



# VIVEK TUTORIALS

IX (English)  
(Special Test)

Mathematics Part - 1-(1,2,3)

DATE: 18-03-19

TIME: 1.5 hour

MARKS: 30

SEAT NO:

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Q.1 A) Choose the correct alternative.

(5)

- 1) Which one is the conjugate pair of  $2\sqrt{5}+\sqrt{3}$   
A)  $-2\sqrt{5}+\sqrt{3}$     B)  $-2\sqrt{5}-\sqrt{3}$     C)  $2\sqrt{5}-\sqrt{3}$     D)  $\sqrt{3}+2\sqrt{5}$
- 2) Which of the following is a linear polynomial ?  
(A)  $x+5$     (B)  $x^2+5$     (C)  $x^3+5$     (D)  $x^4+5$
- 3) The number 0.4 in  $\frac{p}{q}$  form is ....  
A)  $\frac{4}{9}$     B)  $\frac{40}{9}$     C)  $\frac{3.6}{9}$     D)  $\frac{36}{9}$
- 4) What is the degree polynomial  $2x^2+5x^3+7$  ?  
(A) 3    (B) 2    (C) undefined    (D) any real number
- 5) What is the degree of the 0 polynomial ?  
(A) 0    (B) 1    (C) undefined    (D) any real number

B) Solve the following questions. (Any two)

(4)

- 1) Find the value of the polynomial  $y^3 - 5x - 2y^2 + 3$  when,  $y = 2$
- 2) Write the following set using listing method and classify into finite or infinite set.  
 $E = \{x \mid x \in I, x^2 = 100\}$
- 3) Represent the union of two sets by Venn diagram for each of the following.  
 $A = \{3, 4, 5, 7\}$      $B = \{1, 4, 8\}$

Q.2 A) Complete the following Activities. (Any three)

(6)

- 1) Write the degree of the polynomial 7.  
 $7 = 7x^0$   
 $\therefore$  Degree of polynomial = \_\_\_\_\_
- 2) If  $p(x) = 2x^2 - x^3 + x + 2$  then find  $p(0)$   
 $p(x) = 2x^2 - x^3 + x + 2$   
 $\therefore p(0) =$  \_\_\_\_\_  
 $= 2 \times 0 - 0 + 0 + 2$   
 $=$  \_\_\_\_\_
- 3) Write the following polynomials in coefficient form  $x^4 + 16$ .  
 $= x^4 + 16$ .  
 $= x^4 + 0x^3 + 0x^2 + 0x + 16$ .  
coefficient form = \_\_\_\_\_

- 4) Write the index form of the polynomial using variable x from its coefficient form (3, -2, 0, 7, 18)  
 (3, -2, 0, 7, 18)  
 $\therefore$  coefficient form = \_\_\_\_\_

B) Solve the following questions. (Any one) (2)

- 1) Write the following rational numbers in  $\frac{p}{q}$  form :  $2.\overline{514}$
- 2) Multiply and write the answer in the simplest form.  
 $3\sqrt{8} \times \sqrt{5}$

Q.3 Solve the following questions. (Any two) (6)

- 1) Write the following numbers in  $\frac{p}{q}$  form : 357.417417....
- 2) Write the following numbers in its decimal form..  
 $\frac{-5}{7}$
- 3) Factorise :  $(x + 2)(x - 3)(x - 7) + 64$

Q.4 Solve the following questions. (Any one) (4)

- 1) Divide each of the following polynomials by synthetic division method and also by linear division method. Write the quotient and the remainder :  $(2x^4 + 3x^3 + 4x - 2x^2) \div (x + 3)$
- 2) Out of 100 persons in a group, 72 persons speak English and 43 persons speak French. Each one out of 100 persons speak at least one language. Then how many speak only English? How many speak only French? How many of them speak English and French both?

Q.5 Solve the following questions. (Any one) (3)

- 1) Factorize the following polynomials.  $(y^2 + 5y)(y^2 + 5y - 2) = 24$
- 2) Polynomials  $bx^2 + x + 5$  and  $bx^3 - 2x + 5$  are divided by polynomial  $x - 3$  and the remainders are m and n respectively. If  $m - n = 0$  then find the value of b.