$

14 : What is the formula to find selling price (S.P) if there is a loss?

A . $\left(\frac{100}{100+Profit\%}\right) \times S.P$ B . $\left(\frac{100+Profit\%}{100}\right) \times C.P$

C . $\left(\frac{100}{100-Loss\%}\right) \times S.P$ D . $\left(\frac{100-Loss\%}{100}\right) \times C.P$

15 : What is the formula to find Profit%?

A : $\frac{C.P}{Profit} \times 100$ B . $\frac{Profit}{S.P} \times 100$ C . $\frac{S.P-C.P}{Profit} \times 100$ D . $\frac{Profit}{C.P} \times 100$

16 : What is the profit amount, if the i - phone cost price is Rs.50000/- and selling price is Rs.70000/-?

A : Rs. 2000/- B : Rs. 10000/- C : Rs. 20000/- D : Rs. 50000/-

17: What is the selling price, if the profit is 5% for a computer table bought at Rs.1150/- with Rs.50/- as a transport charge?

A : 1160 B : 1620 C : 1060 D : 1260

18 : What is the cost price if the product is sold at Rs 572 with a profit of Rs 72?

A : Rs 500 B : Rs 1000 C : Rs 644 D : Rs 472

19 : What is the profit % if the cost price of 16 bolts is equal to the selling price of 12 bolts?

A : 13.33 B : 23.33 C : 33.33 D : 43.33

20 : What is the selling price if the cost price is Rs.7282/- with a profit of Rs.208?

A : Rs.7074 B : Rs.7698 C : Rs.7290 D : Rs.7490

21 : What is the interest earned, if the principal is Rs.12000/- becomes to an amount of Rs.15600/-?

A : Rs.2600 B : Rs.3600 C : Rs.4600 D : Rs.5600

22 : What is the principal amount deposited, if the maturity proceeds to an amount of Rs.25000/- and interest earned Rs.6000/-?

A : Rs.31000/- B : Rs.19000/- C : Rs.20000/- D : Rs.25000/-

23 : What is the interest earned, if the principal is for Rs.12500/- maturity becomes to a amount of Rs.17500/-?

A : Rs.30000 B : Rs.25000 C : Rs.5000 D : Rs.5500

24 : What is the matured amount for the deposit of Rs.5000/- and the simple interest earned for Rs.500/-?

A : Rs.4500 B : Rs.5500 C : Rs.6000 D : Rs.6500

25 : What is the simple interest for the principal amount of Rs.100000 at 10% per annum for 1 Year period?

A : Rs.1000/- B : Rs.5000/- C : Rs.50000/- D : Rs.10000/-

26 : What is the compounded annual interest, for a loan amount of Rs.80000/- at 10% per annum for a period of 2 years?

A : Rs.16800/- B : Rs.92400/- C : Rs.96800/- D : Rs.94800/-

27 : What is the compounded amount, if the principal of Rs.30000/- and interest earned at 7% Per annum is Rs.4347?

A : Rs.30347/- B : Rs.32347/- C : Rs.33347/- D : Rs.34347/-

28 : What is the difference between the simple and the compound interest amount at 5% per annum for 2 years on a principal of Rs.20000/-?

A : Rs.5 B : Rs.25 C : Rs.50 D : Rs.55

29 : What is the maturity amount if Rs.20000 is deposited at 5% compound interest per annum

for 2 years?

A : Rs.22000 B : Rs.22050 C : Rs.22500 D : Rs.25000

30 : What is the compound interest on a principal of Rs.25000/- after 3 years at the rate of 12%

per annum?

A : Rs. 9000 B : Rs.9720 C : Rs.10123.20 D : Rs.10483.20

31 . A person buys an article for Rs.600 and sells it for Rs.550. His profit/loss is

A.Rs.50 loss B.Rs.60 gain C.Rs.70 gain D.Rs.80 loss

32. A person buys a clock for Rs.500 and sell it for Rs.300. His loss percent is

A.30% B.35% C.40% D.50%

33. The selling price of an article, when CP is Rs.60 and gain is 20%, is

A.Rs.72 B.Rs.80 C.Rs.40 D.Rs.48

34 . The cost price of an article, when SP is Rs.60 and loss is 20%, is

A.Rs.72 B.Rs.75 C.Rs.80 D.Rs.66

35 . A person buys a ceiling fan for Rs.400 and sells it for Rs.600. His gain is

A.Rs.400 B.Rs.600 C.Rs.200 D.Rs.100

36 . A calculator is bought for Rs.350 and sold at a gain of 15%. What will be the selling price of

Calculator?

A.Rs.385 B.Rs.375 C.Rs.472 D.Rs.402.50

37 . If SP is Rs.400 and CP is Rs.300, then gain percent is

A.25% B.20% C.33 ½% D.30%

38.If loss is Rs.40 and CP is Rs.60, then SP is

A.Rs.100 B.Rs.20 C.Rs.80 D.Rs.160

39 . If a person gain Rs.20 on selling an article, which cost by him Rs.100, Then his gain percent

is

A.20% B.25% C.16% D.30%

40 . If gain is Rs.20 and CP is Rs.150, then SP of the article is

A.Rs.130 B.Rs.150 C.Rs.170 D.Rs.160

41 . A person gain 10 % on selling an article at Rs.220, then CP of the article is

A.Rs.200 B.Rs.198 C.Rs.242 D.Rs.213

42 . A chair is bought for Rs.3000 and sold at a loss 6%. Its SP is

A.Rs.2720 B.Rs.2820 C.Rs.2900 D.Rs.2550

43 . A person buys a cycle for Rs.1400 and sells it at a loss of 15%. The SP of the cycle is

A.Rs.1090 B.Rs.1160 C.Rs.1190 D.Rs.1202

44 . If a person gains 25% by selling an article at Rs.500, then cp of the article is

A.Rs.400 B.Rs.600 C.Rs.300 D.Rs.200

45 . If CP and SP of an article is same, then gain or loss is

A.Rs.0 B.2 CP C.2 SP D.3 SP

46 . If SP of an article is double the CP, then gain percent is

A.50% B.100% C.25% D.20%

47 . If gain is Rs.20 and CP is Rs.400, then gain percent is

A.20% B.10% C.5% D.30%

48 . A person gains rs.40 on selling a watch for Rs.400, then CP of the watch is

A.Rs.440 B.Rs.360 C.Rs.420 D.Rs.460

49 . If by selling an article for Rs.70, a person loss Rs.20, then CP is

A.Rs.90 B.Rs.50 C.Rs.100 D.Rs.95

50 . If cost price is Rs.600 and loss is 20%, then SP is

A.Rs.450 B.Rs.480 C.Rs.460 D.Rs.720

51 . If selling price is greater than the cost price, then a person has

A. Gain
B. Loss
C. Can not be determined
D. Neither profit nor loss

52 . If by selling an article for Rs.250, a person gain 25%, then CP is

A.Rs.200 B.Rs.300 C.Rs.275 D.Rs.225

53 . If loss is Rs.40 and the cost price is Rs.160, then loss percent is

A.20% B.25% C.30% D.40%

54 . If profit is equal to twice of cost price, then profit percent is

A.100% B.200% C.50% D.300%

55 . What will be simple interest for 1 year and 4 months on a sum of Rs.25800 at the rate of 14% per annum?

A.Rs.4816 B.Rs.2580 C.Rs.4816 D.Rs.4815

56 . A sum of Rs.700 amounts to Rs.820 in 3 years at simple interest. If the interest rate is increased by 3%, it would amount to haw much?

A.Rs.893 B.Rs.883 C.Rs.784 D.Rs.792

57 . At what rate of annual simple interest, a certain sum will amount to four times in 15 years?

A.15% B.17.5% C.20% D.25%

58 . A sum at simple interest of 13 ½ % per annum amounts to Rs.3080 in 4 years. The sum is

A.Rs.1550 B.Rs.1680 C.Rs.2000 D.Rs.1850

59 . The population of a country is 10 crore and it is possibility that the population will become 13. 31 crore in 3years. What will be the annual rate percent on this growth?

A.8% B.12.7% C.10% D.15%

60 . The cost price of an LCD TV set is Rs.100000. If its price value depreciates at the rate of 10%
per annum, then what will be the price at the end of 3 years?

A.Rs.80000 B.Rs.85000 C.Rs.90000 D.Rs.72900

61. A vendor sells apples at 10 for a rupee gaining 40%. How many apples did he buy for a rupee?

A.51 B.15 C.41 D.14

62 . If a man wants to sell his chair for Rs.720 he gets 25% loss. What will be the selling price, if

he wants gain 25%?

A.1500 B.2100 C.1200 D.1300

63 . If the difference between CP and SP at an article is Rs.300 and loss is 25%, then what is the

SP of the article?

A.890 B.9000 C.900 D.950

64 . The cost price of item is 2/3 of its selling price. What is gain or loss percent on that item?

A.60% B.50% C.55% D.75%

65 . A man sold his type writer at 5% loss. If he sold it for Rs.80 more, he gain 5%, then what is the cost price of typewriter?

A.600 B.800 C.900 D.700

66 . By selling 100 pencils, a shopkeeper gains the selling price of 20 pencils. Find his gain percent.

A.42% B.25% C.52% D.35%

67 . Sum purchased 20 dozen of toys at the rate of Rs.375 per dozen. He sold each one of them at the rate of Rs.33. What was his percentage of profit?

A.5.6% B.6.5% C.7.9% D.8.5%

68 . If A sold a watch to B at 40% gain and B sold it to C at a loss of 20%. If C bought the watch for Rs.432, at what price did A purchase it?

A.Rs.845 B.Rs.756 C.Rs.548 D.Rs.385.71

69 . A certain sum becomes Rs.600 in a certain time at the rate of 6% simple interest. The same sum amounts to Rs.200 at the rate of 1% simple interest in the same duration. Find the sum and time.

A.66 2/3 yr B. 33 1/3 yr C.72 yr D.57 yr

70 . If Rs. 3000 amounts to Rs.4320 at compound interest in a certain time, then in half of the time how much the Rs.3000 amount becomes?

A.Rs.3600 B.Rs.2600 C.Rs.1190 D.Rs.5600

71 . A sum of Rs.400 amounts to Rs.441 in 2 years. What will be its amount, if the rate of interest is increased by 5%?

A.Rs.584 B.Rs.484 C.Rs.725 D.Rs.830

ANSWER

1-C 2-A 3-B 4-C 5-A 6-B 7-A 8-A 9-C 10-C 11-C 12-A 13-B 14-D 15-D 16-C 17-D
18-A 19-C 20-D 21-B 22-B 23-C 24-B 25-D 26-A 27-D 28-C 29-B 30-C 31-A 32-C
33-A 34-B 35-C 36-D 37-C 38-B 39-A 40-C 41-A 42-B 43-C 44-A 45-A 46-B 47-C
48-B 49-A 50-B 51-A 52-A 53-B 54-B 55-A 56-B 57-C 58-C 59-C 60-D 61-D 62-C
63-C 64-B 65-B 66-B 67-A 68-D 69-A 70-A 71-B

MODULE 8 - ESTIMATION AND COSTING

1 : What is the other term used for reference table?

A : Dictionary B : Biography C : Bibliography D : Information Table

2 : Which hand book referred by machine engineer?

A : Parry's cheorikal B : CRC C : Mark standard D : Oxford Dictionary

3 : What is a hand book?

A : Model book of various works

B : Type of reference work or other collection of instruction

C : Design book of latest works

D : Dictionary of materials

4 : 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

5 : 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

D : No work started as per estimate

6 : 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

D : An estimate is exceeded the actual estimate

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

A : Estimation B : Drawing C : Specification D : Plan

8 : 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

9 : Which authority publishes schedule of rates?

A : Individual B : Corporate C : Partnership firm D : Government department

10 : 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

11 : 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

C : Raw materials D : Price catalogue

12 : What is the use of engineering drawing?

A : For estimation of material and execution of work

B : For colorful appearance

C : For reducing the cost

D : For increasing the cost

13 : What is the other term of pocket reference in engineering works?

A : Hand tool B : Hand book C : Good book D : New book

14 : Which one is related to estimation of work?

A : Bill of material B : Packing C : Information table D : Hand book

15 : What is a total cost?

A : Raw material cost only B : Machining cost only

C : Raw materials cost and machining cost D : Advertisement cost only

16 : Who prepares the cost of estimation?

A : Operator B : Quality Inspector C : Estimator D : Draughts man

17 : Which one is included in machining estimation sheet?

A : Transport cost B : Advertisement cost C : Raw material cost

D : Tax

18 : What is the minimum permissible size of aluminium wire used in estimation?

A : 1.5 sq.mm B : 2.5 sq.mm C : 5 sq.mm D : 3.5 sq.mm

19 : 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

20 : Which one is the most reliable estimate?

A : Preliminary estimate B : Plinth area estimate

C : Cube rate estimate D : Detailed estimate

21 : 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 D : IE Rules, 1967

22 : What describes the detailed specification for the item of work?

A : Quality, Quantity, Workmanship, Method of execution

B : Colour C : Tax, Transport, Overhead expenses D : Maintenance, Stock, Cost

23 : Which of the impurity in cast iron makes it hard and brittle?

A : Silicon B : Sulphur C : Manganese D : Phosphorus

24 : What cables are used for 132KV lines?

A : High tension B : Super tension

C : Extra high tension D : Extra super voltage

25 : Which specification is other than general specification?

A : Brief specification B : Bulk specification

C : Detailed specification D : Main specification

26 : 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%

27 : What is the relative permittivity of rubber?

A : Between 2 and 3 B : Between 5 and 6

C : Between 8 and 10 D : Between 12 and 14

28 : 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 C : 1975 gram D : 1785 gram

29 : 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/cm^3)?

A : 312 kg B : 372 kg C : 410 kg D : 525 kg

30 : 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 D : Rs.110

31 : 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/- C : Rs.572/- D : Rs.960/-

32 : 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 D : 640 W

33 : What is the total labour charges for a particular wiring work completed in 2 days by one electrician and one helper.(Electrician @ Rs 800/day and helper @ Rs 400/day)

A : Rs. 2000 B : Rs. 2400 C : Rs. 3000 D : Rs. 1400

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/- 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, Cables etc.,) Rs.6500/-?

A : Rs.275000/- B : Rs.250000/- C : Rs.225000/- D : Rs.265000/-

36 : 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 C : Rs.6,00,000 D : Rs.6,000,000

37 : 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

38 : What is the total estimation cost for mandrel, if density is 7.8 gm/cm² and material cost is Rs.240 kg?

A : 0.65 kg B : 0.90 kg C : 0.70 kg D : 0.75 kg

39 : What is the estimation of labour charge for making inside square of size 30 X 30 mm, if making charge Rs.500/10cm²?

A : Rs.500/- B : Rs.450/- C : Rs.350/- D : Rs.400/-

40 . Cost decision is a useful _____ for management work.

A . Tool B . Machine C . Arrangement D . System

41 . Accuracy of cost decision method is

A . ±10% B . ±20% C . ±30% D . ±40%

42 . Which of the following elements lie in total annual cost ?

A . Direct cost B . Indirect cost C . Recovery credits D . All of these

43 . Which of the following is not the part of the cost ?

A . Total financial expense B . Total annual cost
C . Total average cost D . None of these

44 . Which term is related to the cost decision?

A . future value B . Interest rate C . Present value D . All of these

45 . In a given year of plan, the price is Rs 5 lakh and in a base year the price is Rs 5000. Then value of price index

A .100 B . 200 C . 1000 D . 5000

46 . Which of the following term not related to the total annual cost ?

A . Direct cost B . Waste cost C . Indirect cost D . Recovery cost

47 . Cost contains how many parts ?

A . 1 B . 2 C . 3 D . 4

48. Which of the following is the famous element of cost?

A . Material B . Labour C . Expense D . All of these

49 . Direct labour is known as

A . Process labour B . Productive labour C . Both A and B D . Foreman

50. Which is not indirect material?

A . coal B . oil C . sand paper D .coffee

51 . What is the formula of prime cost of product

A . Prime cost = Direct cost + Direct labour cost + Direct expenses

B . Prime cost = Direct cost + Direct labour cost

C . Prime cost = Direct cost + Direct expenses

D . None of the above

52 . Which is the example of supervisor?

A . Direct labour B . Indirect labour C . Both A and B D . None of these

53 . Non-productive labour is known as

A . Direct labour B . Indirect labour C . Both A and B D . None of these

54 . What will be effect of over estimation on the price of product

A .Price will decrease B . Price will increase C . Both A and B D . constant

55 . The given statement " By selling a product in the market neither profit takes place nor loss

" is related to

A . Over estimation B . Accurate estimation

C . Under estimation D . None of these

56. Selling cost is equal to

A . Total cost + Profit B . Office cost + other selling expenses

C . Selling cost + other selling expenses D . Office cost – other selling expenses

57 . The technique which is helpful for accurate forecast about costs to be incurred in future is Classified as

A . Unit estimation B . Production estimation

C . cost estimation D . Price estimation

58 . The component of total cost which never changes with change in level of production is classified as

A . Fixed cost B . Constant C . Variable D . Both A and B

59 . The range in which there exists a relationship between level of activity or total cost is classified as

A . Functional range B . Relevant range C . Unit range D. Related range

60 . The relationship based on unrelated level of activity and past data of cost is measured with

the help of

A . Cost estimation B . Price estimation

C . Unit estimation D . Production estimation

61 . In element wise classification of overheads, which one of the following is not included

A . Fixed overheads B . Indirect labour

C . Indirect material D . Indirect expenditure

62 . Overhead refers to

A . direct or prime cost B . all indirect cost

C . only factory indirect cost D . Only indirect expenses

63 . Elements of cost of a product are

A . material only B . labour only

C . expenses only D . material, labour and expenses

64 . Abnormal cost is the cost

A . Cost normally incurred at a given level of output

B . Cost not normally incurred at a given level of output

C . Cost which is charged to customer

D . Cost which is included in the cost of the product

ANSWER

1-D 2-C 3-B 4-D 5-A 6-C 7-A 8-C 9-D 10-D 11-B 12-A 13-B 14-A 15-C 16-C 17-C 18-A 19-B 20-D 21-A 22-A 23-B 24-D 25-C 26-D 27-A 28-B 29-A 30-C 31-B 32-C 33-B 34-C 35-A 36-B 37-D 38-D 39-B 40-C 41-C 42-D 43-D 44-D 45-A 46-B 47-B 48-D 49-C 50-D 51-A 52-B 53-B 54-B 55-B 56-A 57-C 58-A 59-B 60-A 61-A 62- B 63-D 64-B