AP SUPER GURU MODEL TEST PAPER – 1

MATHEMATICS (UNSOLVED)

Time Allowed : 3 Hours | CLASS – VIII | Maximum Marks : 80

NOTE

1. All the questions are compulsory.
2. **In Part – A** there will be Q.No. 1 to 3.
   (*i*) Question No. **1** have 16 questions of Multiple Choice of **one** mark each.
   (*ii*) Question No. **2** have 7 questions of Fill in the Blanks of **one** mark each.
   (*iii*) Question No. **3** have 7 questions of True/False of **one** mark each.
3. **Part – B** have questions from No. **4** to **7** each of **two** marks.
4. **Part – C** have questions from No. **8** to **13** each of **four** marks and there is internal choice in question number **8, 11** and **12.**
5. **Part – D** have questions from No. **14** to **16** each of **six** marks and there is internal choice of all questions.

PART – A

Note : Each question is of 1-1 mark in this part.

1. Choose the right option from the following questions :

(*i*) Which of the following is associative property for addition ?

(*a*) $x \times y = y \times x$ (*b*) $x + y = y + x$

(*c*) $(x+y)+z = x+(y+z)$ (*d*) $x - y = y - x$

(*ii*) Which of the following number does not have multiple inverse ?

(*a*) 0 (*b*) -1 (*c*) 1 (*d*) $\frac{-2}{-3}$

(*iii*) If $2x - 3 = x + 2$ then $x =$ .....

(*a*) 1 (*b*) -1 (*c*) 6 (*d*) 5

(*iv*) If $6x$ and 24 are two opposite sides of parallelogram, what is the value of x ?

(*a*) 4 (*b*) 8 (*c*) 13 (*d*) 12

(*v*) $1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 =$ .....

(*a*) 6^2 (*b*) 5^2 (*c*) 7^2 (*d*) 8^2

(*vi*) What will be ones place digit $\sqrt{625}$?

(*a*) 5 (*b*) 4 (*c*) 9 (*d*) 1

(*vii*) By what number 108 be multiplied to make it a perfect cube ?

(*a*) 2 (*b*) 3 (*c*) 6 (*d*) 4

(*viii*) ATM stands for .....

(*a*) Automated Teller Machine (*b*) Auto Telling Machine

(*c*) Auto Teller Machine (*d*) Automated Telling Machine

(*ix*) Identify the binomial :

(*a*) $5x + 2$ (*b*) $x + x + 1$ (*c*) 6z (*d*) $\sqrt{t}$

(*x*) If the edge of a cube is doubled, then what will happen to the surface area ?

(*a*) 2 times (*b*) 4 times (*c*) 3 times (*d*) half

(*xi*) Find the area of the rhombus whose diagonals are 4 cm and 6 cm.

(*a*) 24 cm^2 (*b*) 12 cm^2 (*c*) 10 cm^2 (*d*) 18 cm^2

(*xii*) Value $(5^3)^4$ is ..... ?

(*a*) 5^7 (*b*) 5^{12} (*c*) 5^{-1} (*d*) 5^8

(*xiii*) Usual form of number 1.6×10^4 is :

(*a*) 16000 (*b*) 1600 (*c*) 160000 (*d*) 1.60000

(*xiv*) What is the common factor of $10xy$ and $12y$?

(*a*) $10x$ (*b*) $2xy$ (*c*) $2y$ (*d*) $2x$

(*xv*) The abscissa (2, 7) is :

(*a*) 7 (*b*) 2 (*c*) 0 (*d*) None of these

(*xvi*) $(a+b)^2 - (a-b)^2 =$

(*a*) $-4ab$ (*b*) $2a + 2b$

(*c*) $2a - 2b$ (*d*) $4ab$

2. Fill in the blanks :

(*i*) The diagonals of a square bisects each other at an angle = ...

(*ii*) Sum of all central angles in a pie chart is ..... .

(*iii*) The square of an odd number is always an..... number.

(*iv*) If a perfect cube ends with digit 2, then the ones digit of its cube root will be .....

(*v*) The number of tax slabs in G.S.T. are ..... .

(*vi*) $a^m \times a^n =$ ..... .

(*vii*) The horizontal line in the Cartesian plane is known as ....

3. True / False :

(*i*) $2x + 3 = 5y - 2$ is a linear equation. (True/False)

(*ii*) The diagonals of a rectangle are equal in length. (True/False)

(*iii*) When a coin is tossed then the number of possible outcomes are 6. (True/False)

(*iv*) Multiplying a monomial with a binomial will give you a Trinomial. (True/False)

(v) Area of a rhombus = product of diagonals. (True/False)

(vi) Two quantities are said to be in direct proportion when increase in one quantity leads to increase in other quantity. (True/False)

(vii) $(a-b)^2 = a^2 - b^2 + 2ab$ (True/False)

PART – B

Note : This part has questions of 2-2 mark :

4. Simplify $\frac{5}{8} \times \frac{4}{3}$ and write its multiplicative inverse.

5. Find the square root of 729 by method of prime factorisation.

6. Find the smallest number by which 81 must be multiple to obtain a perfect cube.

7. Find the value of p for which $5^p \div 5^{-3} = 5^5$.

PART – C

Note : This part has question of 4-4 mark :

8. Preet is 6 years older than Abdul. Six years ago, Preet's age was four times Abdul's age. Find their present ages.

Or

Solve the equation : $\frac{n}{2} - \frac{3n}{4} + \frac{5n}{6} = 21$

9. In parallelogram BEST, $\angle B = 105°$, find the measure of all the angles.

10. Add $2x^2y^2 - 3xy + 4$ and $5 + 7xy - 3x^2y^2$

11. If the weight of 12 sheets of a paper is 36 grams, how many sheets of the same paper will weigh 300 grams ?

Or

If 15 men can build a wall in 24 hours, how many men will be required to do the same work in 30 hours ?

12. Factorise : $x^2 + 14x + 33$

Or

Match the column :

(i) $x^2 - 3^2$	(a) $(x+3)(x+3)$
(ii) $(x+3)^2$	(b) $3x(x^2+3)$
(iii) $3x^2 - 3x$	(c) $(x-3)(x+3)$
(iv) $3x^3 + 9x$	(d) $3x(x-1)$

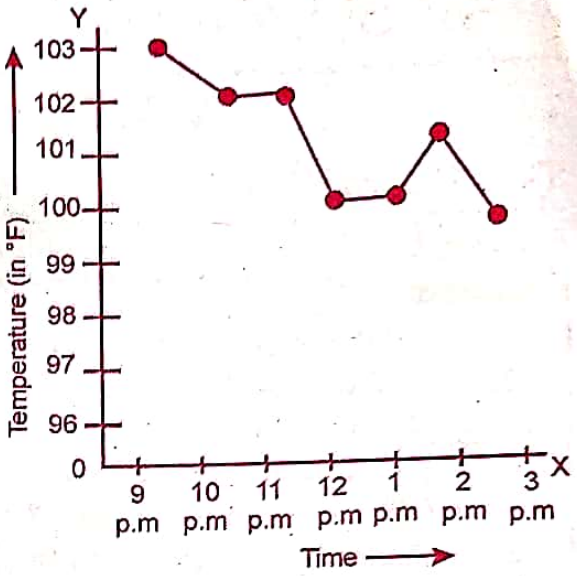
13. The following graph shows the temperature of a patient in a hospital recorded every hour :

(i) What was the patient's temperature at 2 p.m.?

(ii) What was the patient's temperature at 3 p.m.?

(iii) When was the patient's Temperature 100 °F ?

(iv) On which two times the patient's temperature was same ?



PART – D

Note : This part has questions of 6-6 mark.

14. The water tax bills (in Rs.) of 30 houses in a locality are given below. Construct a grouped frequency distribution using class intervals of 10-20, 20-30 and so on :
30, 32, 54, 45, 78, 74, 112, 66, 108, 76, 14, 20, 88, 40, 44, 35, 15, 66, 95, 84, 75, 96, 110, 74, 88, 102, 34, 14, 110, 44.

Or

The number of students in a hostel speaking different language is given below :

Language	Hindi	Punjabi	English	Marathi	Tamil	Bengali	Total
No. of Students	10	30	12	9	7	4	72

15. The population of a town is 15,000. If it increases at the rate of 4% per annum, then what will be the population of a town after two years ? **Or**
An article marked at Rs. 1920 is sold for Rs. 1840. Find discount and discount percentage.

16. Mr. Sandeep has a square plot as shown in the figure and he wants to construct a house in the middle of the plot. A garden is developed around the house. Find the total cost of developing a garden around the house at the rate of Rs. 60 per m^2. **Or**
A closed cylindrical tank of radius 7 m and height 3 m is made from a sheet of metal. What is the cost of tank if rate of metal sheet is Rs. 20 per m^2.

Answers of Multiple Choice Questions

1. (*i*) (*b*), (*ii*) (*a*), (*iii*) (*d*), (*iv*) (*d*), (*a*) (*v*) (*d*), (*vi*) (*a*), (*vii*) (*a*), (*viii*) (*a*), (*ix*) (*a*), (*x*) (*b*), (*xi*) (*c*), (*xii*) (*b*), (*xiii*) (*a*), (*xiv*) (*c*), (*xv*) (*b*), (*xvi*) (*d*)

2. (*i*) 90°, (*ii*) 360°, (*iii*) odd, (*iv*) 8, (*v*) 5, (*vi*) a^{m+n}, (*vii*) *x* - axis.

3. (*i*) True, (*ii*) True, (*iii*) False, (*iv*) False, (*v*) False, (*vi*) True, (*vii*) False.