

PART - I

01. One-fourth of a circular disk is called a
 a) Semi-circle b) Quadrant c) Sector d) Arc
02. The base of a parallelogram is 14 cm, and its distance from the opposite side is 8 cm. Then its area is
 a) 144 cm^2 b) 64 cm^2 c) 76 cm^2 d) 112 cm^2
03. In an examination, 30% candidates failed in English, 35% failed in Mathematics and 27% failed in both the subjects. The percentage of total passed is _____.
 a) 61% b) 65% c) 60% d) 62%
04. The degree of $5xy^2 + 4x^2$ is ____
 a) 1 b) 2 c) 3 d) 4
05. If a path of uniform width 4 m runs around the outside of a rectangular field 24 m x 18 m, then the area of the path is _____ m^2
 a) 400 b) 446 c) 497 d) 465
06. The device used to test whether a particular material allows electric current to pass through it or not is a _____.
 a) Tester b) Resistor c) Capacitor d) Battery
07. Which of the following liquids is a poor conductor of electricity?
 a) Lemon juice b) Vinegar c) Sugar solution d) Salt solution
08. When two forces act along the same direction on an object, then the net force acting on the object is _____ of the two forces.
 a) the average b) less than the sum c) greater than the sum d) equal to the sum
09. Two objects, A and B, one over the other, are moving with the same velocity. Which of the following statements is correct?
 a) Friction on A is in the forward direction b) Friction on A is in the backward direction
 c) Friction on B is in the forward direction d) No friction act between A and B
10. If an object oscillates 80 times per second, it is said to have a frequency of _____.
 a) 80 sec b) 80 Hz c) 80 hr d) 0.0125 Hz
11. Which of the following celestial bodies appears to change its position with respect to the stars?
 a) The Earth b) Constellations c) The Milky way d) Galaxies
12. L.P.G stands for _____.
 a) liquid petroleum gas b) liquefied petroleum gas
 c) liquid petrol gas d) liquefied petrol gas
13. A box kept on a rough surface is pressed from the top. While moving the box, we observe that the friction between the box and the surface _____.
 a) increases b) decreases c) remains the same d) becomes zero
14. Light travels along a _____.
 a) straight line b) circular path c) zigzag path
 d) straight line for some distance and then travels in a zigzag path
15. Which of the following changes the direction of light?
 a) A board painted black b) A black body
 c) Carbon suit d) A mirror

16. The remainder when $2x^3 - 5x^2 - 7$ is divisible by $x - 2$ is
a) 12, b) 1, c) -9, d) 2
17. The three vertices of a rectangle ABCD are A(2, - 3), B(5, - 3) and C(5, 0). The coordinates of fourth vertex D is _____
a) (2, - 3) b) (2, 0) c) (0, 5) d) (5, - 3)
18. The area of an equilateral triangle whose perimeter is $36\sqrt{3}$ cm is
a) $36\sqrt{3}$ cm² b) $108\sqrt{3}$ cm², c) $72\sqrt{3}$ cm², d) $98\sqrt{3}$ cm²
19. What is the area of a triangle whose base is 5 cm and height 14 cm
a) 35 cm² b) 45 cm² c) 25 cm² d) 30 cm²
20. Simplify : $27^{1/6} \times 27^{1/2}$
a) 12 b) 21 c) 15 d) 9
21. Find the area of a triangle with sides 28 cm, 21 cm and 35 cm.
a) 294 cm² b) 220 cm² c) 268 cm² d) 282 cm²
22. Two sides of a triangle with perimeter 112 cm are 50 cm and 48 cm. Find the area of the triangle. Also, find the length of altitude corresponding to the side of length 50 cm. Verify the result.
a) 235 cm b) 336 cm² c) 357 cm² d) 282 cm²
23. The remainder when $-3x^2 + 7x^2 - 71$ is divided by $x + 4$ is
a) 5 b) 0 c) -6 d) 9
24. A plane surface is a surface which lies evenly with the _____ on itself.
a) Points b) Curved lines c) Straight lines d) Area
25. The area of a triangle is 24cm². The length of the altitude to side 10 cm is
a) 4.6 cm b) 4.4 cm c) 4.8 cm d) 4 cm
26. The measure of an angle that is 72° more than its supplement is
a) 162° b) 126° c) 66° d) 81°
27. Find the value of 606^3
a) 219256227 b) 291256272 c) 219256722 d) 234256227
28. Find $(-3)^4 \times (-9)^2 \times (3)^{-2} \times 9^2$
a) 50949 b) 54909 c) 59094 d) 59049
29. Evaluate : 23.4×22.6
a) 528.89 b) 528.84 c) 548.84 d) 538.89
30. The region occupied by a simple closed figure in a plane is called
a) Length b) Volume c) Perimeter d) Area

31. It was Sunday on January 1, 2006. What was the day of the week January 1, 2010?
 a) Sunday b) Saturday c) Friday d) Wednesday
32. Today is Monday. After 61 days, it will be
 a) Wednesday b) Saturday c) Tuesday d) Thursday
33. A, P, R, X, S and Z are sitting in a row. S and Z are in the centre. A and P are at the ends. R is sitting to the left of A. Who is to the right of P?
 a) A b) X c) S d) Z
34. Entomology is the science that studies
 a) Behavior of human beings b) Insects
 c) The origin and history of technical and Scientific terms d) The formation of rocks
35. For which of the following disciplines in Nobel Prize awarded?
 a) Physics and Chemistry b) Physiology or Medicine
 c) Literature, Peace and Economics d) All of the above
36. In which year of First World War Germany declared war on Russia and France?
 a) 1914 b) 1915 c) 1916 d) 1917
37. India has largest deposits of _____ in the world.
 a) Gold b) Copper c) Mica d) none of the above
38. The unit of current is
 a) Ohm b) Watt c) Ampere d) none of the above
39. Where is the High Court of Odisha?
 a) Bhubaneswar b) Cuttack c) Both d) none of these
40. The members of the Rajya Sabha are elected by
 a) the people b) Lok Sabha
 c) elected members of the legislative assembly d) elected members of the legislative council
41. The present Lok Sabha is the
 a) 9th Lok Sabha b) 10th Lok Sabha c) 14th Lok Sabha d) 15th Lok Sabha
42. The largest Indian State by population
 a) Rajasthan b) Maharashtra c) Uttar Pradesh d) Madhya Pradesh
43. 120, 99, 80, 63, 48, ?
 a) 35 b) 38 c) 39 d) 40
44. In the series 2, 6, 18, 54, what will be the 8th term ?
 a) 4370 b) 4374 c) 7443 d) 7434
45. The brain of any computer system is
 a) ALU b) Memory c) CPU d) none of the above

46. A mirror changes the direction of light that falls on it. This property is called _____ of light.
 a) changing b) bending c) spreading d) reflection
47. Travelling at an average speed of 50 kmph, a car takes 3 hours to go from Chennai to Pondicherry. The distance between the two places is _____ km.
 a) 200 b) 150 c) 100 d) 400
48. Ram is observing his image in a plane mirror. If the distance between Ram and the mirror is 4 m, then the distance between his image and the mirror is _____ m.
 a) 4 b) 8 c) 2 d) 16
49. The Boiling point of water on Fahrenheit scale is _____ $^{\circ}$ F.
 a) 100 b) 80 c) 212 d) 32
50. A rocket works on the
 a) first law of motion b) second law of motion
 c) third law of motion d) law of conservation of energy
51. If no force acts on a body, it will
 a) break b) get deshaped
 c) move with increasing velocity d) either remain at rest or move with same speed.
52. SI unit of pressure is
 a) pascal b) atmosphere c) dyne/cm² d) mm of mercury
53. The heat from the sun comes to us by the process of
 a) conduction b) convection c) radiation d) all of these
54. The normal temperature of the human body is
 a) 37 $^{\circ}$ C b) 38 $^{\circ}$ C c) 36.8 $^{\circ}$ C d) 33 $^{\circ}$ C
55. On increasing the external pressure, the boiling point of a liquid
 a) is raised b) is lowered c) remains unaffected d) none of these
56. A train 125 m long passes a man, running at 5 km/hr in the same direction in which the train is going, in 10 seconds. The speed of the train is
 a) 45 km/hr b) 50 km/hr c) 54 km/hr d) 55 km/hr
57. Two trains running in opposite directions cross a man standing on the platform in 27 seconds and 17 seconds respectively and they cross each other in 23 seconds. The ratio of their speeds is
 a) 1 : 3 b) 3 : 2 c) 3 : 4 d) none of these
58. A train passes a station platform in 36 seconds and man standing on the platform in 20 seconds. If the speed of the train is 54 km/hr, what is the length of the platform?
 a) 120 m b) 240 m c) 300 m d) none of these
59. Father is aged three times more than his son Ronit. After 8 years, he would be two and a half times of Ronit's age. After further 8 years, how many times would he be of Ronit's age?
 a) 2 times b) 2 $\frac{1}{2}$ times c) 2 $\frac{3}{4}$ time d) 3 times
60. The sum of ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?
 a) 4 years b) 8 years c) 10 years d) none of these

PART – II

rite answer in Answer Sheet only.

1. When the direction of current in a conductor is reversed, then the deflection of the needle of the compass placed near a current carrying conductor _____.
2. Current carrying conductor placed in a magnetic field experiences a force. The device based on the principle is _____.
3. If a force of 75 N acting on an object produces an acceleration of 1.5 m/s^2 in it, then, the mass of the object is _____ kg.
4. The distance through which a body moves when a constant force of 10 N acts on it to change its KE from 20 J to 40 J is _____ m.
5. Gold and Silver are used for making jewellery. Which of the property of the metals make them suitable for making jewellery ?
6. A man who weighs 70 kg climbs a staircase carrying a 10 kg load on his head. The staircase has 25 steps and each step is 25 cm height. The work done by the person is _____ J.
7. A body in motion comes to rest when force is applied on it. The work done by the force on the body is _____.
8. When two unequal masses possess the same momentum, then, the kinetic energy of the heavier mass is _____ the kinetic energy of the lighter mass.
9. Automobiles are fitted with a device that shows the distance traveled, which is known as _____.
10. A body starting from rest travels with uniform acceleration. If it travels 200 m in 10 s, then the value of the acceleration is _____ m/s^2 .

11. $A + B = \frac{\pi}{2}$ and $\sin A = \frac{1}{3}$, then $\sin B$ _____
12. If $\sqrt{3} \tan A = 1$, then the value of A is _____
13. $\tan^2 45^\circ + 2 \tan^2 60^\circ =$ _____
14. If $\tan(A + B) = \sqrt{3}$ and $\tan A = 1$, then $\angle B =$ _____
15. The value of 36° in radians is _____
16. The area of three rectangular fields are 165 m^2 , 195 m^2 and 285 m^2 . The three fields are divided into some smaller rectangular parts of equal area. If the breadth of each part is 3 m, then the length of each part is _____ m.
17. The zeroes of the quadratic polynomial $x^2 - 3x - 4$ are _____
18. If the sum of the squares of two consecutive natural numbers is 41, then the numbers are _____
19. The number 32760 can be expressed in the form of product of prime exponents as _____
20. A hemispherical bowl of radius 18 cm is full of water and the water is poured into cylindrical bottles of each diameter 3 cm and height 4 cm. Then the number of bottles required to empty the bowl is _____