CLASS - VIII

1. In a park, a circular path of width 2 mts is laid down with inner circle perimeter 12π mts and outer circle perimeter 16π mts. Its area is _____

1) 88sqmts 2) 30sqmts 3) 56sqmts 4) 176sqmts

2. The ratio between the speed of a cycle and a scooter with 5mt/sec and 36km/h respectively is

1) 1:6 2) 1:2 3) 2:3 4) 3:5

3. Assigning A=1 , B=2, C=3 ... for the letters in AIMED, the Median for the letters in MEDIA is

1) 3 2) 12 3) 4 4) 5

4. The perimeter of a rectangle is equal to the perimeter of a square. then the difference between their areas is _____ (in terms of l and b)

1) $\frac{1}{2}lb$ 2) $\left(\frac{l-b}{2}\right)^2$ 3) $\frac{l+b}{2}$ 4) $\frac{l-b}{2}$

5. With which smallest number, we will multiply the present year (number) so that it becomes a prefect square

1) 14 2) 8 3) 16 4) 7

6. If l=5, m =3, n=2 then the value of

$l^3+m^3+n^3+3lm^2+3mn^2+3nl^2+3l^2m+3m^2n+3n^2l+6lmn$ *is*

1) 1078 2) 1016 3) 1000 4) 1024

7. No. of two different digit prime numbers formed using the digits in Ramanujan number is

1) 5 2) 7 3) 3 4) 6

8. Non terminating and non-recurring decimals occur in the following set

1) Q 2) Q^1 3) N 4) Z

9. l and m are two lines, n is a transversal to l and m ; one pair of alternate angles are $(2x+15)^0$ *and* $(3x-20)^0$. To become l and m are parallel, the angle x^0 must be

1) 30^0 2) 45^0 3) 35^0 4) 15^0

10. ABCD is a rhombus. $\overline{AC}$ and $\overline{BD}$ are diagnols intersecting at 0. The area of ΔAOB is 10.25sqcm then the area of the rhombus ABCDis

1) 41 sq.cm 2) 20.5sq.cm 3) 5.125sq.cm 4) 102.5sq.cm

11. Total number of lines of symmetry that can be drawn to the letters in AIMED is

1) 3 2) 4 3) 5 4) 6

12. "Order of rotation" of a circle is

1) 4 2) Infinite 3) 2 4) 8

13. The compound ratio of 3:4 and the inverse ratio of 4:5 is x:48 then x =

1) 45 2) 27.8 3) 51.2 4) 25

14. If a number is both square and cube then units digit must not be (certainly not possible)

1) 6 2) 5 3) 8 4) 1

15. Two years ago the mean age of 40 people was 12 years. Now a person left the group and the mean age is changed to13 years. The age of the person who left the group is

1) 50 2) 51 3) 52 4) 53

16. 6, 28, 496 are exclusively the examples of

1) Odd number 2) Prime numbers
3) Perfect numbers 4) Amicable numbers

17. No. of digits in the square of 2016 ranges either

1) 5 or 6 2) 7 or 8 3) 8 or 9 4) 9 or 10

18. In which year, Ramanujan's 125^{th} birth anniversary celebrated

1) 2010 2) 2014 3) 2012 4) 2016

19. Arithmetic mean of two scores is 10; Product of the scores is 96 then the arithmetic mean of their squares is

1) 53 2) 104 3) 86 4) 106

20. $16(2^2 + 2^{-2})\ (2^2 - 2^{-2}) =$

1) $\frac{25}{16}$ 2) 125 3) 255 4) $\frac{23}{16}$

21. Twice the arithmetic mean of first 2015 natural numbers is
1) 2015 2) 2016 3) 1008 4) 4030

22. An isoscles triangle is inscribed in a semicircle with 8cm diameter as its largest side, then the area of the isoscles triangle is
1) 32 sqcm 2) 18sqcm 3) 24sqcm 4) 16sqcm

23. If the length between naval point and foot of the person is 100 cms then his height is (approxiametely)
1) 161cms 2) 120cms 3) 172cms 4) 115cms

24. If sum of the factors of a number n is equal to n+1 then the number is
1) even number 2) composite number 3) Prime number 4) Odd Number

25. What should be the rate of compound interest if the total amount is 4times the principal amount in 2 years ?
1) 50% 2) 25% 3) 100% 4) 75%

26. Read the below statements and pickout the correct option
Statement A: All square numbers are perfect squares
Statement B: All perfect squares are square numbers
1) Both A and B are true 2) A is false, B is true
3) Both A and B are false 4) A is true, B is false

27. Frequency density of a class is 8. Length of that class is 15 and least class length is 10 then the frequency of that class is
1) 16 2) 12 3) 11 4) 8

28. 43 students marks in maths test are classified into a frequency distribution table which are divided in to 5 classes. The less than cumulative frequency and grater than cumulative frequency of the middle class are 32 and 26, then the frequency of the middle class is
1) 15 2) 11 3) 6 4) 17

29. By selling two items for Rs.990/- each, a merchant gaines 10% profit on one item and 10% loss on another item. On the whole his profit / loss % is
1) gain 1% 2) loss 2% 3) No gain, no loss 4) Loss 1%

30. One of the Principle of "problem solving" which is not proposed by "George Polya" is
1) Understand the problem 2) Devise a plan
3) carryout the plan 4) get byheart the procedure

31. A sector formed with an angle 90^0 subtended by the arc of the sector at the centre of a circle with radius 7cm is removed. Then the perimeter of the remaining part is

1) 47cm 2) 22cm 3) 33 cm 4) 44 cm

32. (Smallest 4 digit number)^3 - (gratest 3 digit number)^3 - 3(smallest 4 digit number)(gratest 3 digit nummber)(smallest 4 digit number - gratest 3 digit number) =

1) 0 2) 1 3) 1000 4) 999

33. A cubiod of dimensions12cms, 8cms and 3cms is divided into unit cubes. How many minimum number of such cubes needed to make nearest possible big cube

1) 36 2) 55 3) 16 4) 25

34. If a,b $\in$ N and a $\neq$ b; a $\odot$ b= $(a-b)^2$ then N obeys the following property / properties under the operation $\odot$ is / are

1) Closure only 2) Commutative only 3) Both 1&2 4) Associative

35. A cube has 4096 unit.cm.cubes. To cover the surface area with a paper; how much area of paper is required

1) 1536 sqcm 2) 1236sqcm 3) 1436sqcm 4) 1036sqcm

36. A quadrilateral has a diagonal of length d_1 and h_1 ,h_2 are the perpendiculars drawn from two opposite vertices to this diagonal. To constuct a rhombus with same area and d_1 as one diagonal of it, What will be the length of the other diagonal

1) $\frac{1}{2}(h_1+h_2)$ 2) h_1-h_2 3) $d_1-(h_1+h_2)$ 4) h_1+h_2

37. The sum of the odd pages numbers in a text book-let is 16. Then the last page number is

1) 5 2) 6 3) 7 4) 8

38. A number consists of two digits. When it is reversed, it is 9 more than original number. Sum of the original and reversed number is 33 then the original two digit number is

1) 13 2) 16 3) 19 4) 12

39. The smallest prime number which divides $2015^{2015}+2017^{2017}$

1) 3 2) 6 3) 2 4) 5

40. Nearest perfect cube to Ramanujan number

1) 10^3 2) 11^3 3) 12^3 4) 1^3

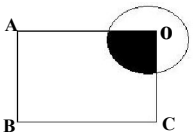
41. In a talent test, 5 marks are given for every correct answer and -2 marks are given for every incorrect answer. David attempted all questions but only 4 answers are correct. If his score is -12, the number of incorrect answers is

1) 10 2) 16 3) 6 4) 8

42. The best selling book written by George polya is

1) Principles of solving 2) Problem solving
3) How to slove It 4) Problems for sloving

43. 0 is the center of the circle of diameter 4cm and 0ABC is a square.



If the shaded area is $\frac{1}{3}$ area of the sqare, then side of the square is

1) $\pi\sqrt{3}$ cm 2) $\sqrt{3\pi}$ cm 3) $3\sqrt{\pi}$ cm 4) 3π cm

44. A trader bought 15books at the price of 12 books and sold 12 books at the price of 15 books.What is his percentage of profit per book sold?

1) 50% 2) $52\frac{1}{4}\%$ 3) 56% 4) $56\frac{1}{4}\%$

45. An amount was to be divided between P and Q in a ratio 3:2. But due to wrong calculation it was found that P got one- fifth of the total amount more than his expected share. In what ratio was the amount divided between P and Q?

1) 5 : 2 2) 2 : 1 3) 2 :5 4) 4 : 1

46. The ratio of the cost price of two articles A and B is 5:6. Both are sold at loss. The ratio of their losses is 3:2. If the loss on selling B is $1/5$ th of its cost price, then the ratio of the selling prices of A and B is

1) 1 : 2 2) 3 : 4 3) 2 : 3 4) 1 :3

47. If two- third of three- frouth of a number added to three - fourth of the four -fifth of the number is x times the number, then value of x is

1) $11/10$ 2) $12/11$ 3) $10/11$ 4) $9/11$

48. If 1.525252..... is converted into a fraction $\frac{x}{y}$, then the value of $x+y$ is

1) 149 2) 250 3) 256 4) 198

49. The ratio of ages of two brothers is 1 : 2 and 5 years back, the ratio was 1:3. What will be the ratio of their ages after 5 years

1) 2 : 3 2) 3:5 3) 5 : 3 4) 3 : 2

50. The quadrilateral which can be constructed when two diagnols are given

1) rectangle 2) Parallelogram 3) Trapezium 4) Rhombus

51. If $m^n.n^m = 800$ then value of $\frac{n}{m}$ =

1) $\frac{1}{2}$ 2) $\frac{1}{5}$ 3) $\frac{4}{5}$ 4) $\frac{5}{2}$

52. If p q r = 1 then $\frac{1}{1+p+q^{-1}}+\frac{1}{1+q+r^{-1}}+\frac{1}{1+r+p^{-1}}$ =

1) 1 2) pq 3) rq 4) 0

53. A exceeds B by 40% and B is less than C by 20% then A : C =

1) 3 : 2 2) 3 : 1 3) 28 : 25 4) 26 :25

54. A man purchases a two wheeler for Rs.50,000 and incurs Rs.18000 on repairs and modifications. After a year he sells that for Rs.55800. What is the approximate percentage of profit or loss, if 25% is to be deducted on account of depreciation?

1) 9.5% loss 2) 11 % Profit 3) 9.5% Profit 4) 7.5% Loss

55. The sides of a right angled triangle are represented by

1) $m^2-n^2, 2mn, m^2+n^2$ 2) $m^2+n^2, m^2-n^2, 2\sqrt{mn}$

3) $m+n,\ 2\sqrt{mn},\ m-n$ 4) a, b, c

56. A has twice as much money as B . They play together and at the end of the first game, B wins one third of A's money from A; What fraction of the sum that B now has, must A win back in the second game so that they may have exactly equal money?

1) $\frac{1}{3}$ 2) $\frac{1}{5}$ 3) $\frac{1}{8}$ 4) $\frac{1}{10}$

57. The famous Greek temple "Parthenon" is an example of architecture for ____

1) Golden angle 2) Golden ratio 3) equal ratio

4) Pythagorean ratio

58. If n is a natural number then $\sum n^3 =$

1) $\left(\sum n\right)^3$ 2) $\left(\sum n\right)^2$ 3) $3\sum n$ 4) $n.\sum n^2$

59. A person made 165 cell calls in the month of May in a year. It was Friday on 1st May of the year. The average of calls on Sunday was 7. What was the average of the calls per day on the rest of days of the month

1) 8 2) 5 3) 7 4) 6

60. Median of the data 1, 2, 3, ...(2n+1) is

1) n 2) n+1 3) n-1 4) $\frac{2n+1}{2}$