JB Academy, Ayodhya
Annual Examination

M.M:80 **Class – VIII** **Time: 3 Hours**

Subject : Mathematics

General Instruction:

- There are 40 questions in three different sections A, B, and C
- In section A there are 20 question each of mark 01, all questions are compulsory
- In section B there are 12 questions each of marks 03, only 10 questions have to be attempted
- In section C there are 8 questions, each of marks 05, Only 6 questions have to be attempted

Section - A (each question carries 01 mark)

1) Which of the following is not a polynomial

(a) $2x^2 + x + 7$ (b) $5x^2 - 7\sqrt{x} + 4$

(c) 3 (d) $2x^2 + \frac{2}{3}x + 7$

2) The Coefficient of x^3, x^2 and x respectively in the polynomial $(X^3 - 8X^2 + 12X - 5)/4$ are

(a) (1, -8,12) (b) $(1/4,\ 2\ ,\ 3)$

(c) $(\ 1/4$,-2, 3) (d) none of these

3) Select the correct factorization of the polynomial $x^2 - 5x - 6$

(a) (x +2) (x +3) (b) (x +6) (x – 1)

(c) (x – 6)(x +1) (d) None of these

4) If $\frac{2x}{3} + 1 = \frac{7x}{15} + 3$ then x is

(a) 10 (b) 15 (c) 1 (d) none of these

5) Sum of all exterior angles of an octagon in degree is

(a)180 (b) 1080 (c) 360 (d) none of these

6) The standard form for 0.000064 is

(a) $64x10^4$ (b) 64×10^{-4}

(c) 6.4×10^{-4} (d) 6.4×10^{-5}

7) Charge on an electron is 1.6×10^{-19} C. The usual form of the charge is

(a) 0.00000000000000000016 (b) 1600000000000000000

(c) 1.6 (d) None of these

8) Which one of the following is correct formula for compound interest

(a) $CI = P\left(1 + \frac{r}{100}\right)^t$ (b) $CI = P\left(1 - \frac{r}{100}\right)^t$

(c) $CI = P\left(1 + \frac{r}{100}\right)^t - P$ (d) None of these

9) Multiplicative inverse of $\left(\frac{3}{4}\right)^{-4}$ is

(a) $\left(\frac{4}{3}\right)^{-1}$ (b) $\left(\frac{3}{4}\right)^{4}$

(c) $-\left(\frac{3}{4}\right)^{-4}$ (d) None of these

10) If all interior angles of a quadrilateral is 90^0 then quadrilateral may be (write the most appropriate answer)

(a) Square only (b) Rectangle only

(c) Rectangle and Square both (d) Any parallelogram

11) Sum of two consecutive number is 21 then the numbers are _____

12) Number of diagonals of a pentagon is _____

13) The area of a rectangle with sides $4x^2$ and $3y^2$ is _____

14) The sum of all interior angles of a polygon having 10 sides is _____.

15) $2^3(3^0 + 4^0) = 2^x$, then x = _____

16) The degree of polynomial $x^4 - 2x^3 + 4x^{12} + 3$ is_____

17) One less than a number is 20 then 2 more than double of the number is _____

18) (a-4) (a-2) = a^2 -8 (true or false) in case of false mathematical statement correct the statement.

19) A quadrilateral is a parallelogram if diagonals are equal. (True or False)

20) Circle the error in the mathematical statement and correct it: $(3x + 2)^2 = 3x^2 + 4 + 6x$

Section – B (each question carries 03 mark, attempt any 10 questions)

21) Simplify 3y(4y-5)-2 and find the value at y=2

22) Simplify: $(7m - 8n)^2 + (7m + 8n)^2$

23) Factorise: $x^2 + 9x + 20$

24) Factorise: $a^2 - 9b^2 - 16c^2 - 24bc$

25) Divide: $4xy^2(x^2-y^2) \div 2xy(x-y)$

26) Two numbers are in the ratio of 5:2, if their difference is 24 find the numbers.

27) The present age of Sahil's mother is 3 times the present age of Sahil. After 5 years their ages add up to 66 years find their present ages.

28) Evaluate $\frac{16^{-1} \times 5^3}{2^{-4}}$

29) Simplify: $\frac{25 \times p^{-4}}{5^{-3} \times 10 \times p^{-8}}$

30) Find compound interest on Rs 10,000 for 2 years at the rate of 10% per annum compounded annually.

Solve :

31) $\frac{3x-2}{4} - \frac{2x+3}{3} = \frac{2}{3} - x$

32) The ratio of interior angles of a quadrilateral is 1:2:3:4, find angles.

Section – C (each question carries 05mark, attempt any 6 questions)

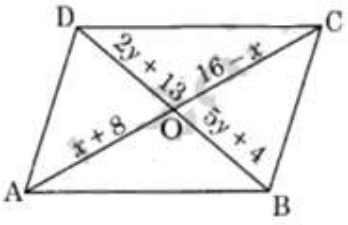
33) Lakshmi is a cashier in bank. She has currency notes of denomination of Rs 100, Rs 50 and Rs 10 notes respectively. The ratio of number of these notes is 2:3:5. The total cash with Lakshmi is Rs 400,000, how many notes of each denomination does Lakshmi have?

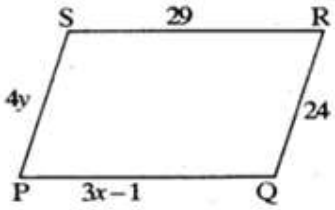
34) The denominator of a rational number is greater than its numerator by 8. If the numerator is increased by 17 and the denominator is decreased by 1, the number obtained is $\frac{3}{2}$ .Find the number.

35) Sum of Rs 8,000 is borrowed at the rate of 5% per annum compounded annually, find amount to be paid after $2\frac{1}{2}$ years and also find the compound interest.

36) What amount is to be repaid on a loan of Rs 12,000 for $1\frac{1}{2}$ year at 10% per annum compounded half-yearly ?

37) Find the value of x and y in the following Parallelogram ABCD and PQRS





38) Verify : $\left(\frac{4}{3}\,m - \frac{3}{4}\,n\right)^2 + 2mn = \frac{16}{9}m^2 + \frac{9}{16}n^2$

39) Simplify : (a) $(y^2 + 7y + 10) \div (y+5)$

(b)$12xy(9x^2-16y^2) \div xy(3x + 4y)$

40) The adjacent angles of a parallelogram are in the ratio of 2 : 5. Find each angles of parallelogram. Also write four property of parallelogram.