

BCM SCHOOL, BASANT AVENUE, DUGRI, LUDHIANA.
APRIL ASSIGNMENT
CLASS- X (MATHEMATICS)
**TOPICS: PAIR OF LINEAR EQUATIONS IN TWO VARIABLES &
 QUADRATIC EQUATIONS.**

SECTION –A (MULTIPLE CHOICE QUESTIONS)

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| 1. | The values of k for which the pair of linear equations $kx + y = k^2$ and $x + ky = 1$ have infinitely many solutions is:
(a) ± 1 (b) 1 (c) -1 (d) 2 |
| 2. | The roots of quadratic equation $x^2 - 0.004 = 0$ are:
(a) ± 0.2 (b) ± 0.02 (c) 0.4 (d) 2 |
| 3. | If the equation $(k + 1)x^2 - 2(k - 1)x + 1 = 0$ has equal roots, then value of k is/are:
(a) 1,3 (b) 0,1 (c) 0,3 (d) 0, $\frac{3}{4}$ |

SECTION – B(2 MARKS QUESTIONS)

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| 4. | There are some students in the two examination halls A and B. To make the number of students equal in each hall, 10 students are sent from A to B but, if 20 students are sent from B to A, the number of students in A becomes double the number of students in B, then find the number of students in the both halls. |
| 5. | If Zeba were younger by 5 years than what she really is, then the square of her age (in years) would have been 11 more than five times her actual age. What is her age now? |

SECTION – C (3 MARKS QUESTIONS)

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| 6. | If the roots of the equation $(a - b)x^2 + (b - c)x + (c - a) = 0$ are equal, prove that $2a = b+c$. |
| 7. | The ratio of incomes of two persons is 9:7 and the ratio of their expenditures is 4:3. If each of them manages to save rupees 2000 per month, find their monthly income. |

SECTION – D (5 MARKS QUESTIONS)

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| 8. | In a flight of 600km, an aircraft was slowed down due to bad weather. Its average speed for the trip was reduced by 200 km/hr and the time of flight increased by 30 minutes. Find the duration of flight. |
| 9. | A railway half ticket cost half the full fare but the reservation charges are the same on a half ticket as on a full ticket. One reserved first class ticket from the stations A to B costs Rs. 2530. Also, one reserved first class ticket and one reserved first class half ticket from stations A to B costs Rs. 3810. Find the full first class fare from stations A to B and also the reservation charges for a ticket. |

SECTION – E (CASE STUDY)

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| 10. | Divit has a field with total area of 1260 m^2 . He uses this field to grow wheat and rice. The land used to grow wheat i.e. wheat land is rectangular in shape while the rice land is in the shape of a square. Length of wheat land is found to be more than twice the length of the rice land. |
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Based on the above information, answer the following questions:

- (i) If the length of the rice land is x metre, find the total length of the field?
- (ii) Find the perimeter (in meters) of the whole field?
- (iii) Find value of x ?
- (iv) What is the ratio of area of wheat land to rice land?