Periodic Test (19 July 2017)

Class – IX

Paper- Mathematics (Set-A)

Time: 2hr. **M.M. 50**

Q. No. 1 to 6 carry 2 marks each.

1. Write three irrational numbers between $\frac{5}{7}$ *and* $\frac{9}{11}$
2. Simplify $\left(2+\sqrt{2}\right)^3$
3. Show that –1 and –2 are the zeroes of the polynomial x^2+3x+2
4. Simplify $\left[5\times\left\{8^{1/3}+27^{1/3}\right\}^3\right]^{1/4}$
5. Write the equations of line parallel to x-axis and y-axis.
6. If the point (3,2) lies on the graph of equation $Ky-2y=5$ find K.

Q. No. 7 to 12 carry 3 marks each

7. Find m if (x-1) exactly divides the polynomial $m^2x^2+3mx-3m-1$
8. Without actually finding the cube, simplify $(3x-5y)^3+(5y-7z)^3+(7z-3x)^3$
9. Represent $\sqrt{9.3}$ on the number line.
10. Express $0.3\overline{578}$ in $\frac{p}{q}$ form, $q\neq 0, p \,\&\, q$ are integers
11. Factorise (a) $8a^3-b^3-12a^2b+6ab^2$

    (b) $\frac{9}{4}x^2-\frac{25}{36}y^2$
12. Plot the points A(4,2), B(7,5) and C(9,7) and check whether the points are collinear.

Q. No. 13 to 16 carry 5 marks each.

13. A lending library has a fixed charge for the first three days and an additional charge for each day thereafter. Neeru paid Rs. 21 for a book kept for five days. Write a linear equation which satisfies the data. Draw the graph for the same.
14. Show that

$$a^3+b^3+c^3-3abc=\frac{1}{2}(a+b+c)\left[(a-b)^2+(b-c)^2+(c-a)^2\right]$$

15. Find a & b if $\frac{4+3\sqrt{5}}{4-3\sqrt{5}}=a+b\sqrt{5}$
16. (a) Plot the points A (4,2), B (7,5) and C (9,7) & check whether the points are collinear

    (b) Factoris $64y^3+\frac{8}{27}$ (2½, 2½)

Periodic Test (19 July 2017)

Class – IX

Paper- Mathematics (Set-B)

Time: 2hr. **M.M. 50**

Q. No. 1 to 6 carry 2 marks each.

1. Write two rational numbers between $\frac{5}{7}$ *and* $\frac{9}{11}$
2. Simplify $\left(\sqrt{5}+\sqrt{2}\right)^2$
3. Write three equations of x-axis and y-axis
4. Find K for which the polynomial x^3-3x^2+3k+K has 3 as its zero.
5. Simplify $2\times 27^{1/3}\times(216)^{-2/3}$
6. If the point (3,4) lies on the graph of equation $3y=ax+6$ find value of a.

Q . No. 7 to 12 carry 3 marks each

7. If the polynomials ax^3+4x^2+3x-4 and x^3-4x+a leaves the same remainder when divided by (x-3). Find a.
8. Without actually finding the cube, simplify $(x-2y)^3+(2y-3z)^3+(3z-x)^3$
9. Express $0.12\bar{3}$ in $\frac{p}{q}$ form, $q\neq 0, p$ & q are integers
10. Represent $\sqrt{5}$ on the number line.
11. Factorise $27x^3+y^3+z^3-9xyz$
12. Find co-ordinates of a point which:

(i) Lies on X-axis & is at a distance of 2 units to left of origin.

(ii) Lies on Y-axis & is at a distance of 4 units above origin.

(iii) Lies in second quadrant at a distance of 3 units from X-axis and 2 units from Y-axis.

Q. No. 13 to 16 carry 5 marks each.

13. Force applied on a body is directly proportional to the acceleration produced in the body. Write an equation to express the situation & plot the graph of the equation taking the constant to be 5 units.
14. Factorise $x^3=23x^2+142x-120$
15. Find the value of a & b if $\frac{\sqrt{2}+\sqrt{3}}{3\sqrt{2}-2\sqrt{3}}=a+b\sqrt{6}$
16. (a) Plot the points A (-4,4), (-6,0), (-4,-4) & (-2,0) Name the type of quadrilateral so formed.

(b) Factorise x^6-y^6

(2½, 2½)