

ESKP-10XIII01
MATHEMATICS (10th)

Time Allowed: 2 Hours 40 Minutes

SECTION-B

Max. Marks: 36

2. Attempt any nine of the following. All carry equal marks.

i. Solve the equations with the help of formula: $x+2y-7=0$, $3x-2y+3=0$

ii. Find the solution set of $|15x-7|-4=4$

iii. Find the solution set of equation $x^2+5y+2=0$ with the help of formula.

iv. Solve $\sqrt{3x+1}=\sqrt{2x+5}$

v. Eliminate x from $x-\frac{1}{x}=2t$, $x+\frac{1}{x}=4t$

vi. There is direct variation between " x " and $(a+2)$. When $x=24$, $a=2$. Find x when $a=6$.

vii. Solve $\frac{\sqrt{3x+2}+\sqrt{x}}{\sqrt{3x+2}-\sqrt{x}}=\frac{4}{1}$

viii. Calculate arithmetic mean from the given data:

x:	5	10	15	20	25	30	35
f:	4	5	5	1	7	2	1

ix. Calculate mean deviation from the data: x: 3 8 11 16 25 28 35

x. Find range of the following data:

Classes:	0-10	10-20	20-30	30-40	40-50
Frequency (f):	2	3	5	4	1

xi. Solve triangle ABC when $m\angle C=90^\circ$, $C=2\sqrt{2}$ cm, $b=2$ cm.

xii. For a right angled triangle, find the trigonometric ratios of 45° .

SECTION-C

Max. Marks: 24

NOTE: Attempt any three of the following questions. All questions carry equal marks.

3. Prove that from a point outside a line, the perpendicular is the shortest distance from the point to the line.
4. Prove that perpendicular bisector of a chord of a circle passes through the centre of the circle.
5. Draw a triangle having sides 1.5cm, 2cm, and 2.5cm. Construct its circumcircle.
6. A point is at a distance 7cm from the centre of a circle having radius 3cm. From the exterior point draw tangents to the circle.