

PART-I

01. The value of $3\frac{4}{5} + 2\frac{7}{10} + 4\frac{8}{15}$ is _____.
- a) 68/15 b) 331/30 c) 27/10 d) 325/30
02. Express $9\frac{7}{20}$ as a decimal
- a) 9.05 b) 9.53 c) 9.26 d) 9.35
03. A farmer has 192 animals out of which $\frac{7}{16}$ are cattle. $\frac{2}{3}$ of cattle are dairy cows. How many dairy cows he has?
- a) 128 b) 84 c) 56 d) 112
04. What is the number of sides in Hexagon ?
- a) 4 b) 7 c) 6 d) 5
05. The value of 5^3 is _____.
- a) 125 b) 15 c) 10 d) 75
06. The LCM of two numbers is 1200. Which of the following cannot be their HCF ?
- a) 600 b) 500 c) 400 d) 200
07. If the LCM of a and 18 is 36 and the HCF of a and 18 is 2, then a =
- a) 2 b) 3 c) 4 d) 1
08. If the product of zeros of the polynomial $f(x) = ax^3 - 6x^2 + 11x - 6$ is 4, the a =
- a) $\frac{3}{2}$ b) $-\frac{3}{2}$ c) $\frac{2}{3}$ d) $-\frac{2}{3}$
09. What should be added to the polynomial $x^2 - 5x + 4$, so that 3 is the zero of the resulting polynomial ?
- a) 1 b) 2 c) 4 d) 5
10. The value of k for which the system of equations $2x + 3y = 5$, $4x + ky = 10$ has infinite number of solutions, is
- a) 1 b) 3 c) 6 d) 0
11. Sides of two similar triangles are in the ratio 4 : 9. Areas of these triangles are in the ratio.
- a) 2 : 3 b) 4 : 9 c) 81 : 16 d) 16 : 81
12. The areas of two similar triangles are in respectively 9 cm^2 and 16 cm^2 . The ratio of their corresponding sides is
- a) 3 : 4 b) 4 : 3 c) 2 : 3 d) 4 : 5
13. If A and B are complementary angles, then
- a) $\sin A = \sin B$ b) $\cos A = \cos B$ c) $\tan A = \tan B$ d) $\sec A = \operatorname{cosec} B$
14. If $x \sin (90^\circ - \theta) \cot (90^\circ - \theta) = \cos (90^\circ - \theta)$, then $x =$
- a) 0 b) 1 c) - 1 d) 2
15. $\frac{1 + \tan^2 A}{1 + \cot^2 A}$ is equal to
- a) $\sec^2 A$ b) - 1 c) $\cot^2 A$ d) $\tan^2 A$

16. Which of the following is not a measure of central tendency?
 a) Mean b) Median c) Mode d) Standard deviation
17. The arithmetic mean of 1,2,3,..., n is
 a) $\frac{n+1}{2}$ b) $\frac{n-1}{2}$ c) $\frac{n}{2}$ d) $\frac{n}{2} + 1$
18. If the mode of the data: 16, 15, 17, 16, 15, x, 19, 17, 14 is 15, then x =
 a) 15 b) 16 c) 17 d) 19
19. If a angle of elevation of a tower from a distance of 100 metres from its foot is 60° , then the height of the tower is
 a) $100\sqrt{3}$ m b) $\frac{100}{\sqrt{3}}$ m c) $50\sqrt{3}$ m d) $\frac{100}{\sqrt{3}}$ m
20. The tops of two poles of height 20 m and 14 m are connected by a wire. If the wire makes an angle of 30° with horizontal, then the length of the wire is
 a) 12 m b) 10 m c) 8 m d) 6 m
21. Rate of change of displacement is called
 a) Speed b) Velocity c) Acceleration d) Deceleration
22. Formula to find the Force is
 a) $F = ma$ b) $F = a/m$ c) $F = m/a$ d) $a = Fm$
23. When a body rolls down an inclined plane, then it has
 a) only kinetic energy b) both kinetic and potential energy
 c) it has potential energy d) does not change
24. The device used for measuring potential difference is known as :
 a) potentiometer b) ammeter c) galvanometer d) voltmeter
25. The other name of potential difference is :
 a) ampereage b) wattage c) voltage d) potential energy
26. The substance having infinitely high electrical resistance is called
 a) conductor b) resistor c) superconductor d) insulator
27. A car headlight bulb working on a 12 V car battery draws a current of 0.5 A. The resistance of the light bulb is :
 a) 0.5Ω b) 6Ω c) 12Ω d) 24Ω
28. When the diameter of a wire is doubled, its resistance becomes:
 a) double b) four times c) one-half d) one-fourth
29. The unit for expressing electric power is :
 a) volt b) joule c) watt d) coulomb
30. An electric fuse works on the :
 a) chemical effect of current b) magnetic effect of current
 c) heating effect of current d) lighting effect of current

46. Letter : Envelop :: Coconut : ?
 a) Tree b) Shell c) Fibre d) Fruit
47. Paddy : Field :: Steel : ?
 a) Iron b) Mine c) Ore d) Factory
48. A is the sister of B, B is the brother of C and C is the son of D. How is D related to A ?
 a) Son b) Uncle c) Daughter d) Mother
49. 5 years ago, Lata was 8 years older than Rani. What is the difference between their ages today.
 a) 6 years b) 5 years c) 7 years d) 8 years
50. Atmospheric pressure is measured by a
 a) speedometer b) mercury barometer
 c) doctors thermometer d) manometer
51. A man is standing on a boat in still water. If he walks towards the shore, the boat will :
 a) move away from the shore b) remain stationary
 c) move towards the shore d) sink
52. Pick the odd one out :
 a) pulling of a cart b) stretching of a coiled spring
 c) kicking of a football d) electrical force
53. Dark clothes are more comfortable, during:
 a) summer b) winter c) monsoon d) no time
54. The normal temperature of the human body is :
 a) 37° C b) 38°C c) 36.8°C d) 33°C
55. In which of the following materials is the speed of sound maximum?
 a) air b) sea water c) iron d) fresh water
56. Echo is produced due to :
 a) reflection of sound b) refraction of sound c) resonance d) none of these
57. The seven colours of spectrum are represented by word:
 a) VBIGOYR b) VIGBROY c) VIBGYOR d) RYVIOBG
58. Our eye-lens is a:
 a) convex lens b) concave lens c) plano-convex lens d) none of these
59. Which among the following non-metals is hardest in nature?
 a) Iodine b) Sulphur c) Diamond d) Phosphorus
60. How many millions is equal to one crore?
 a) 100 b) 1 c) 10 d) 1,000

PART – 2

Write answer in Answer Sheet only.

01. The difference between the circumference and radius of a circle is 37 cm. The area of the circle is _____
02. Find the mode of the following data:
3, 3, 7, 4, 5, 3, 5, 6, 8, 9, 5, 3, 5, 3, 6, 9, 7, 4
03. A two-digit number is four times the sum and three times the product of its digits. Find the number.
04. Determine the 10th term from the end of the A.P. 4, 9, 14,, 254
05. Find the area of a circle whose circumference is 22 cm.
06. A bicycle wheel makes 5000 revolutions in moving 11 km. Find the diameter of the wheel.
07. What is 8% of 625?
08. If 8 men can do a piece of work in 15 days, in how many days could 20 men do same work?
09. The total expenditure per month of a household consists of a fixed rent of the house and mess charges depending upon the number of people sharing the house. The total monthly expenditure is Rs.3900 for 2 people and Rs.7500 for 5 people. Find the rent of the house and the mess charges per head per month.
10. The number of times a particular item occurs in a class interval is called its.

11. What will be the current drawn by an electric bulb of 40 W when it is connected to a source of 220 V?
12. An electric heater is rated at 2 kW. Electrical energy costs Rs.4 per kWh. What is the cost of using the heater for 3 hours?
13. The device used for producing electric current is called a:
14. What type of energy is possessed by flowing water?
15. What kind of mirror is required for obtaining a virtual image of the same size as the object?
16. An electric iron of resistance $20\ \Omega$ takes a current of 5 A. Calculate the heat developed in 30 s.
17. A sound wave propagating through a medium has bounded back into the same medium by hitting a hard surface and then such a phenomenon is called _____ of sound.
18. A wave completes 24 cycles in 0.8 s. The frequency of the wave is _____ Hz.
19. 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.
20. Find the focal length of a convex mirror whose radius of curvature is 32 cm.