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% b) 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 filed 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 reminder when $2x^3 - 5x^2 - 7$ is divisible by $x - 2$ is

a) 12, b) 1, c) -9, d) 2

17. The three vertices o 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) $36\sqrt{3}$ cm^2 b) $108\sqrt{3}$ cm^2, c) $72\sqrt{3}$ cm^2, d) $98\sqrt{3}$ cm^2

19. What is the area of a triangle whose base is 5 cm and height 14 cm

a) 35 cm^2 b) 45 cm^2 c) 25 cm^2 d) 30 cm^2

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 cm^2 b) 220 cm^2 c) 268 cm^2 d) 282 cm^2

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 o length 50 cm. Verify the result.

a) 235 cm b) 336 cm^2 c) 357 cm^2 d) 282 cm^2

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 24cm^2. 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 72^0 more than its supplement is

a) 162^0 b) 126^0 c) 66^0 d) 81^0

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

Contd..3

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

Contd..4

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 _____ ^{0}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/cm^2 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) 37^0 C b) 38^0 C c) 36.8^0 C d) 33^0 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 ½ times c) 2 ¾ 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

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PART – II

Write answer in Answer Sheet only.

01. 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 _____.

02. Current carrying conductor placed in a magnetic field experiences a force. The device based on the principle is _____.

03. 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.

04. 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.

05. Gold and Silver are used for making jewellery. Which of the property of the metals make them suitable for making jewellery ?

06. 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.

07. A body in motion comes to rest when force is applied on it. The work done by the force on the body is _____

08. When two unequal masses possess the same momentum, then, the kinetic energy of the heavier mass is _____ the kinetic energy of the lighter mass.

09. 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.

Contd..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. $\tan^2 45^0 + 2 \tan^2 60^0 =$ _____

14. If $\tan (A + B) = \sqrt{3}$ and $\tan A = 1$, then $\angle B =$ _____.

15. The value of 36^0 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 _____

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