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Paper Code: B.El.Ed-103 A (SVSU: 2021-22/R)

EnrollmentNo.

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B.El.Ed.-I Semester

Semester Examination

NATURE OF MATHEMATICS - B.EL.ED.-103

Time: 2 Hr.

M.M. 35

Note: The Question paper has three sections read the instructions carefully.

Section – A

(Long type question)

Attempt any Three Questions of the following.

(5 x 3=15)

1. Divide the Polynomial $3 - y + 2y^2$ by $(2 - y)$.
2. The sum of two numbers is 15 and the sum of their reciprocals is $3/10$. Find the Numbers.
3. If the Polynomial $y^4 + 2y^3 + 8y^2 + 12y + 18$ is divided by another polynomial $(y^2 + 5)$, the remainder comes out to be $(py + q)$. Find the values of p and q.
4. Find the roots of the equation $5^{(X+1)} + 5^{(2-X)} = 5^3 + 1$

Section – B

(Short type question)

Attempt any Five Questions of the following

(3 x 5=15)

1. Factorise $6x^2 + 40 = 31x$
2. Show that the system of equations $4x + 6y = 7$, $12x + 18y = 21$ has infinitely many solutions.
3. Find the values of x for which the distance between the points P(4,-5) and Q(12,x) is 10 units .
4. Solve $4\sqrt{3}x^2 + 5x - 2\sqrt{3} = 0$
5. Prove that $\sqrt{2}$ is irrational.
6. Solve for x and y : $\sqrt{2}x - \sqrt{3}y = 0$, $\sqrt{5}x + \sqrt{2}y = 0$

Section – C

(Very Short type question)

Attempt all Questions of the following

(1x5=5)

1. $x^2 - 3\sqrt{x} + 1$ is a quadratic equation . (True/False)
2. π is _____
a. an integer b. a rational number c. an irrational number d. None
3. Find the distance between the points A (7,13) and B (10,9).
a. 25 b. -5 c. 0 d. 5
4. $3X^2 - 243 = 0$, Find the value of x is _____
a. 9,-9 b. -9,-9 c. 9,9 d. 3,-9
5. Simplify $(\sqrt{11} - \sqrt{7})(\sqrt{11} + \sqrt{7})$.
a. 11 b. 7 c. 4 d. -4