BCM SCHOOL, BASANT AVENUE, DUGRI, LUDHIANA.
APRIL ASSIGNEMENT
CLASS- IX (MATHEMATICS)
TOPIC: NUMBER SYSTEM

SECTION –A (MULTIPLE CHOICE QUESTIONS)

1. An irrational number lying between 2 and 3 is.
(a) $\sqrt{5}$ (b) $\sqrt{13}$ (c) 2.41 (d) $\sqrt{2}$

2. The rationalizing factor of $\sqrt{180}$ is
(a) $\sqrt{180}$ (b) $\sqrt{5}$ (c) $\sqrt{3}$ (d) $\sqrt{2}$

3. The value of $\frac{\sqrt{32}+\sqrt{48}}{\sqrt{8}+\sqrt{12}}$ equals to
(a) 2 (b) 4 (c) 8 (d) $\sqrt{2}$

SECTION – B(2 MARKS QUESTIONS)

4. Find the value of $(256)^{0.16} \times (256)^{0.09}$

5. Find the value of x, given $(81)^{5/x} = 243$

SECTION – C (3 MARKS QUESTIONS)

6. Express $5.3\overline{47}$ in the form of p/q, where p & q are integers $q \neq 0$.

7. If $x = 4 - \sqrt{15}$, find the value of $\left(x+\frac{1}{x}\right)^2$.

SECTION – D (5 MARKS QUESTIONS)

8. Show that $\frac{1}{3-\sqrt{8}}-\frac{1}{\sqrt{8}-\sqrt{7}}+\frac{1}{\sqrt{7}-\sqrt{6}}-\frac{1}{\sqrt{6}-\sqrt{5}}+\frac{1}{\sqrt{5}-2} = 5$.

9. Find the value of a & b if $\frac{7+3\sqrt{5}}{3+\sqrt{5}}+\frac{7-3\sqrt{5}}{3-\sqrt{5}} = a+\sqrt{5}b$

SECTION – E (CASE STUDY)

10. Manik and Dhruv are bench – mates in the class. In the mathematics class, Manik was finding that it was difficult to simplify $\frac{1}{\left(\sqrt{5}-\sqrt{2}\right)}$. His bench – mate Dhruv gave him a clue to rationalize the denominator by taking the conjugate of $\left(\sqrt{5}-\sqrt{2}\right)$. Manik simplified the expression and thanked dhruv for the help. Dhruv also gave him the approximate value of $\sqrt{5}$ = 2.236 and $\sqrt{2}$ = 1.414 to find the approximate value of the expression.
Based on the above information answer the following questions.
(a) What is the conjugate of $\left(\sqrt{5}-\sqrt{2}\right)$?
(b) What is the simplified form of the expression did Manik found out?
(c) What is the approximate value of the expression did Manik find after putting the values $\sqrt{2}$ = 1.414 and $\sqrt{5}$ = 2.236?
(d) Is $\sqrt{5}$ - $\sqrt{2}$ a rational number?