FUSCO'S SCHOOL (I.C.S.E)

Indiranagar, Bangalore

HALFYEARLY EXAMINATION 2016-17

Subject: Mathematics

Time: 2 $^1/_2$ hrs.

Class: VI **Marks: 80**

Section – A

Question 1

a) Fill in the blanks : 3

i. The degree of a polynomial $x^3 - x^{11} + x^4$ is ----------.

ii. 2a **x** 6a **x** 4 = ----------.

iii. The number of terms in $3x \div 2 + y + 4$ is ----------.

iv. $25xy - 7xy - 8yx$ = ----------.

v. The coefficient of x^2y in $-3ax^2y$ is ----------.

vi. $\frac{-15xyz}{3x}$ = ----------.

b) Group the like terms together 3

i. $4x$, $-3y$, $-x$, $\frac{2}{3}x$, $\frac{4}{5}y$ and y.

ii. $5ax$, $-5by$, $\frac{by}{7}$, $7xa$ and $\frac{2ax}{3}$.

c) Divide $36a^4x^5y^6$ by $4x^2a^3y^2$. 4

Question 2

a) Subtract : $5a - 3b + 2c$ from $a - 4b - 2c$. 3

b) Multiply : (i) $a + b$ by ab (ii) $4x + 2y$ by $3xy$ 3

c) Find the sum of $2x^2 + xy - y^2$, $x^2 + 2xy + 5y^2$, and $3x^2 - 10xy + 4y^2$ 4

Question 3

a) Evaluate : 3

i. $3a - (a + 2b)$

ii. $(8a + 15b) - (3b - 7a)$

b) For each given expression ,state whether it is a monomial , binomial or trinomial 3

(i) ab (ii) $ab + c$ (iii) $2x \div y$ (iv) $3x^2 - x + 5$ (v) $1 + x \div y$ (vi) $5bc + d$

c) Subtract $x - 2y - z$ from the sum of $3x - y + z$ and $x + y - 3z$. 4

Question 4

a) The following table gives the family budget of Mr. Vijay. 4

Item	Food	Rent	Clothing	Education	Others	Savings
Cost (inRs.)	600	450	300	150	200	250

Draw a bar graph to represent this set of data .

b) How much should $x + 3y - 2z$ be increased to get $3x$? 3

c) Multiply : $\frac{2}{3}xy - 2\frac{1}{2}x^2 + 1\frac{1}{6}y^2$ and $6xy$ 3

Section B

Question 5

a) Divide 3

i. $36a^4x^5y^6$ by $4x^2a^3y^2$

ii. $50p^3q^4r^5$ by $10p^2q$

b) Evaluate : 3

i. $(\frac{2}{5}ax^2y) \times (-15a^2y)$

ii. $(-x^2y) \times (xy^2) \times (-x^5y^2)$

c) Draw a pie-graph for the following data showing the market positions of different products 4

Products :	P	Q	R	S	Others
% buyers :	30	25	15	15	5

Question 6

a) Multiply: 6

i. $(x+2)$ and $(x+10)$

ii. $2x - 3y - 5z$ and $2y$

iii. $2abc - 3xy$ and $2abc + 3xy$

b) Evaluate: 4

i. $3\frac{1}{2}x + 4x - 5\frac{1}{2}x$

ii. $9y - 7\frac{3}{4}y + 2\frac{1}{4}y$

Question 7

a) State whether True or False. 5

i. 6 is a constant and y is a variable but 6y is variable.

ii. The coefficient of ab in –ab is -1.

iii. xy and –yx are like terms.

iv. $ax^2 + bx + c$ is a trinomial.

v. 5x has two terms 5 and x.

b) Birth rates (per thousand)of different countries over a certain period are as follows : 5

Country	India	Germany	U. K.	China
Birth-rate	35	15	25	45

In order to represent the given data graphically , draw a line graph.

Question 8

a) Add the following expressions : 3

$-x^2 - 3xy + 3y^2 + 8$, $3x^2 - 5y^2 - 3 + 4xy$, $-6xy + 2x^2 - 2 + y^2$

b) Divide: $15x^3y^2 + 25x^2y^3 - 36x^4y^4$ by $5x^2y^2$ 3

c) The sum of two expressions is $5x^2 - 3y^2$. If one of them is $3x^2 + 4xy - y^2$, find the other. 4