GOVERNMENT HIGHER SECONDARY SCHOOL, THAZHUTHALI, VILLUPURAM DISTRICT – 604 304

SSLC PUBLIC EXAMINATION – MAY 2022

MATHS ANSWER KEY AND QUESTION PAPER ANALYSIS

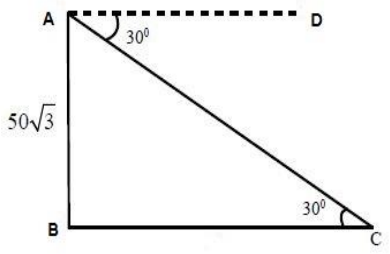
PART – I

Qn.No	Analysis				Option	Answer
	Unit	Exercise	Qn.No	Pg.No		
1	I	1.6	6	32	(d)	$(3, -2)$
2	II	2.10	3	82	(b)	2
3	II	Creative Question			(d)	$7nd$
4	III	3.20	3	154	(b)	5
5	III	3.20	8	155	(b)	$16x^2$
6	III	3.20	13	155	(b)	1
7	IV	4.5	3	199	(d)	$5\sqrt{2}\ cm$
8	IV	4.5	7	199	(b)	$4\ cm$
9	V	5.5	4	236	(c)	9
10	V	5.5	7	236	(b)	1
11	VI	6.5	12	266	(b)	43.92 cm
12	VII	7.5	2	297	(a)	$4\pi r^2\ Sq.units$
13	VII	Creative Question			(c)	4
14	VIII	8.5	12	331	(b)	1

PART – II

Qn.No	Analysis					Answer
	Unit	Example	Exercise	Qn.No	Pg.no	
15	I	---	1.1	2	6	$A = \{1, 2, 3\}$, $B = \{2, 3, 5, 7\}$ $A \times B = \{1, 2, 3\} \times \{2, 3, 5, 7\}$ $= \{(1,2),(1,3),(1,5),(1,7),(2,2),(2,3),$ $(2,5),(2,7),(3,2),(3,3),(3,5),(3,7)\}$ $B \times A = \{2, 3, 5, 7\} \times \{1, 2, 3\}$ $= \{(2,1),(2,2),(2,3),(3,1),(3,2),(3,3)$ $(5,1),(5,2),(5,3,),(7,1),(7,2),(7,3)\}$
16	I	1.5	---	---	9	(i). Set builder form of Relation $R = \{(x, y) \mid y = x - 2, x \in P, y \in Q\}$ (ii) .Roster form of Relation $R = \{(5,3),(6,4),(7,5)\}$
17	II	---	2.2	4	46	$2^a \times 3^b = 13824$ $2^a \times 3^b = 2^9 \times 3^3$ $\therefore \quad a = 9\ ,\ b = 3$

Qn. No	Analysis					Answer
	Unit	Example	Exercise	Qn.No	Pg.no	
18	II	---	2.5	5	62	Given A.P Sequence $= 16, 11, 6, 1 \ldots\ldots\ldots$ $a = 16 \quad , \quad d = t_2 - t_1 = 11 - 16 = -5 \quad , \quad t_n = -54$ General term of an A.P $t_n = a + (n-1)d$ $a + (n-1)d = -54$ $16 + (n-1)(-5) = -54$ $16 - 5n + 5 = -54$ $21 - 5n = -54$ $-5n = -54 - 21$ $-5n = -75$ $n = 15$ $\therefore \ 15^{th}$ term $= -54$
19	III	3.14(ii)	---	---	99	$\frac{7p+2}{8p^2+13p+5} = \frac{7p+2}{(8p+5)(p+1)}$ If $p = \frac{-5}{8} \quad or \quad p = -1$, the expression is undefined $\therefore$ The excluded value are $\frac{-5}{8}$ and -1
20	IV	4.15	---	---	177	In ΔABC, AD is the bisector of $\angle A$ By Angle bisector theorem $\frac{BD}{DC} = \frac{AB}{AC}$ $\frac{4}{3} = \frac{6}{AC}$ $4AC = 18$ $AC = \frac{18}{4}$ $AC = 4.5$ cm
21	V	5.2	---	---	208	Given points : $P(-1.5, 3), Q(6, -2), R(-3, 4)$ Area of $\Delta PQR = \frac{1}{2}\begin{bmatrix} x_1 & x_2 & x_3 & x_1 \\ y_1 & y_2 & y_3 & y_1 \end{bmatrix}$ $= \frac{1}{2}\begin{bmatrix} -1.5 & 6 & -3 & -1.5 \\ 3 & -2 & 4 & 3 \end{bmatrix}$ $= \frac{1}{2}\{(3 + 24 - 9) - (18 + 6 - 6)\}$ $= \frac{1}{2}\{18 - 18\}$ Area of $\Delta PQR = 0$ $\therefore$ The given three points are collinear.
22	V	5.11	---	---	218	Slope m $= \frac{y_2 - y_1}{x_2 - x_1}$ Slope of the line p, $m_1 = \frac{4+2}{12-3} = \frac{6}{9} = \frac{2}{3}$ Slope of the line q, $m_2 = \frac{2+2}{12-6} = \frac{4}{6} = \frac{2}{3}$ Slope of the line p = Slope of the line q $\therefore$ The line p is parallel to line q.

Qn. No	Analysis					Answer
	Unit	Example	Exercise	Qn.No	Pg.no	
23	V	---	5.3	10	230	Given point : $(-1, 2)$, Slope $m = \frac{-5}{4}$ Equation of straight line $y - y_1 = m(x - x_1)$ $y - 2 = \frac{-5}{4}(x + 1)$ $4y - 8 = -5x - 5$ $5x + 4y - 3 = 0$
24	VI	---	6.3	1	261	Height of Rock $AB = 50\sqrt{3}$ m C – position of car , $\angle DAC = 30° = \angle ACB$ In right angle Δ ABC , $\tan 30° = \frac{AB}{BC}$ $\frac{1}{\sqrt{3}} = \frac{50\sqrt{3}}{BC}$ $BC = 50\sqrt{3} \times \sqrt{3}$ $BC = 150$ m $\therefore$ Distance of the car from the Rock $= 150$ m 
25	VII	7.9	---	---	278	Let r_1 and r_2 be the radii of the balloons. $\frac{r_1}{r_2} = \frac{12}{16} = \frac{3}{4}$ Ratio of C.S.A of balloons $= \frac{4\pi {r_1}^2}{4\pi {r_2}^2} = \frac{{r_1}^2}{{r_2}^2}$ $= \left(\frac{r_1}{r_2}\right)^2 = \left(\frac{3}{4}\right)^2 = \frac{9}{16}$ $\therefore$ Ratio of C.S.A of the balloons is 9 : 16
26	VII	---	7.2	6	290	Volume of two cones 3600 cm^3 and 5040 cm^3 Two cones have same base radius . $r_1 = r_2$ Ratio of volumes of cones $V_1 : V_2 = 3600 : 5040$ $\frac{1}{3}\pi {r_1}^2 h_1 : \frac{1}{3}\pi {r_2}^2 h_2 = 3600 : 5040$ $\frac{1}{3}\pi {r_1}^2 h_1 : \frac{1}{3}\pi {r_1}^2 h_2 = 3600 : 5040$ $h_1 : h_2 = 40 : 56$ $h_1 : h_2 = 5 : 7$ Ratio of heights $= 5 : 7$
27	VIII	8.20	---	---	320	Sample space S = { HH , HT , TH , TT } ; $n(S) = 4$ Let A be the event of getting different faces on the coins. A = { HT , TH } ; $n(A) = 2$ Probability $P(A) = \frac{n(A)}{n(S)} = \frac{2}{4} = \frac{1}{2}$

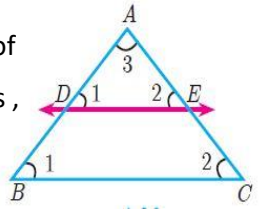
Qn.No	Analysis					Answer
	Unit	Example	Exercise	Qn.No	Pg.no	
28	III	Creative Question				$P = \frac{x}{x+y}$, $Q = \frac{y}{x+y}$ $P+Q = \frac{x}{x+y} + \frac{y}{x+y} = \frac{x+y}{x+y} = 1$ $P-Q = \frac{x}{x+y} - \frac{y}{x+y} = \frac{x-y}{x+y}$ $\frac{1}{P^2-Q^2} = \frac{1}{(P+Q)(P-Q)} = \frac{1}{1 \times \frac{x-y}{x+y}} = \frac{x+y}{x-y}$

PART – III

Qn. No	Analysis					Answer
	Unit	Example	Exercise	Qn.No	Pg.No	
29	I	---	1.1	7((ii)	6	**LHS :** $B - C = \{2, 3, 5, 7\} - \{2\} = \{3, 5, 7\}$ $A \times (B - C) = \{1, 2, 3, 4, 5, 6, 7\} \times \{3, 5, 7\}$ $= \{(1,3), (1,5), (1,7), (2,3), (2,5), (2,7), (3,3), (3,5), (3,7), (4,3), (4,5), (4,7), (5,3), (5,5), (5,7), (6,3), (6,5), (6,7), (7,3), (7,5), (7,7)\}$ .....(1) **RHS :** $A \times B = \{1,2,3,4,5,6,7\} \times \{2,3,5,7\}$ $= \{(1,2), (1,3), (1,5), (1,7), (2,2), (2,3), (2,5)(2,7), (3,2), (3,3), (3,5), (3,7), (4,2), (4,3), (4,5), (4,7), (5,2), (5,3), (5,5), (5,7), (6,2), (6,3), (6,5), (6,7), (7,2), (7,3), (7,5), (7,5)\}$ $A \times C = \{1,2,3,4,5,6,7\} \times \{2\}$ $= \{(1,2), (2,2), (3,2), (4,2), (5,2), (6,2) (7,2)\}$ $(A \times B) - (A \times C) = \{(1,3), (1,5), (1,7), (2,3), (2,5), (2,7), (3,3), (3,5), (3,7), (4,3), (4,5), (4,7), (5,3), (5,5), (5,7), (6,3), (6,5), (6,7), (7,3), (7,5), (7,7)\}$ .....(2) From (1) and (2) $A \times (B - C) = (A \times B) - (A \times C)$
30	II	2.28	---	---	59	*(i).* $x(m-n) + y(n-l) + z(l-m) = 0$ Let first term a , Common difference d Given : $t_l = x$, $t_m = y$, $t_n = z$ General term of an A.P $t_n = a + (n-1)d$ $t_l = a + (l-1)d = x$ .....*(1)* $t_m = a + (m-1)d = y$ .....*(2)* $t_n = a + (n-1)d = z$ .....*(3)*

						$x\,(m-n)+y(n-l)+z(l-m)$ $=[[a+(l-1)d](m-n)+[a+(m-1)d](n-l)+$ $[a+(n-1)d](l-m)\,]$ $=a(m-n)+(l-1)d(m-n)+a(n-l)+$ $(m-1)d(n-l)+a(l-m)+(n-1)d(l-m)$ $=a[m-n+n-l+l-m]+d[(l-1)(m-n)+$ $(m-1)(n-l)+(n-1)(l-m)\,]$ $=a[\,0]+d\,[\,lm-ln-m+n+mn-lm-n+l+$ $ln-mn-l+m\,]$ $=a(0)+d(0)$ $=0$ (ii).. $(x-y)n+(y-z)l+(z-x)m$ $=[(a+(l-1)d)-(a+(m-1)d)]n+$ $[(a+(m-1)d)-(a+(n-1)d)]l+$ $[(a+(n-1)d)-(a+(l-1)d)]m$ $=[a+ld-d-a-md+d]n+$ $[a+md-d-a-nd+d]l+$ $[a+nd-d-a-ld+d]m$ $=[ld-md]n+[md-nd]l+[nd-ld]m$ $=lnd-mnd+lmd-lnd+mnd-lmd$ $=0$
31	II	---	2.5	12	62	$t_6 : t_8 = 7 : 9$ $\frac{t_6}{t_8}=\frac{7}{9}$ General term of an A.P $t_n=a+(n-1)d$ $\frac{a+5d}{a+7d}=\frac{7}{9}$ $9a+45d=7a+49d$ $2a=4d$ $a=2d$ $\frac{t_9}{t_{13}}=\frac{a+8d}{a+12d}$ $=\frac{2d+8d}{2d+12d}$ $=\frac{10d}{14d}$ $=\frac{5}{7}$ $t_9 : t_{13}=5:7$

Qn. No	Analysis					Answer
	Unit	Example	Exercise	Qn.No	Pg.No	
32	III	---	3.8	3(i)	106	$36x^4 - 60x^3 + 61x^2 - mx + n$ $6 \quad -5 \quad 3$ $6 \mid 36 \quad -60 \quad 61 \quad -m \quad n$ 36 (-) $12 \quad -5 \mid -60 \quad 61$ $-60 \quad 25$ (-) $12 \quad -10 \quad 3 \mid 36 \quad -m \quad n$ $36 \quad -30 \quad 9$ (-) 0 If given polynomial is a perfect square , $-m + 30 = 0 \quad , \quad n - 9 = 0$ $\therefore \quad m = 30 \quad , \quad b = 9$
33	III	3.35	---	---	113	$pqx^2 - (p+q)^2x + (p+q)^2 = 0$ Divided by pq on both sides $x^2 - \frac{(p+q)^2}{pq}x + \frac{(p+q)^2}{pq} = 0$ $\left(x - \frac{p+q}{p}\right)\left(x - \frac{p+q}{q}\right) = 0$ $\left(x - \frac{p+q}{p}\right) = 0 , \left(x - \frac{p+q}{q}\right) = 0$ $\therefore \quad x = \frac{p+q}{p} \quad , \quad x = \frac{p+q}{q}$ $\frac{(p+q)^2}{pq}$ | $-\frac{(p+q)}{p}$ | $-\frac{(p+q)}{q}$ x $-\frac{(p+q)^2}{pq}$
34	III	---	3.14	4	122	$7x^2 + ax + 2 = 0$ $a = 7 \ , \ b = a \ , \ c = 2$ Sum of roots $\alpha + \beta = \frac{-b}{a} = \frac{-a}{7}$ Product of roots $\alpha\beta = \frac{c}{a} = \frac{2}{7}$ Given : $\beta - \alpha = \frac{-13}{7} \implies \alpha - \beta = \frac{13}{7}$ WKT : $(\alpha+\beta)^2 - (\alpha-\beta)^2 = 4\alpha\beta$ $\left(\frac{-a}{7}\right)^2 - \left(\frac{13}{7}\right)^2 = 4 \times \frac{2}{7}$ $\frac{a^2}{49} - \frac{169}{49} = \frac{8}{7}$ $\frac{a^2}{49} = \frac{8}{7} + \frac{169}{49}$ $\frac{a^2}{49} = \frac{225}{49}$ $a^2 = 225$ $a = \pm 15$ $\therefore \quad a = 15 \quad , \quad a = -15$

<table>
<tr><th rowspan="2">Qn. No</th><th colspan="5">Analysis</th><th rowspan="2">Answer</th></tr>
<tr><th>Unit</th><th>Example</th><th>Exercise</th><th>Qn.No</th><th>Pg.No</th></tr>
<tr><td>35</td><td>IV</td><td>Theorem</td><td>---</td><td>---</td><td>172</td><td>
Statement :
A straight line drawn parallel to a side of triangle intersecting the other two sides , divides the sides in the same ratio.


Proof :
Given : In Δ ABC , D is a point on AB and E is a point on AC .
To prove : $\frac{AD}{DB} = \frac{AE}{EC}$
Construction : Draw a line DE ∥ BC
<table>
<tr><th>No</th><th>Statement</th><th>Reason</th></tr>
<tr><td>1</td><td>$\angle ABC = \angle ADE = \angle 1$</td><td>Corresponding angles are equal because DE ∥ BC</td></tr>
<tr><td>2</td><td>$\angle ACB = \angle AED = \angle 2$</td><td>Corresponding angles are equal because DE ∥ BC</td></tr>
<tr><td>3</td><td>$\angle DAE = \angle BAC = \angle 3$</td><td>Both triangles have a common angle.</td></tr>
<tr><td>4</td><td>$\Delta ABC \sim \Delta ADE$
$\frac{AB}{AD} = \frac{AC}{AE}$
$\frac{AD + DB}{AD} = \frac{AE + EC}{AE}$
$1 + \frac{DB}{AD} = 1 + \frac{EC}{AE}$
$\frac{DB}{AD} = \frac{EC}{AE}$
$\frac{AD}{DB} = \frac{AE}{EC}$</td><td>By AA similarity
Corresponding sides are proportional
Split AB and AC using the points D and E.
On simplification
Cancelling 1 on both sides
Taking reciprocals.
Hence proved.</td></tr>
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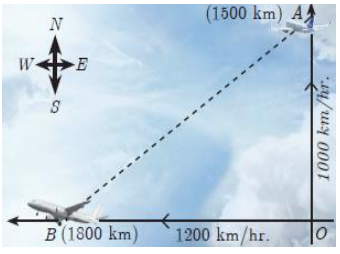
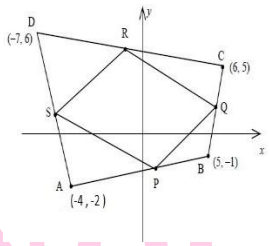
</td></tr>
<tr><td>36</td><td>IV</td><td>4.23</td><td>---</td><td>---</td><td>186</td><td>
Distance = Speed × Time
Distance travelled by first Aeroplane $OA = \left(1000 \times \frac{3}{2}\right)$
=1500 km
Distance travelled by first Aeroplane $OB = \left(1200 \times \frac{3}{2}\right)$
= 1800 km
In right angled triangle AOB , $AB^2 = OA^2 + OB^2$


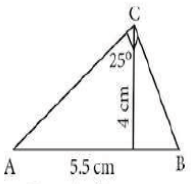
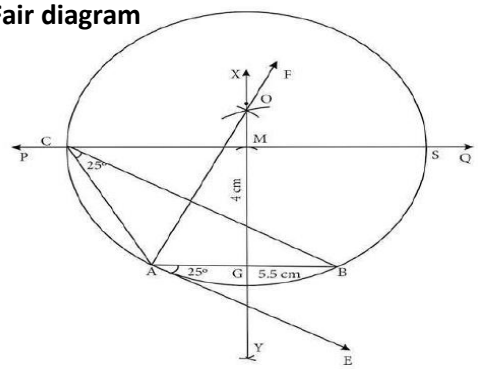
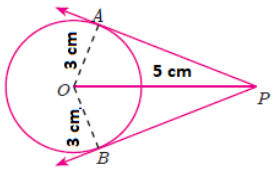
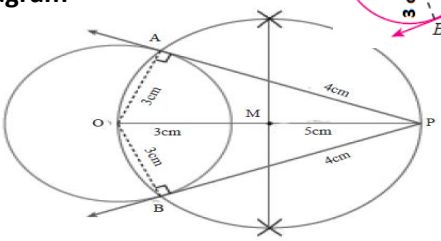
$AB^2 = (1500)^2 + (1800)^2$
$= 100^2(15^2 + 18^2)$
$= 100^2 \times 549$
$= 100^2 \times 9 \times 61$
$AB = 100 \times 3 \times \sqrt{61}$
$AB = 300\sqrt{61}$ km
∴ Distance between two planes after $1\frac{1}{2}$ hours $AB = 300\sqrt{61}$ km
</td></tr>
</table>

Qn. No	Analysis					Answer
	Unit	Example	Exercise	Qn.No	Pg.No	
37	V	---	5.2	13	221	Given points : $A(-4\ ,-2)\ ,B(5,-1)\ ,C\ (6\ ,5)\ ,\ D(-7\ ,\ 6)$ Let P , Q , R , S are the mid-point of sides AB , BC , CD , AD respectively. Mid-point $= \left(\frac{x_1+x_2}{2}\ ,\ \frac{y_1+y_2}{2}\right)$ Mid-point of AB $= P\left(\frac{-4+5}{2}\ ,\ \frac{-2-1}{2}\right) = P\left(\frac{1}{2}\ ,\ \frac{-3}{2}\right)$ Mid-point of BC $= Q\left(\frac{5+6}{2}\ ,\ \frac{-1+5}{2}\right) = Q\left(\frac{11}{2}\ ,\ 2\right)$ Mid-point of CD $= R\left(\frac{6-7}{2}\ ,\ \frac{5+6}{2}\right) = R\left(\frac{-1}{2}\ ,\ \frac{11}{2}\right)$ Mid-point of AD $= S\left(\frac{-4-7}{2}\ ,\ \frac{-2+6}{2}\right) = S\left(\frac{-11}{2}\ ,\ 2\right)$ Slope $= \frac{y_2-y_1}{x_2-x_1}$ Slope of PQ $= \frac{2+\frac{3}{2}}{\frac{11}{2}-\frac{1}{2}} = \frac{\frac{7}{2}}{5} = \frac{7}{10}$ Slope of QR $= \frac{\frac{11}{2}-2}{\frac{-1}{2}-\frac{11}{2}} = \frac{\frac{7}{2}}{-6} = \frac{-7}{12}$ Slope of RS $= \frac{2-\frac{11}{2}}{\frac{-11}{2}+\frac{1}{2}} = \frac{\frac{-7}{2}}{-5} = \frac{7}{10}$ Slope of PS $= \frac{2+\frac{3}{2}}{\frac{-11}{2}-\frac{1}{2}} = \frac{\frac{7}{2}}{-6} = \frac{-7}{12}$  Slope of PQ = Slope of RS $= \frac{7}{10}$, $\therefore\ PQ \parallel RS$ Slope of QR = Slope of PS $= \frac{-7}{12}$, $\therefore\ QR \parallel PS$ $\therefore$ Mid-points of sides of quadrilateral form a parallelogram
38	VI	6.22	---	---	254	Height of tower AC $= h$ m Height of building AB $= 30$ m In right angle Δ CBP , $\angle CPB = 60°$ $\tan\theta = \frac{BC}{BP}$ $\tan 60° = \frac{AB\ +\ AC}{BP}$ $\sqrt{3} = \frac{30+h}{BP}$ .....(1) In right angle Δ ABP , $\angle APB = 45°$ $\tan\theta = \frac{AB}{BP}$ $\tan 45° = \frac{30}{BP}$ $1 = \frac{30}{BP}$ $BP = 30$ .....(2) 

						From (1) and (2) $\sqrt{3} = \frac{30 + h}{30}$ $30 + h = 30\sqrt{3}$ $h = 30\sqrt{3} - 30$ $h = 30(\sqrt{3} - 1)$ $= 30(1.732 - 1)$ $= 30(0.732)$ $= 21.96$ $\therefore$ Height of tower $h = 21.96$ m
39	VII	---	7.2	10	290	$h = 16$ cm , $r = 8$ cm , $R = 20$ cm Volume of frustum $= \frac{1}{3}\pi h[\, R^2 + r^2 + Rr\,]$ cu.units $= \frac{1}{3} \times \frac{22}{7} \times 16[\, 20^2 + 8^2 + (20 \times 8)\,]$ $= \frac{1}{3} \times \frac{22}{7} \times 16[\, 400 + 64 + 160\,]$ $= \frac{1}{3} \times \frac{22}{7} \times 16 \times 624$ $= 10459.43$ cu.cm $= \frac{10459.43}{1000}$ [1000 cu.cm = 1 litre] $= 10.459$ litre Cost of 1 litre milk = Rs. 40 /- Cost of 10.459 litre milk $= 10.459 \times 40$ = Rs. 418.36 /-
40	VII	---	7.3	2	294	**Cylinder :** $h_1 = 8$ cm , $d = 3$ cm , $r = \frac{3}{2}$ cm **Cone :** $h_2 = 2$ cm , $d = 3$ cm , $r = \frac{3}{2}$ cm Volume of the model = Volume of cylinder + 2 × Volume of cone $= \pi r^2 h_1 + 2 \times \frac{1}{3}\pi r^2 h_2$ cu.units $= \pi r^2 \left[\, h_1 + \frac{2}{3} h_2 \right]$ $= \frac{22}{7} \times \frac{9}{4} \times \left[8 + \frac{2}{3} \times 2 \right]$ $= \frac{11}{7} \times \frac{9}{2} \times \frac{28}{3}$ Volume of the model $= 66$ cm^3
41	VIII	8.31	---	---	328	Total number of students $n(s) = 50$ $n(A) = 28$, $n(B) = 30$, $n(A \cap B) = 18$ $P(A) = \frac{n(A)}{n(S)} = \frac{28}{50}$, $P(B) = \frac{n(B)}{n(S)} = \frac{30}{50}$, $P(A \cap B) = \frac{n(A \cap B)}{n(S)} = \frac{18}{50}$ (i).. Probability of the students opted for NCC but not NSS. $P(A \cap \bar{B}) = P(A) - P(A \cap B) = \frac{28}{50} - \frac{18}{50}$ $P(A \cap \bar{B}) = \frac{1}{5}$ (ii). Probability of the students opted for NSS but not NCC. $P(\bar{A} \cap B) = P(B) - P(A \cap B) = \frac{30}{50} - \frac{18}{50}$ $P(\bar{A} \cap B) = \frac{6}{25}$ (iii). Probability of the students opted for exactly one of them. P (A only or B only) $= P[\, (A \cap \bar{B}) \cup (\bar{A} \cap B)]$ $= P(A \cap \bar{B}) + P(\bar{A} \cap B)$ $= \frac{1}{5} + \frac{6}{25}$ P (A only or B only) $= \frac{11}{25}$

Qn. No	Analysis					Answer
	Unit	Example	Exercise	Qn.No	Pg.No	
42	V	Creative Question				Let $y-$ intercept $= b$, $x-$ intercept $a = b+5$ Equation of straight line $\frac{x}{a} + \frac{y}{b} = 1$ .....(1) $\frac{x}{b+5} + \frac{y}{b} = 1$ This line passes through $(22, -6)$ $\frac{22}{b+5} + \frac{-6}{b} = 1$ $\frac{22b - 6(b+5)}{b(b+5)} = 1$ $22b - 6b - 30 = b^2 + 5b$ $b^2 - 11b - 30 = 0$ $(b-5)(b-6) = 0$ $b = 5 \quad , \quad b = 6$ If $b = 5$, $(1) \Rightarrow \frac{x}{10} + \frac{y}{5} = 1 \Rightarrow x + 2y - 10 = 0$ If $b = 6$, $(1) \Rightarrow \frac{x}{11} + \frac{y}{6} = 1 \Rightarrow 6x + 11y - 66 = 0$ ∴ The required equations are $x + 2y - 10 = 0$, $6x + 11y - 66 = 0$

PART – IV

Qn.No	Analysis					Answer
	Unit	Example	Exercise	Qn.No	Pg.No	
43.(a)	IV	---	4.2	14	182	**Given :** $AB = 5.5$ cm $\angle C = 25°$ Altitude $= 4$ cm **Rough diagram**  **Fair diagram** 
43.(b)	IV	---	4.4	15	198	**Given :** Diameter $d = 6$ cm Radius $r = 3$ cm Exterior point $= 5$ cm **Rough Diagram**  **Fair Diagram** 

Qn. No	Analysis					Answer
	Unit	Example	Exercise	Qn.No	Pg.No	
44.(a)	III	3.55	---	---	136	

$$y = x^2 - 4x + 3$$

1.Table :

x	-4	-3	-2	-1	0	1	2	3	4
x^2	16	9	4	1	0	1	4	9	16
$-4x$	16	12	8	4	0	-4	-8	-12	-16
$+3$	3	3	3	3	3	3	3	3	3
y	35	24	15	8	3	0	-1	0	3

2.Points :

(-4,35),(-3,24),(-2,15),(-1,8),(0,3),(1,0),(2,-1),(3,0),(4,3)

3.Solve Equations :

$$y = x^2 - 4x + 3$$
$$0 = x^2 - 6x + 9$$
(--) (--) (+) (--)
$$y = 2x - 6$$

x	-2	-1	0	1	2	3	4
y	-10	-8	-6	-4	-2	0	2

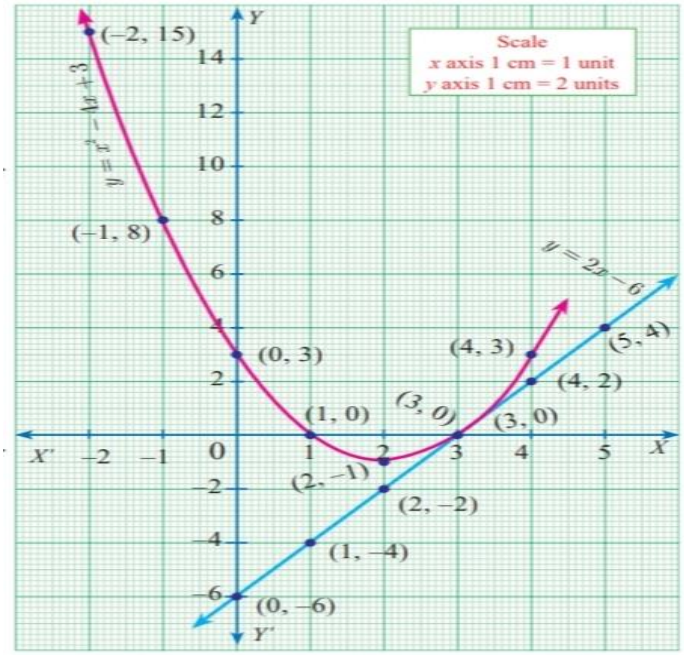
(-2,-10),(-1,-8), (0, -6) , (1,-4),(2,-2) ,(3,0),(4,2)

4.Scale :

In X axis 1 cm = 1 unit
In Y axis 1 cm = 2 unit

5. Solution :

{ 3 }



<table>
<tr><th rowspan="2">Qn. No</th><th colspan="5">Analysis</th><th rowspan="2">Answer</th></tr>
<tr><th>Unit</th><th>Example</th><th>Exercise</th><th>Qn.No</th><th>Pg.No</th></tr>
<tr><td>44.(b)</td><td>III</td><td>---</td><td>3.16</td><td>1(ii)</td><td>137</td><td>

1.Table :

x	-4	-3	-2	-1	0	1	2	3	4
x^2	16	9	4	1	0	1	4	9	16
$-4x$	16	12	8	4	0	-4	-8	-12	-16
4	4	4	4	4	4	4	4	4	4
y	36	25	16	9	4	1	0	1	4

2.Points :

(-4,36) ,(-3,25),(-2,16),(-1,9),(0,4),(1,1),(2,0),(3,1),(4,4)

3.Scale :

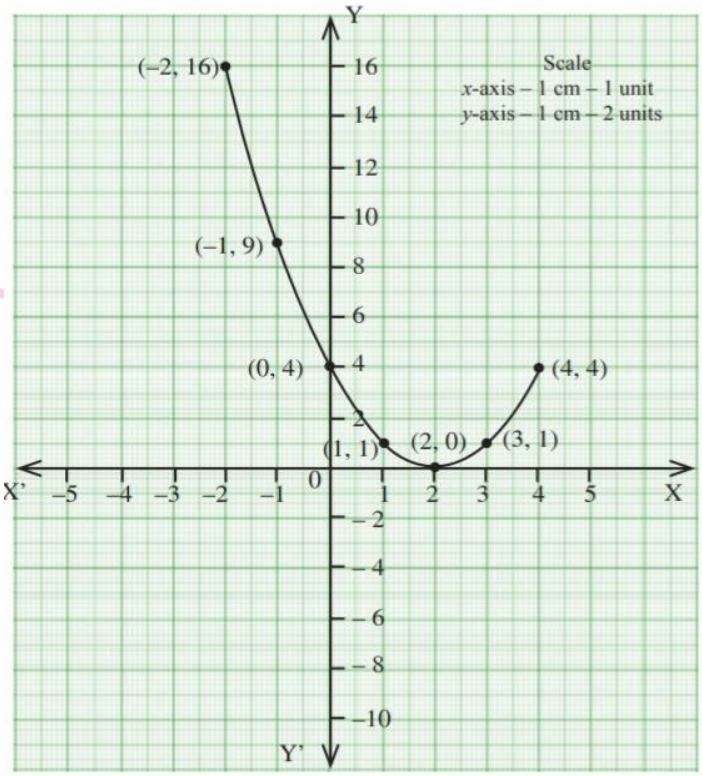
In X axis 1 cm = 1 unit
In Y axis 1 cm = 2 unit

4. Solution :

$x = 2$

5. Nature of solution :

Real and equal roots



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SSLC PUBLIC EXAMINATION (MATHS) – MAY 2022 CHAPTER WISE ANALYSIS

CHAPTERS	ONE MARK		TWO MARK			FIVE MARK			EIGHT MARKS		MARKS
	EXERCISE	CREATIVE	EXAMPLE	EXERCISE	CREATIVE	EXAMPLE	EXERCISE	CREATIVE	EXAMPLE	EXERCISE	
Relations and Functions	1	---	1	1	---	---	1	---	---	---	10
Numbers and Sequences	1	1	---	2	---	1	1	---	---	---	16
Algebra	3	---	1	---	1	1	2	---	1	1	38
Geometry	2	---	1	---	---	2	---	---	---	2	30
Coordinate Geometry	2	---	2	1	---	---	1	1	---	---	18
Trigonometry	1	---	---	1	---	1	---	---	---	---	8
Mensuration	1	1	1	1	---	---	2	---	---	---	16
Statistics and Probability	1	---	1	---	---	1	---	---	---	---	8
TOTAL QUESTIONS	12	2	7	6	1	6	7	1	1	3	144
	14		14			14			4		
MARKS	14		28			70			32		