	VIVEK TUTORIALS IX (English) (Special test)	DATE: 18-03-19
		TIME: 2 hour
	Mathematics Part - 1-(All)	MARKS: 40
		SEAT NO:
Q.1 A) Solve the follow	ng questions. (Any four)	(4)

- Divide the first polynomial by the second. 15m<sup>3</sup>; 5m
- 2) Simplify-  $7^8 \div 7^3$
- 3) Complete the statements by filling in the blanks :

 $(x + 5)^2 = \dots + \dots + \dots$ 

- 4) Find the values. 60% of 1610
- 5) Use the formula to expand:  $(3b 6 + m)^2$
- 6) Fill in the blanks.

 $\frac{15}{100} =$ \_\_\_\_\_percent = \_\_\_\_%

- B) Solve the following questions. (Any two)
- 1) Simplify:  $(5a + 3c)^3 (5a 3c)^3$
- 2) The denominator of a fraction is greater than the numerator by 5. If 2 is added to both the numerator and the denominator, the value of the

fraction so obtained is  $\frac{1}{2}$ . Find the original fraction.

- A scooter was bought in April 2005 for Rs. 42,000. If its value falls by 10% every year, what will its value be in April 2007?
- Q.2 A) Choose the correct alternative.
  - 1) What is the degree of the polynomial  $\sqrt{7}$ ?

(A) 
$$\frac{1}{2}$$
 (B) 5 (C) 2 (D) 0

- 2) The number 0.4 in  $\frac{p}{q}$  form is .... A)  $\frac{4}{9}$  B)  $\frac{40}{9}$  C)  $\frac{3.6}{9}$  D)  $\frac{36}{9}$
- 3) Multiply  $(x^2 3) (2x 7x^3 + 4)$  and write the degree of the product. (A) 5 (B) 3 (C) 2 (D) 0
- 4) Which of the following sets are empty sets?

(4)

(4)

A) set of intersecting points of parallel lines B) set of even prime numbers. C) Month of an english calendar having less than 30 days. D)  $P = \{x | x \in I, -1 \le x \le 1\}$ 

- B) Solve the following questions. (Any two)
- 1) State which of the following are surds. Justify:  $\sqrt[3]{64} = 4$
- 2) Compare the following pairs of ratios.

$$\frac{\sqrt{13}}{\sqrt{8}}, \frac{\sqrt{7}}{\sqrt{5}}$$

Classify the following information as primary or secondary data :
i. Information of attendance of every student collected by visiting every class in a school.
ii. For science project, information of trees gathered by visiting a forest.

Q.3 A) Complete the following Activities. (Any two)

1) Write the coefficient of m<sup>3</sup> in each of the given polynomials :  $-\frac{3}{2}$  + m -  $\sqrt{3}$  m<sup>3</sup>

- $\therefore$  coefficient of m<sup>3</sup> = \_\_\_\_\_
- 2) Find the reduced form of the ratio of the first quantity to second quantity.

5 litre, 2500 ml



3) From the following pairs of numbers, find the reduced form of ratio of first number to second number.

72, 60

- $=\frac{72}{60}$
- =\_\_\_\_
- =\_\_\_\_
- =\_\_\_\_
- B) Solve the following questions. (Any two)
- 1) At the start of a year there were Rs.24,000 in a savings account. After adding Rs.56,000 to this the entire amount was invested in the bank at 7.5% compound interest. What will be the total amount after 3 years?
- 2) Find p(1), p(0) and p(-2), if  $p(x) = x^3$
- 3) Compare the following pair of surds.  $7\sqrt{2}$ ,  $5\sqrt{3}$
- Q.4 Solve the following questions. (Any three)
  - 3) Solve the following equations  $(x \ge 0)$

(4)

(9)

(4)

$$\frac{\sqrt{x+13} + \sqrt{x-1}}{\sqrt{x+13} - \sqrt{x-1}} = 3$$

1) The value of the polynomial  $ay^2 + 2y - 6$  for y = -3 is 15. Find a.

2) Simplify: 
$$\frac{4}{7}\sqrt{147} + \frac{3}{8}\sqrt{192} - \frac{1}{5}\sqrt{75}$$

4) Solve

$$|3x - 5| = 1$$

- Q.5 Solve the following questions. (Any one)
  - 1) The sum of ages of Priyanka and Deepika is 34 years. Priyanka is elder to Deepika by 6 years. Then find their today's ages.

(4)

(3)

- 2) Divide each of the following polynomials by synthetic division method and also by linear division method. Write the quotient and the remainder :  $(y^3 3y^2 + 5y 1) \div (y 1)$
- Q.6 Solve the following questions. (Any one)
  - 1) By equating coefficients of variables, Solve the following equations. x 2y = -10; 3x + 5y = -12
  - 2) Present ages of Vatsala and Sara are 14 years and 10 years respectively. After how many years the ratio of their ages will become 5:4?