

# INTO 8<sup>TH</sup> STATE

## **INSTRUCTIONS**

**NUMBER OF QUESTIONS : 100**

**TIME : 2 Hrs**

1. ATTEMPT ALL QUESTIONS WITHIN THE TIME.
2. EACH QUESTION CARRIES 1 MARK
3. NO NEGATIVE MARKS.
4. DON'T DO ROUGH WORK ON QUESTION PAPER AND OMR.
5. USE BLACK (OR) BLUE PEN FOR BUBBLING ON OMR.

### CORRECT METHOD OF BUBBLING



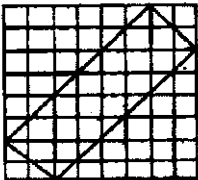
### WRONG METHOD OF BUBBLING



## Mathematics

1. Additive inverse of -2017 is \_\_\_\_\_  
1. 0                                      2. -1                                      3. 1                                      4. 2017
2. A shopkeeper earns a profit of ₹ 2 by selling one pen incurs loss of ₹ 1 per pencil while selling pencils of her old stock. In particular month she incurs a loss of ₹ 5. In this period she sold 45 pens How many pencils did she sell in this period  
1. 100                                      2. 95                                      3. 90                                      4. 105
3. Which of the following is a proper fraction?  
1.  $\frac{1}{2}$                                       2.  $\frac{3}{2}$                                       3.  $1\frac{1}{3}$                                       4. 0
4. The value of  $\frac{2}{3} \times 5\frac{2}{5}$  is \_\_\_\_\_  
1.  $3\frac{1}{5}$                                       2.  $3\frac{2}{5}$                                       3.  $3\frac{3}{5}$                                       4.  $3\frac{4}{5}$
5. If  $5(x+4) = 35$  then  $x^2 =$  \_\_\_\_\_  
1. 18                                      2. 9                                      3. 3                                      4. 27
6. If we subtract 22 from 3 times a number we get 68. Then number is \_\_\_\_\_  
1. 50                                      2. 40                                      3. 20                                      4. 30
7. The supplementary angle of  $95^\circ$  is \_\_\_\_\_  
1.  $75^\circ$                                       2.  $85^\circ$                                       3.  $65^\circ$                                       4.  $95^\circ$
8. A line which intersects two or more lines at distinct points is called a \_\_\_\_\_  
1. Transversal                                      2. Parallel                                      3. Perpendicular                                      4. Coplanar
9. A triangle in which two sides are equal is called an \_\_\_\_\_ triangle  
1. A cute                                      2. Obtuse                                      3. Equilateral                                      4. Isosceles

10. Point of concurrence of medians of a triangle is called \_\_\_\_\_  
 1. Orthocenter      2. Circum centre      3. Centroid      4. Incentre
11. If one angle of  $\Delta ABC$  is  $40^\circ$  and the other two angles are equal then value of each equal angle is \_\_\_\_\_  
 1.  $70^\circ$       2.  $40^\circ$       3.  $80^\circ$       4.  $100^\circ$
12. What is the cost of 9 bananas, if the cost of a dozen bananas is `20  
 1. `30      2. `25      3. `15      4. `35
13. If  $16:20 = x:35$  then  $x =$  \_\_\_\_\_  
 1. 48      2. 18      3. 38      4. 28
14. The interest on a sum of `8250 for 3 years at the rate of 8% per annum  
 1. `1880      2. `1980      3. `1780      4. `1680
15. The mean of the first ten natural numbers is \_\_\_\_\_  
 1. 5.5      2. 6.5      3. 7.5      4. 4.5
16. The mode of the data 2, 3, 5, 3, 4, 7, 3, 2, 1, 7, 3  
 1. 2      2. 3      3. 5      4. 7
17. Number of independent measurements are required to construct a triangle  
 1. 3      2. 4      3. 5      4. 2
18. What is the literal coefficients of  $-3Z$ ?  
 1. -1      2. -3      3.  $Z$       4.  $3Z$
19. Which of the following are like terms?  
 1.  $100x, x$       2.  $3y, 6z$       3.  $4p, 4q$       4.  $x, y$
20. The degree of the monomial  $x^2y^2z$  is \_\_\_\_\_  
 1. 4      2. 5      3. 6      4. 3
21. If  $450 = 2^p \times 3^q \times 5^r$  then  $(p + q - r)^2 =$  \_\_\_\_\_  
 1. 0      2. 1      3. 25      4. 9
22. If  $(-a)^m = -a^m$  then  $m$  is \_\_\_\_\_  
 1. Even      2. Even prime      3. Odd      4. Even composite
23. If  $5^6 \times 5^{2x} = 5^{10}$  then  $x =$  \_\_\_\_\_  
 1. 2      2. 3      3. 8      4. 4
24. The angles of a quadrilateral are in the ratio 3 : 4 : 5 : 6 then the greatest angle  
 1.  $130^\circ$       2.  $120^\circ$       3.  $110^\circ$       4.  $80^\circ$
25. The measures of two adjacent angles of a parallelogram are in the ratio 3 : 2 then the smallest angle is \_\_\_\_\_  
 1.  $98^\circ$       2.  $108^\circ$       3.  $72^\circ$       4.  $62^\circ$

26. The base of a triangle whose area is  $220\text{cm}^2$  and height  $11\text{cm}$   
 1.  $30\text{cm}$                       2.  $50\text{cm}$                       3.  $60\text{cm}$                       4.  $40\text{cm}$
27. Area of a rhombus is \_\_\_\_\_ sq. units  
 1.  $\frac{1}{2}d_1d_2$                       2.  $\frac{1}{2}(a+b)h$                       3.  $\frac{1}{2}d(h_1+h_2)$                       4.  $\frac{1}{2}bh$
28. Circumference of a circle whose radius  $14\text{cm}$  is \_\_\_\_\_ cm  
 1.  $99$                       2.  $44$                       3.  $88$                       4.  $66$
29. If a plot is  $60\text{m}$  long and  $40\text{m}$  wide a path  $3\text{m}$  wide is to be constructed around outside the plot then the area of the path is \_\_\_\_\_ square metres  
 1.  $536$                       2.  $636$                       3.  $436$                       4.  $736$
30. Horizontal cross section of a cylinder is \_\_\_\_\_  
 1. Circle                      2. Rectangle                      3. Square                      4. Semicircle
31. Number of axes of symmetry for a regular pentagon  
 1.  $0$                       2.  $1$                       3.  $5$                       4.  $3$
32. The sum of the reciprocals of all the divisors of  $6$  is \_\_\_\_\_  
 1.  $1$                       2.  $0$                       3.  $2$                       4.  $3$
33. If  $x^2 - 4x + 1 = 0$  then  $x^5 + \frac{1}{x^5} =$  \_\_\_\_\_  
 1.  $724$                       2.  $734$                       3.  $728$                       4.  $732$
34. If  $\frac{4^7 + 4^7 + 4^7 + 4^7}{2^7 + 2^7} = 2^x$  then  $(x+2)^3 =$  \_\_\_\_\_  
 1.  $100$                       2.  $1000$                       3.  $10,000$                       4.  $10$
35. The value of  $\frac{1}{2 + \frac{1}{3 + \frac{1}{4 + \frac{1}{5}}}} =$  \_\_\_\_\_  
 1.  $\frac{77}{60}$                       2.  $\frac{68}{157}$                       3.  $\frac{2007}{2008}$                       4.  $\frac{48}{99}$
36. The digits of a three digit number are  $3, 7,$  and  $x$  in that order and  $37x = 3^3 + 7^3 + x^3$  the value of  $x$  is \_\_\_\_\_  
 1.  $1$  or  $2$                       2.  $0$  or  $2$                       3.  $1$  or  $0$                       4.  $0, 1$  or  $2$
37. A plank is placed on a tiled floor. What fraction of the floor is not covered by the plank?  

1.  $\frac{5}{8}$                       2.  $\frac{3}{8}$                       3.  $\frac{17}{64}$                       4.  $\frac{1}{4}$

38. If  $a + b + c = 10$  and  $a^2 + b^2 + c^2 = 64$  then  $ab + bc + ca =$  \_\_\_\_\_

1. 36                      2. 64                      3. 9                      4. 18

39.  $(a - b)^2 - (a + b)^2 =$  \_\_\_\_\_

1.  $4ab$                       2.  $-4ab$                       3.  $2(a^2 + b^2)$                       4.  $2(a^2 - b^2)$

40. If  $2^{x-1} + 2^{x+1} = 320$  then  $x =$  \_\_\_\_\_

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

41.  $\sqrt{248} + \sqrt{52} + \sqrt{144} =$  \_\_\_\_\_

1. 14                      2. 16                      3. 24                      4. 26

42. The largest number that divides 210, 315, 147 and 168 exactly is \_\_\_\_\_

1. 3                      2. 7                      3. 21                      4. 4

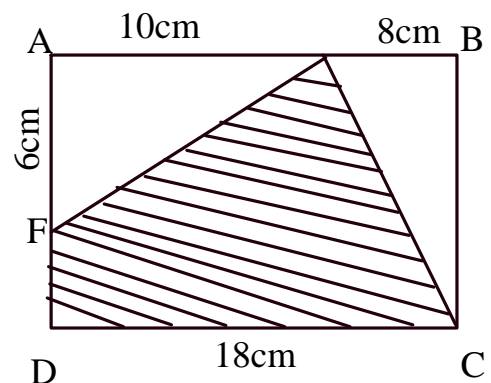
43. What least number must be subtracted from 13601 to get a number exactly divisible by 87?

1. 49                      2. 23                      3. 29                      4. 31

44. If  $(225)^{2.5} \div (225)^x = 225$  then  $x =$

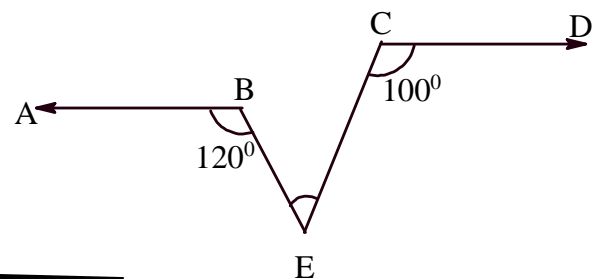
1. 0.5                      2. 1                      3. 2                      4. 1.5

45. The area of the shaded part of adjacent figure is \_\_\_\_\_ sq.cm



1. 105                      2. 100                      3. 95                      4. 110

46. In the given figure  $\overline{AB} \parallel \overline{CD}$   $\angle A = 120^\circ$ ,  $\angle C = 100^\circ$  and  $\angle B = x^\circ$  then \_\_\_\_\_

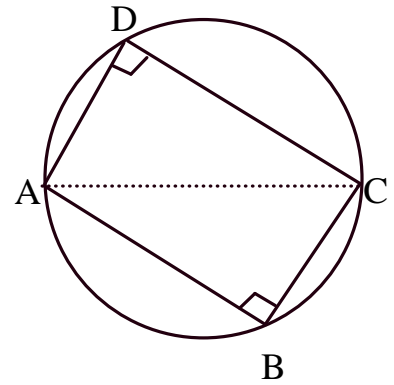


4.  $70^\circ$

47. In  $\Delta ABC$ , E is the midpoint of BC and G is the centroid of the triangle then BE : GE

1. 1 : 2                      2. 2 : 1                      3. 3 : 1                      4. 1 : 3

48. If  $\overline{AC}$  is the diameter of a circle and diagonal of the inscribed quadrilateral ABCD whose sides  $AB = 7\text{cm}$ ,  $CD = 15\text{cm}$ ,  $BC = 24\text{cm}$ ,  $\angle B = \angle D = 90^\circ$  then length of AD is \_\_\_\_\_ cm



1. 20                      2. 30                      3. 10                      4. 15

49. If  $\frac{1}{a} + \frac{1}{b} = \frac{1}{13}$  where  $a, b$  are natural numbers and

- (A)  $a = b = 26$               (B)  $a = 13$   $b = 13 \times 14$               (C)  $a = 14$   $b = 13 \times 14$

Of these statements correct statements are

1. (A) and (B)              2. (A) and (C)              3. (B) and (C)              4. (A), (B) and (C)

50. The value of  $\left(2^{\frac{1}{ab}}\right)^c \cdot \left(2^{\frac{1}{bc}}\right)^a \cdot \left(2^{\frac{1}{ac}}\right)^b$  when  $a^2 + b^2 + c^2 = 2abc$  is

1. 2                      2. 4                      3. 6                      4. 8

### SCIENCE

51. Solar heaters converts from \_\_\_\_\_ energy to \_\_\_\_\_ energy

1. Heat, light              2. Light, heat              3. Heat, chemical              4. Chemical, heat

52. Lower and upper fixed points in Fahrenheit scale

1.  $0^\circ$  &  $100^\circ$               2.  $32^\circ$  &  $212^\circ$               3.  $0^\circ$  &  $80^\circ$               4.  $492^\circ$  &  $672^\circ$

53. The circuit system in our homes is \_\_\_\_\_

1. In series              2. In parallel              3. Open circuit              4. None

54. Number of images formed by two parallel mirrors

1. 1                      2. 2                      3. 0                      4.  $\infty$

55. Which of the following are scalar and vector quantities

1. Speed, distance                                      2. Distance speed  
3. Speed, displacement                              4. Displacement, speed

56. A particle moves along the side of a square of length ' $l$ ' starting from A and reached the opposite corner C by travelling from A to B and from B to C. if the time taken is 't', the average velocity of the particle is

1.  $\frac{2l}{t}$                       2.  $\frac{l\sqrt{2}}{t}$                       3. Zero                      4.  $\frac{l}{\sqrt{2}t}$

57. A freely falling body crosses the points A, B and C with velocities  $V, 2V$  and  $3V$ . then  $AB:AC =$

1. 1:2                      2. 1:3                      3. 1:1                      4. 3:8

58.  $S_1$  and  $S_2$  are the distances travelled by a freely falling body in the  $x^{\text{th}}$  second and  $y^{\text{th}}$  second respectively. then
1.  $\frac{S_1 + S_2}{x + y} = g$
  2.  $\frac{S_2 - S_1}{x + y} = g$
  3.  $\frac{S_2 - S_1}{x - y} = g$
  4.  $\frac{S_2 - S_1}{y - x} = g$
- 
59. One man takes one minute to raise a suitcase to a height of 2m and the other takes half of this time. The energy of those two when compared
1. Is different
  2. Is the same
  3. Energy of first man is greater
  4. Energy of second man is greater
- 
60. Which of the following forms virtual image
1. Plane mirror
  2. Convex mirror
  3. Concave mirror
  4. All the above
- 
61. Magnification of real image for spherical mirror is
1. Negative
  2. Positive
  3. Both 1 and 2
  4. none
- 
62. Which of the following is the reason for using mercury in thermometer?
1. Good conductor of heat
  2. Opaque & shining
  3. Doesn't stick on glass walls
  4. All the above
- 
63. The optical instrument, which is used to observe multiple reflections
1. Micro scope
  2. Periscope
  3. Tele scope
  4. Kaledio scope
- 
64. A person walks a distance of 30m towards west a speed of  $2 \text{ ms}^{-1}$  and 40m towards north with a speed of  $1.5 \text{ ms}^{-1}$ . Then average speed and average velocity for his journey
1.  $\frac{6}{5} \text{ ms}^{-1}, \frac{42}{45} \text{ ms}^{-1}$
  2.  $\frac{42}{25} \text{ ms}^{-1}, \frac{6}{5} \text{ ms}^{-1}$
  3.  $20 \text{ ms}^{-1}, 25 \text{ ms}^{-1}$
  4.  $25 \text{ ms}^{-1}, 20 \text{ ms}^{-1}$
- 
65. A train accelerates from rest at a constant rate  $a_1$  for distance  $S_1$  and time  $t_1$ . After that it retards to rest at a constant rate  $a_2$  for distance  $S_2$  at time  $t_2$ . Then the correct relation among the following is
1.  $\frac{S_1}{S_2} = \frac{a_1}{a_2} = \frac{t_1}{t_2}$
  2.  $\frac{S_1}{S_2} = \frac{a_2}{a_1} = \frac{t_1}{t_2}$
  3.  $\frac{S_1}{S_2} = \frac{a_1}{a_2} = \frac{t_2}{t_1}$
  4.  $\frac{S_1}{S_2} = \frac{a_2}{a_1} = \frac{t_2}{t_1}$
- 
66. A body moves along a circular track of radius 'r'. it starts from one end of a diameter, moves along the circular track and completes  $1 \frac{1}{2}$  revolutions. What is the ratio of the distance travelled by the body to its displacement
1.  $3\pi/2$
  2.  $2/\pi$
  3.  $2\pi$
  4.  $1/2\pi$
- 
67. The average force necessary to stop a hammer with 25N-s momentum in 0.05 seconds expressed in N is
1. 500
  2. 125
  3. 50
  4. 25
- 
68. A body of mass 50 gms is allowed to fall freely under gravity. Calculate it's momentum after 5 sec [ $g=980 \text{ cms}^{-2}$ ] is \_\_\_\_\_ gm.cm/sec.
1. 245
  2. 2450
  3.  $245 \times 10^2$
  4.  $245 \times 10^3$

69. A car and a lorry moving with the same kinetic energy are brought to rest by the application of brakes which provide equal retarding forces. Then
1. Car will come to rest in a shorter distance
  2. Lorry will come to rest in a shorter distance
  3. The distances travelled by both before coming to rest will be same
  4. None of these
- 
70. Concave mirror forms virtual image when object be placed \_\_\_\_\_
1. F
  2. C
  3. Between C & F
  4. Between F & P
- 
71. Acid rains are due to oxides of
1. Carbon
  2. Sulphur
  3. Nitrogen
  4. All
- 
72. Egg shell is made up of \_\_\_\_\_ chemical and it is \_\_\_\_\_ in nature.
1.  $\text{CaCO}_3$ , acidic
  2.  $\text{CaCO}_3$ , Basic
  3.  $\text{CaCO}_3$ , Neutral
  4.  $\text{Ca}(\text{OH})_2$ , Basic
- 
73. which acid is used in Batteries
1. Sulphuric Acid
  2. Hydrochloric acid
  3. Oxalic Acid
  4. Citric Acid
- 
74. Methyl Orange gives red colour with
1. Baking Soda
  2. Washing Soda
  3. Salt Water
  4. Vinegar
- 
75. On the earth which place is very hot.
1. Equatorial region
  2. Polar Region
  3. Middle region
  4. all the regions of earth
- 
76. In sea Breeze, air blows from
1. Sea to Land
  2. Land to Sea
  3. Expands at sea
  4. none of these
- 
77. Burning of crackers is
1. Chemical change
  2. Physical change
  3. Periodic change
  4. Temporary change
- 
78. Ascorbic Acid is
1. Vitamin A
  2. Vitamin B
  3. Vitamin C
  4. Vitamin D
- 
79. Respiration is \_\_\_\_\_ change
1. Physical change
  2. Chemical change
  3. No change
  4. Both 1 and 2
- 
80. Which of the following salts responsible for permanent hardness of water
1.  $\text{SO}_4^{-2}, \text{Cl}^-$
  2.  $\text{CO}_3^{-2}, \text{Cl}^-$
  3.  $\text{SO}_4^{-2}, \text{CO}_3^{-2}$
  4.  $\text{CO}_3^{-2}, \text{NO}_3^-$
- 
81. Lavoisier that who is the founder of modern science of nutrition is a \_\_\_\_\_
1. American
  2. African
  3. Frenchman
  4. Belgian
- 
82. Symbiont of Dal family plant is \_\_\_\_\_
1. Bacteria
  2. Fungi
  3. Algae
  4. Virus
- 
83. \_\_\_\_\_ has described the leaves as organs of transpiration.
1. Von Helmont
  2. Priestley
  3. Stephen hales
  4. Ingen houz

84. Lenticels are respiratory organs present in \_\_\_\_\_  
 1. Frog                      2. Salamander                      3. Oak                      4. Cockroach
85. Ipomea is an example for \_\_\_\_\_ flower  
 1. Unisexual                      2. Bisexual                      3. Incomplete                      4. Both b & c
86. Calotropis dispersed their seeds by \_\_\_\_\_  
 1. Birds                      2. Animals                      3. Wind                      4. Water
87. \_\_\_\_\_ Horizon of the soil is called  
 1. A                      2. B                      3. C                      4. E
88. Study of influence of soil on organism, especially on plants is called \_\_\_\_\_  
 1. Morphology                      2. Ecology                      3. Edaphology                      4. Pedalogy
89. Chenchus are found in \_\_\_\_\_ forest  
 1. Ananthagiri                      2. Nallamala                      3. Korangi                      4. Visakhapatnam
90. The number of nucleus present in the zygote is \_\_\_\_\_  
 1. 1                      2. 2                      3. 3                      4. 4

**ENGLISH**

91. How much do you want?  
 1. Noun                      2. Adverb                      3. Adjective                      4. Pronoun
92. He was much surprised at the news.  
 1. Verb                      2. Adverb                      3. Adjective                      4. Noun
93. Seven thousand rupees \_\_\_\_\_ to him.  
 1. Has been paid                      2. Are paid                      3. Were paid                      4. Have been paid
94. They sell bananas by \_\_\_\_\_ dozen.  
 1. a                      2. The                      3. a                      4. None
95. Sitha cut her finger. (Identify tense)  
 1. Past continuous                      2. Past simple                      3. Present simple                      4. None
96. He as well as they \_\_\_\_\_ incorrect.  
 1. are                      2. is                      3. were                      4. am
97. They are to be punished.  
 1. Passive verb                      2. Phrase                      3. Preposition                      4. Finite verb
98. This is my school \_\_\_\_\_ I studied 10<sup>th</sup> class.  
 1. Which                      2. On which                      3. Who                      4. At which
99. They have been playing \_\_\_\_\_ morning.  
 1. For                      2. Since                      3. In                      4. Before
100. He said, "What do you like?"  
 1. He said that what I liked                      2. He asked me what did you like.  
 3. He asked me what I liked.                      4. He asked me what I did liked

**THE END**