Appendix

Test Paper I

Class:- Maximum Marks – 50

Name of the school:- Time:- 60 Mins.

Instructions :-

- All questions are compulsory
- In section A each Question carry one mark.
- In section B each Question carry three marks.
- In section C each Question carry six marks.

Section-A

I Multiple choice questions 5x1=5 Marks

Q.1 Polynomial is

(a) Monomial (b) the sum of Monomials

(c) Binomial (d) trinomial

Q.2 Which one of the following expressions is not polynomial

(a) $x^2+y^6+z^{10}$ (b) y^2+2y+3

(c) $t\sqrt{2}+\sqrt{t}$ (c) x^2+2x

Q.3 Which one of the following expression is zero polynomial

(a) $2x$ (b) $x^3 + 4$

(c) 7 (c) $x^2 + x + 3$

Q.4 Which one of the following expression is linear polynomial

(a) $3x + x^2$ (b) 3y

(c) $\sqrt{2t} + t^2$ (d) $x^2 + x + 3$

Q.5 Splitting the middle term of the expression $6x^2 + 17x + 5$ is

(a) $2x + 18x$ (b) $2x - 15x$

(c) $5x - 6x$ (d) $5x + 6x$

II Fill in the blanks **4x1=4 Marks**

(a) Polynomials are algebraic expressions that include____and____

(b) $(a+b+c)^2 =$ _____

(c) $(x-y)^3 =$ _____

(d) $P(x) = a_n x^n + a_{n-1} x^{n-1} +$ _____

III Match of the following **5x1= 5 Marks**

(a) A polynomial of one term - **(i)** $x^2 - 2xy + y^2$

(b) A polynomial of degree three - (ii) $x^2 + 2xy + y^2$

(c) $(x - y)^2$ -(iii) quadratic polynomials

(d) $(x + y)^2$ - (iv) Monomial

(e) A Polynomial - (v) cubic polynomials

SECTION -B

Q.4 Find the value of the $x^2 + 4x + 2at$

(i) x = 0 (ii) x = -1

Q. 5 Find the remainder when $4x^3 - 3x^2 + 2x - 4$ is divided by

(i) x - 2 (ii) x+1

Q.6 Find the value of K if x-1 is a factor of

$P(x) = Kx^2 - 3x + k$

Q. 7 Use suitable identities to find the following products

(i) (x+4) (x+10) (ii) $(y^2 + 3/2)(y^2 - 3/2)$

Q.8 Factorize the $4y^2 - 4y + 1$ using appropriate identities

Q.9 Factorize

$$4x^2 + 9y^2 + 16z^2 + 12xy - 24yz - 16xz$$

SECTION -C

Q.10 Evaluate using suitable identities 3x6=18 Marks

$(99)^3$

Q.11 Evaluate the products without multiplying directly

95x96

Q.12 Factorize

(i) $12\,x^2 7x + 1$

(ii) $x^3 - 2x^2 - x + 2$

Test Paper -II

Class:- Maximum Marks - 50

Name of the school:- Time:- 60 Mins.

Instructions :-

- All questions are compulsory
- In section A each Question carry one mark.
- In section B each Question carry three marks.
- In section C each Question carry six marks.

SECTION -A

I Multiple choice questions

Q.1 Polynomial contain

(a) one term (b) two term

(c) More than one term (d) three term

Q.2 Which one of the following expression in polynomial

(a) x^2+2x+8 (b) $7x^{-2}$

(c) $\sqrt{y}$ (d) x^2+2/x^2

Q.3 Which one of the following expression is cubic polynomial

(a) x^2+x (b) $7x$

(c) x^3+x^2+x2+2 (d) x^2+x+2

Q.4 Which one of the following expression is quadratic polynomial

(a) $x^2 - x + 3$ (b) $2x$

(c) 2 (d) $3x - 3$

Q.5 Splitting the middle term of the expression $12^2 - 7x + 1$ is

(a) $3x + 4x$ (b) $-3x - 4x$

(c) $3x - 4x$ (d) $-3x + 4x$

II Fill in the blank **4x1=4 Marks**

(a) The constants polynomial 0 is called _____

(b) (a+b)3_____

(c) Expand (x+2y+4z)2 =_____is using suitable identities

(d) (x+y)(x-y)= _____

III Match of the following **5x1=1 Marks**

(a) A polynomial of zero variable _ $x^3 - y^{3-} 3xy(x - y)$

(b) **A polynomial of one variable** - **zero polynomial**

(c) $(x - y)^3$ - $x^3 + y^3 - 3xy(x + y)$

(d) $(x + y)^3$ - $x^2 + y^2 + z^2 2xy - yz + 2zx$

(e) $(x + y + z)^2$ - linear polynomial

SECTION –B

Q.4 Find the value of the polynomial $5x-4x^2+3$ at

(i) X= 0 **(ii) X=-1**

Q.5 Find th remainder when x^3+3x^2+3x+1 is divided by

(a) x **(b)** $x-\frac{1}{2}$

Q.6 Find the value of K, if x-1 is a factor of

$P(x)=x^2+x+k$

Q.7 Use suitable identities to find the following products

(i) (x+8) (x-10) (ii) (3-2x) (3+2x)

Q.8 Factorize the $X^2 - Y^2/100$ using appropriate identities

Q.9 Factorize

$2x^2+y^2+8z^2+2\sqrt{2xy}+4\sqrt{2yz}-8xz$

SECTION –C

Q.10 Evaluate using suitable identities **3x6=18 Marks**

$(102)^3$

Q.11 Evaluate the products without multiplying directly

$103x107$

Q.12 Factorize

(i) $2x^2+7x+3$ (ii) $2y^3+$ $y-1$

ANSWER FOR TEST PAPER- I

SECTION-A

I

Ans.1. The sum of monomials

Ans. 2. $t\sqrt{2}+\sqrt{t}$

Ans. 3. 7

Ans.4. 3y

Ans.5. 2x +15x

II

Ans(a) constants and variables.

Ans (b) $a^2+b^2+c^2+2ab+2bc+2ca$

Ans.(c) $x^3-y^3-3x^2y+3xy^2$

Ans (d) $a_n x^n+a_{n-1}x^{n-1}+.....+a_2x^2+a_1x+a0$

(III)

Ans(a) Monomial

Ans(b) Cubic polynomials

Ans(c) $x^2-2xy+y^2$

Ans(d) $x^2+2xy+y^2$

Ans(e) quadratic polynomia

Section-B

Ans.4. (i) If $x = 0$

$$p(x) = x^2 + 4x + 2$$
$$p(o) = (o)^2 + 4 \times 0 + 2$$
$$= 2$$

(ii)

$$if x = -1$$
$$p(x) = x^2 + 4x + 2$$
$$p(-1) = (-1)^2 + 4 \times (-1) + 2$$
$$= 1 - 4 + 2$$
$$= -1$$

Ans.6.(i)

$$Here, p(x) = 4x^3 - 3x^3 + 2x - 4,$$
and the zero of x-2 is 2
$$so, p(2 = 4(2)^3 - 3(2)^2 + 2(2) - 4$$
$$= 4(8) - 3(4) + 4 - 4$$
$$= 32 - 12$$
$$= 20$$

(ii) $Here, p(x) = 4x^3 - 3x^2 + 2x - 4$
and the zero of x+1 is +1
$$so, p(-1) = 4(-1)^3 - 3(-1)^2 + 2(-1) - 4$$
$$= 4(-1) - 3(1) + 2(-1) - 4$$
$$= -4 - 3 - 2 - 4$$
$$= -13$$

Ans.7.(i) Here we can use identity

$$(x+a)(x+b)=x^2+(a+b)x+ab,)$$

we have

$$(x+4)(x+10)=x^2+(4+10)x+(4)(5)$$

$$=x^2+14x+20$$

(ii) Here, we can use identify

$$x^2-y^2=(x+y)(x-y), \text{we have}$$

$$(y^2+3/2)(y^2-3/2)=(y^2)^2-(3/2)^2$$

$$=y^4-\frac{9}{4}$$

Ans.8.

$$\text{using identity, } (x-4)^2=x^2-2xy+y^2, \text{ we have}$$

$$4y^2-4y+1=(2y)^2-2x2xy+(y)^2$$

$$=(2y-1)^2$$

Ans.9. We have

$$4x^2+9y^2+16z^2+12xy-24yz-16xz$$

$$=(2x)^2+(3y)^2+(4z)^2+2(2x)(3y)+2(3y)(-4z)+2(2x)(-4z)$$

$$=[2x+3y+(-4z)]^2 \quad (\text{using identity V})$$

$$=(2x+3y-4z)(2x+3y-4z)$$

SECTION (C)

Ans.10. $(99)^3=(100-1)^3$

$= (100)^3-(1)^3-3(100)^2(1)+3(100)(1)^2$

$= 1000000-1-30000+300$

$= 1000300-30001$

$= 970299$

Ans.11. $95x96 = (100-5)(100-4)$

$= (100)^2+[(-5)+(-4)](100)+(-5)(-4)$

$= 10000+(-9)(100)+(20)$

$= 10000-900+20$

$= 10020-900$

$= 9120$

Ans.12. (i) $12x^2-7x+1 = 12x^2-3x-4x+1$

$= x^2 3x(4x-1)-1(4x-1)$

$= (3x-1)(4x-1)$]

(ii)

$x^3-2x2-x+2 = x^2(x-2)-1(x-2)$

$= (x^2-1)(x-2)$

$= (x-1)(x+1)(x-2)$

ANSWER FOR TEST PAPER –II

SECTION (A)

I

Ans.1. more than one term

Ans.2. $x^2 + 2x + 8$

Ans. 3. $x^3 + x^2 + x + 2$

Ans.4. $x^2 - x + 3$

Ans. 5. $-3x - 4x$

(II)

Ans.(a) Zero polynomials

Ans.(b) $a^3 + b^3 + 3a^2b + 3ab^2$

Ans. (c) $x^2 + 4y^2 + 16z^2 + 8xy + 16yz + 8zy$

Ans. (d) $x^2 - y^2$

(III)

Ans.(a) Zero polynomial

Ans(b) linear polynomial

Ans(c) $x^3 - y^3 - 3xy\,(x - y)$

Ans(d) $x^3 + y^3 + 3xy\,(x + y)$

Ans (e) $x^2 + y^2 + z^2 - 2xy - 2yz + 2zx$

SECTION (B)

Ans 4. (i) If x = 0

$p(x) = 5x - 4x^2 + 3$

$p(0) = 5(0) + 4(0)^2 + 3$

$= 3.$

(ii) If x=-1

$p(x) = 5x-4x^2+3$

$= 5(-1)-4(-1)^2+3$

$= -5-4+3$

$= -9+3+$

$= -6$

Ans5. (i) Hre, p (x), = x^3+3x^2+3x+1

and the zero of x is o

$p(o) = (0)^3+3(o)^2+3(o)+1$

=1

(ii)

Here , $p(x) = x^3 + 3x^2 + 3x + 1$

and the zero of $x - 1/2$ *is* $1/2$

So , $P(1/2) = (1/2)^3 + 3(1/2)^2 + 3(1/2) + 1$

$$= \frac{1}{8} + \frac{3}{4} + \frac{3}{2} + 1$$

$$= \frac{8 + 6 + 12 + 1}{8}$$

$= 27 / 8$

Ans.6.

If $x-1$.*then*

$P(x) = x^2 + x + k$

$P(1) = (1)^2 + (1) + k$

$p(1) = 1 + 1 + k$

$p(1) = 2 + k$

or $k = -2$

Ans.7. (i) Here, we can use identity

$(x+a)(x+b) = x^2+(a+b)x+ab$ we have

$(x+8)(x-10) = x^2+(8-10)x+(8)(-10)$

$= x^2 -2x-80$

(ii) Here, we can use identity

$(x+y)(x-y) = x^2-y^2$ we have

$(3-2x)(3+2x) = (3)^2-(2x)^2$

$= 9 - 4x^2$

Ans. 8. using identity

$$x^2 - y^2 = (x-y)(x+y), we have$$

$$x^2 - \frac{y^2}{100} = (x - \frac{y}{10})(x + \frac{y}{10})$$

Ans.9.

$$2x^2 + y^2 + 8z^2 - 2\sqrt{2}xy + 4\sqrt{2}yz - 8xz$$

$$= (-\sqrt{2}x)^2 + (y)^2 + (2\sqrt{2}z)^2 + \sqrt{2}(-\sqrt{2})(x)(y) + 2(y)(2\sqrt{2}z)$$

$$+2(-\sqrt{2}x)(2\sqrt{2}z)$$

$$= (-\sqrt{2}x + y + 2\sqrt{2}z)^2$$

$$= (-\sqrt{2}x + y + 2\sqrt{2}z)(-\sqrt{2}x + y + 2\sqrt{2}z)$$

Ans. 10.

$$(102)^3 = (100+2)^3$$

$$= (100)^3 + (2)^3 + 3(100)^2(2) + 3(100)(2)^2$$

$$= 1000000 + 8 + 60000 + 1200$$

$$= 1061208$$

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Ans. 11.

$$103\times107=(100+3)(100+7)$$
$$=(100)^2+(3+7)(100)+(3)(7)$$
$$=10000+110+21$$
$$=10131$$

Ans. 12.(i)

$$2x^2+7x+3$$
$$=2x^2+6x+x+3$$
$$=2x(x+3)+1(x+3)$$
$$=(2x+1)(x+3)$$

(ii)

$$2y^3+y^2-2y-1$$
$$=y^2(2y+1)-1(2y+1)$$
$$=y^2-1)\ (2y+1)$$
$$=(y+1)(y-1)\ (2y+1)$$