ST. LAWRENCE HIGH SCHOOL

TOPIC – Polynomials

Subject : Mathematics **Class-9** **F. M. 15**

WORKSHEET NO. - 17 **First term** **Date: 20.03.2021**

Q.1) <u>Choose the correct option</u>: **(1x15=15)**

i) Which of the followings is a polynomial in one variable?

a) $x + \frac{2}{x} + 3$ b) $3\sqrt{x} + \frac{2}{\sqrt{x}} + 5$ c) $\sqrt{2}\,x^2 - 3\sqrt{x} + 6$ d) $x^{10} + y^5 + 8$

ii) Which of the followings is a polynomial?

a) x - 1 b) $\frac{x-1}{x+1}$ c) $x^2 - \frac{2}{x^2} + 5$ d) $x^2 + \frac{2x^3}{\sqrt{x^2}} + 6$

iii) Which of the followings is a linear polynomial?

a) $x + x^2$ b) x + 1 c) $5x^2 - x + 3$ d) $x + \frac{1}{x}$

iv) Which of the followings is a second degree polynomial?

a) $\sqrt{x} - 4$ b) $x^3 + x$ c) $x^3 + 2x + 6$ d) $x^2 + 5x + 6$

v) The degree of the polynomial $\sqrt{3}$ is

a) $\frac{1}{2}$ b) 2 c) 1 d) 0

vi) If the polynomial $x^3 + 6x^2 + 4x + k$ is divisible by (x + 2), then the value of k is

a) -6 b) -7 c) -8 d) -10

vii) In the polynomial f(x) if $f(-\frac{1}{2}) = 0$, then the factor of f(x) will be

a) 2x -1 b) 2x + 1 c) x - 1 d) x + 1

viii) (x – 1) is factor of the polynomial f(x) but it is not the factor of g(x). So (x – 1) will be a factor of

a) f(x)g(x) b) – f(x)+ g(x) c) f(x) – g(x) d) {f(x) + g(x)}g(x)

ix) (x+1) is a factor of the polynomial $x^n + 1$ when

a) n is a positive odd integer b) n is a positive even integer

c) n is a negative integer d) n is a positive integer

x) If $n^2 - 1$ is a factor of the polynomial $an^4 + bn^3 + cn^2 + dn + e$, then

a) a + c + e = b + d b) a + b + e =c + d c) a + b + c= d + e d)b + c + d = a + e

xi) Which of the following expressions is linear polynomial?

a) $x^2 + x$ b) x + 4 c) $x^2 - 3x + 2$ d) $x + \frac{1}{x}$

xii) Which of the following is a quadratic polynomial?

a)$x\sqrt{x} + 1$ b) $x^3 + x^2$ c) $x^2 + 3x + 5$ d) $x(x^2 + 1)$

xiii) The polynomial $x^2 - x - 12$ is

a) divisible by x+2 b) divisible by x+3 c) divisible by x+4 d) divisible by x - 2

xiv) x+3 is a factor of $x^3 + 6x^2 + 12x + k$, if k is equal to

a) 6 b) - 6 c) 9 d) - 9

xv) If 30 is the remainder when $x^3 + 3x^2 + 3x + a$ is divided by x – 2, then the value of a will be

a) 1 b) 2 c) 3 d) 4

-Chaitali Roy