



بررسال کے چار مکمل جوابات A, B, C, D دیئے گئے ہیں۔ جو الگ الگ پر بررسال کے ساتھ دیئے گئے دائرے میں سے درست جواب کے مقابن مختصر راجہ کوار کریا گیاں سے بھر دیجیے۔ ایک سے زیاد دائرے کو پورے کرنے کی صورت میں بُذکرہ جواب لکھ تصور دگا۔

سوال نمبر  
1

D	C	B	A	Questions / سوالات	نمبر ٹھہر
{5, 8}	{2, 3}	{3, 5}	{2, 5}	$A \cap B = \text{_____}$ اگر $B = \{3, 5, 8\}$ اور $A = \{2, 3, 5\}$ If $A = \{2, 3, 5\}$ and $B = \{3, 5, 8\}$ then $A \cap B = \text{_____}$ .	1
نہ	نسبت	قیمت	نہ	صیلی اوسط تبدیل کرنے سے اثر آتا ہے۔	2
Place	Ratio	Value	Origin	Mean is affected by change in:	
ٹیکٹوں کا ستقینہ	دیواریہ	دیواریہ	دیواریہ	کافی تکشیم بہت جسمانی:	3
Triangles	Rectangles	Circles	Squares	A histogram is a set of adjacent:	
1200'	3600'	630'	360'	$20^\circ = \text{_____}$	4
○	+	×	<	ٹیکٹ اونچی کرنے سے یہ ملامت ہے:	5
قطر	مرکز	5	secant	The symbol for a triangle is denoted by:	
Diameter	Center	Chord	Secant	ایک ڈیڑھ سے ایک ڈیڑھ کرنے سے ایک ڈیڑھ ہے:	6
غیر متماثل	متواری	عمودی	متعادل	ایک دائرے میں دو چھوٹی سرکاری دائرے کے ساتھ باقی توں جیسی ہیں:	7
Incongruent	Parallel	Perpendicular	Congruent	Angles opposite to incongruent central angles of a circle are always:	
1	3	2	4	دائرے کے بہرے نقطے سے کتنے ماس کھینچ جائیں ہیں؟	8
Now many tangents can be drawn from a point outside the circle?					
ax <sup>2</sup> + bx + c = 0	کی مدد سے:			اکری ڈی. جی. کی مدد سے:	9
4	3	2		The number of terms in a standard quadratic equation $ax^2 + bx + c = 0$ is:	
{1, 5}	{1, 3}	{2, 3}	{1, 2}	سوات 0 کی مدد سے:	10
-1, -ω, -ω <sup>2</sup>	1, -ω, -ω <sup>2</sup>	-1, -ω, ω <sup>2</sup>	-1, ω, -ω <sup>2</sup>	The solution set of the equation $x^2 - 3x + 2 = 0$ is:	
				Cube roots of -1 are:	11
-41	-14	41	14	$2x^2 - 7x + 1 = 0$ کا قریبی نتیجہ ہے:	12
				The discriminant of the equation $2x^2 - 7x + 1 = 0$ is:	
3	-1	1	0	اکلی کے بذریعہ کا جھوٹ بہت:	13
$\frac{x}{vy}$	$\frac{vy}{x}$	xyv	$\frac{xy}{v}$	Sum of the cube roots of unity is:	
				میں پوچھتا ہے $x : y :: v : w$ ہے:	14
An improper fraction	A constant term	An identity	A proper fraction	The fourth proportional w of x : y :: v : w is:	
				$\frac{x^3 + 1}{(x-1)(x+2)}$ ایک ہے:	15

1013-X124-85000



رول نمبر:

جماعت دوم

## ریاضی (سائنس) (حصہ انتائی) گروپ پہلا

1013-X124

FBD-1-24

ت: 02:10 گھنٹے کل نمبر: 60  
(Part-I : حصہ اول)

12 Write short answers to any SIX parts.

Define exponential equation.

$$\text{Solve: } x^2 + 2x = 2$$

Solve the equation by using quadratic formula:  $5x^2 + 8x + 1 = 0$

$$\text{Find the discriminant: } 9x^2 + 25 = 30x$$

$$\text{Evaluate: } (9 + 4\omega + 4\omega^2)^3$$

Write the quadratic equation have these roots: 2, -6

Define proportion.

If  $y \propto \frac{1}{x}$  and  $y = 4$  when  $x = 3$  find k.

Find a fourth proportional to:  $15a^5b^6, 10a^2b^5, 2la^3b^3$

12 Write short answers to any SIX parts.

Define rational fraction.

If  $\frac{7x-9}{(x+1)(x-3)} = \frac{A}{x+1} + \frac{B}{x-3}$  find A and B.

Define bijective function.

$$R = \{(x, y) | x + y = 6\} \quad M = \{y | y \in P \wedge y < 10\} \quad L = \{x | x \in N \wedge x \leq 5\} \quad (iv)$$

If  $L = \{x | x \in N \wedge x \leq 5\}$  and  $M = \{y | y \in P \wedge y < 10\}$  then make relation  $R = \{(x, y) | x + y = 6\}$

$f = \{(x, y) | y = x + 1, \forall x \in A, y \in B\} \quad A = \{1, 2\}, B = \{2, 3\} \quad (v)$

If  $A = \{1, 2\}, B = \{2, 3\}$  and  $f = \{(x, y) | y = x + 1, \forall x \in A, y \in B\}$  find Dom f and Rang f

$A - B = \{3, 4, 5, 6\}, B = \{2, 4, 6, 8\} \quad (vi)$

If  $A = \{1, 2, 3, 4, 5, 6\}, B = \{2, 4, 6, 8\}$  find  $A - B$

Define class limits.

Find the median: 12, 6, 7, 3, 15, 10, 18, 5

Find Harmonic mean: 

x	12	5	8	4
---	----	---	---	---

12, 6, 7, 3, 15, 10, 18, 5  $\quad (viii)$

ہم آنکھ اس طبق معلوم کیجئے: 

x	12	5	8	4
---	----	---	---	---

 $\quad (ix)$

12 Write short answers to any SIX parts.

How many minutes are there in two right angles?

Convert  $\frac{7\pi}{8}$  rad to degree.

Find  $\theta$ , when  $\ell = 9\text{cm}$ ,  $r = 5\text{cm}$

$$\text{Prove that: } \frac{1}{1-\cos\theta} + \frac{1}{1+\cos\theta} = 2\operatorname{cosec}^2\theta$$

Define chord of circle.

(جباری ہے)

2 کوئی سچے اجزاء کے مختصر جوابات لکھئے۔

(i) وقت میں ساہات کی تحریف کیجئے۔

$$x^2 + 2x = 2 \quad (ii)$$

(iii) مساوات کو درجی قارروالہ کے استعمال سے حل کیجئے:

$$9x^2 + 25 = 30x \quad (iv)$$

$$(v) \text{ قیمت معلوم کیجئے: } (9 + 4\omega + 4\omega^2)^3$$

(vi) ریٹنے کے واسطے الیورجی مساوات لکھئے: 2, -6

(vii) تابع کی تحریف کیجئے۔

$$\text{If } y \propto \frac{1}{x} \text{ and } y = 4 \text{ when } x = 3 \text{ find } k. \quad (viii)$$

$$15a^5b^6, 10a^2b^5, 2la^3b^3 \quad (ix)$$

3 کوئی سچے اجزاء کے مختصر جوابات لکھئے۔

(i) ناطق کرنی تحریف کیجئے۔

$$\text{If } \frac{7x-9}{(x+1)(x-3)} = \frac{A}{x+1} + \frac{B}{x-3} \text{ find } A \text{ and } B. \quad (ii)$$

(iii) بیانی مکمل کی تحریف کیجئے۔

$$R = \{(x, y) | x + y = 6\} \quad M = \{y | y \in P \wedge y < 10\} \quad L = \{x | x \in N \wedge x \leq 5\} \quad (iv)$$

If  $L = \{x | x \in N \wedge x \leq 5\}$  and  $M = \{y | y \in P \wedge y < 10\}$  then make relation  $R = \{(x, y) | x + y = 6\}$

$f = \{(x, y) | y = x + 1, \forall x \in A, y \in B\} \quad A = \{1, 2\}, B = \{2, 3\} \quad (v)$

If  $A = \{1, 2\}, B = \{2, 3\}$  and  $f = \{(x, y) | y = x + 1, \forall x \in A, y \in B\}$  find Dom f and Rang f

$A - B = \{3, 4, 5, 6\}, B = \{2, 4, 6, 8\} \quad (vi)$

If  $A = \{1, 2, 3, 4, 5, 6\}, B = \{2, 4, 6, 8\}$  find  $A - B$

(vii) ہمیں صورتی تحریف کیجئے۔

$$12, 6, 7, 3, 15, 10, 18, 5 \quad (viii)$$

ہم آنکھ اس طبق معلوم کیجئے: 

x	12	5	8	4
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 $\quad (ix)$

4 کوئی سچے اجزاء کے مختصر جوابات لکھئے۔

(i) دو تکمیلی ادیبوں میں کل کتنے مدرسے ہوتے ہیں؟

$$\text{Convert } \frac{7\pi}{8} \text{ rad to degree.} \quad (ii)$$

$\theta = 9\text{cm}, r = 5\text{cm}$  معلوم کیجئے تکمیل  $\ell$   $\quad (iii)$

$$\frac{1}{1-\cos\theta} + \frac{1}{1+\cos\theta} = 2\operatorname{cosec}^2\theta \quad (iv)$$

(v) دائے کے درجی تحریف کیجئے۔

Define non-collinear points.

FBD-1-29

Define in-center.

Define radius of circle.

(vi) نمبر ۳ خطاطی کی تعریف کیجیے۔

(vii) محسوسہ کو کی تعریف کیجیے۔

(viii) دائرے کے رداں کی تعریف کیجیے۔

(ix) ایک سطح میں کے شعاع کی لمبائی 5cm ہے۔ اس کا حامل معلوم کیجیے۔

The length of each side of a regular octagon is 5cm measure its perimeter.

حصہ دوسری، کوئی سے تین سوالات کے جوابات تحریر کیجیے۔ ہر سوال کے 08 نمبر میں۔ سوال نمبر 9 لازمی ہے۔

Part - II, Attempt any THREE questions. Each question carries 08 marks.

Question No. 9 is compulsory

04 Solve the equation:  $x^{\frac{2}{3}} + 54 = 15x^{\frac{1}{3}}$  5. (الف) مساوات کو حل کیجیے:  $x^{\frac{2}{3}} + 54 = 15x^{\frac{1}{3}}$

04 ثابت کیجیے کہ مساوات  $a^2$  کے راسوں برابر ہوں گے اگر  $x^2 + (mx + c)^2 = a^2$  ہوں۔

Show that the equation  $x^2 + (mx + c)^2 = a^2$  has equal roots if  $c^2 = a^2(1 + m^2)$

6. (الف) اگر  $w$  کا  $u$  کے مقابل سے تغیر معموس ہو اور  $w = 5$  جبکہ  $u = 3$  ہو تو  $w$  معلوم کیجیے جب  $u = 6$ ۔

If  $w$  varies inversely as the cube of  $u$  and  $w = 5$ , when  $u = 3$ . Find  $w$  when  $u = 6$ .

04 Find the partial fractions of:  $\frac{3x-11}{(x+3)(x^2+1)}$  (ب) چندی کسور مساوم کیجیے:  $\frac{3x-11}{(x+3)(x^2+1)}$

7. (الف) اگر  $A \cap B = \{2, 3, 5, 7\}$ ,  $A = \{1, 3, 5, 7, 9\}$ ,  $B = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$  ہو تو ثابت کیجیے کہ  $(A \cap B)' = A' \cup B'$

04 If  $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$ ,  $A = \{1, 3, 5, 7, 9\}$ ,  $B = \{2, 3, 5, 7\}$  then verify  
 $(A \cap B)' = A' \cup B'$

(ب) 32 قسمیں کی لمبائی ورنہ ذیل ہے۔ معیاری انحراف معلوم کیجیے۔

04 The length of 32 items are given below. Find standard deviation.

Length	20 - 22	23 - 25	26 - 28	29 - 31	32 - 34
Frequency	3	6	12	9	2

8. (الف) اگر  $\cos \theta = -\frac{2}{3}$  اور  $0 < \theta < 90^\circ$  کا انتشاری بازو، در سے ربع میں واقع ہو تو باقی تجویزی تناول کی قیمتیں معلوم کیجیے۔

If  $\cos \theta = -\frac{2}{3}$  and terminal arm of angle  $\theta$  is in quadrant II. Find the values of remaining trigonometric ratios.

(ب) 4 cm رداں والے دائرے کے دو مودوی منس کیجیے۔

Draw two perpendicular tangents to a circle of radius 4cm.

9. ثابت کیجیے کہ دائرے کے مرئیتے کی وتر پر مودوی منس کی تصنیف کرتا ہے۔

Prove that perpendicular from the center of a circle on a chord bisect it.

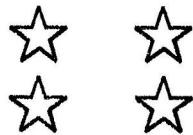
--- OR ---

ثابت کیجیے کہ کسی دائرے میں توں صفر سے بڑے والا مرکزی زاویہ مقدار میں اپنی متعلقہ توں کبھی بھی کے محسوسہ زاویے سے دو گناہو تاہے۔

Prove that the measure of a central angle of a minor arc of a circle, is double that of the angle subtended by the corresponding major arc.

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## ریاضی (سائنس) (حصہ معروضی) گروپ دوسرا

Objective  
Paper Code

FBD-2-24 وقت: 20 منٹ کل نمبر: 15

7198

سوال نمبر 1 اور سوال کے چار تکمیل جوابات A, B, C, D دیے گئے ہیں۔ جو ای کامپیوٹر پر اس سوال کے سامنے دیئے گئے دائرے میں سے درست جواب کے مطابق متعلق دائرہ کو مار کر راہیں سے مردیجی۔ ایک سے زیادہ دائروں کو پر کرنے یا کاٹ کر پر کرنے کی صورت میں مذکورہ جواب لاطلاع تصور ہو گا۔

D	C	B	A	Questions / سوالات	نمبر
$A \cap B = \emptyset$	$B \cap A = A$	$B \cap A = B$	$A \cap B = U$	If $B - A = B$ , then: سینٹ کو بیان کرنے کے مختلف طریقوں کی تعداد ہوتی ہے: The different number of ways to describe a set are:	1
1	2	3	4	کالی لفڑی بھروسہ ہے مختل: A histogram is a set of adjacent:	2
Triangles	Circles	Squares	Rectangles	$\frac{1}{1+\sin\theta} + \frac{1}{1-\sin\theta} = :$ دائرے کی نئی نئی نقاط میں سے گزتا ہے:	3
$2\sec^2\theta$	$2\operatorname{cosec}^2\theta$	$2\sin^2\theta$	$2\cos^2\theta$	Through how many non-collinear points, can a circle pass:	4
3.4161	3.1614	3.2426	3.1416	$\pi \approx$	5
$270^\circ$	$180^\circ$	$360^\circ$	$90^\circ$	دائرے کے اصفح محیط کا مرکزی زاویہ ہوتا ہے: The semi circumference and the diameter of a circle both subtend a central angle of:	6
1	3	4	2	دو غیر متقابل دائرے کے کتنے مشترک مسافر ہیں جاسکتے ہیں? How many common tangents can be drawn for two disjoint circles?	7
$x = -b \pm \sqrt{b^2 - 4ac}$	$x = -b \pm \frac{\sqrt{b^2 - 4ac}}{2a}$	$x = \frac{b \pm \sqrt{b^2 - 4ac}}{2a}$	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$	دورانیہ مولات ہے: The quadratic formula is:	8
$x+7, x+8$	$x-7, x-8$	$x+7, x-8$	$x-7, x+8$	$x^2 - 15x + 56$ کے دو یک درجی تکڑے ہیں: Two linear factors of $x^2 - 15x + 56$ are:	9
1	-1	$\frac{1+\sqrt{-3}}{2}$	$\frac{-1-\sqrt{-3}}{2}$	$\omega = \frac{-1+\sqrt{-3}}{2}$ ہے: If $\omega = \frac{-1+\sqrt{-3}}{2}$ , then $\omega^3 = :$	10
اے Equal	Rational	غیر طیقی	غیر ناطق	مساویات کے رہنمیں: Roots of $4x^2 - 5x + 2 = 0$ are:	11
$\frac{y^4}{x^4}$	$\frac{y^4}{x^2}$	$\frac{x^2}{y^4}$	$\frac{x^2}{y^2}$	اور $y^2$ کا تیسرا تناسب ہے: The third proportion of $x^2$ and $y^2$ is:	12
$u = wk^2$	$u = v^2k^2$	$u = vk^2$	$u = w^2k^2$	$\therefore \omega \frac{u}{v} = \frac{v}{w} = k$ ہے: If $\frac{u}{v} = \frac{v}{w} = k$ , then:	13
$\frac{Ax}{x+1} + \frac{C}{x-1}$	$1 + \frac{A}{x+1} + \frac{B}{x^2-1}$	$\frac{A}{x+1} + \frac{B}{x-1}$	$1 + \frac{A}{x+1} + \frac{B}{x-1}$	کی جزوی کسر $\frac{x^2+1}{(x+1)(x-1)}$ کی جزوی کسری ہوتی ہے: Partial fractions of $\frac{x^2+1}{(x+1)(x-1)}$ are of the form:	14
					15

جاتعہ دہم  
ریاضی (سائنس) (حصہ انشائی) گروپ دوسرا

وقت: 10:02:00 گھنے کل نمبر: 60

(Part - I : حصہ اول)

FBD-2-24

- 2 کوئی سے چہ اجزاء کے مختصر جوابات لکھئے۔

12 Write short answers to any SIX parts.

Solve the equation  $3y^2 = y(y - 5)$  by factorization.

Write in standard form:  $\frac{1}{x+4} + \frac{1}{x-4} = 3$

Define radical equation.

Find discriminant:  $x^2 + 3x + 5 = 0$

Evaluate:  $(1 - 3\omega - 3\omega^2)^5$

Form a quadratic equation with roots 3 and 4.

Define ratio.

Find the third proportional to  $a^3, 3a^2$

Find p, if 12, p and 3 are in continued proportion.

(i) مساوات  $y(y - 5) = 3y^2 - 3y^2 = 0$  کو بذریعہ تجزیہ میں لکھئے۔

(ii) مساوات کو سیاری شکل میں لکھئے:  $\frac{1}{x+4} + \frac{1}{x-4} = 3$

(iii) جذری مساوات کی تعریف لکھئے۔

(iv) فرق کشندہ معلوم کیجیے:  $x^2 + 3x + 5 = 0$

(v) قیمت معلوم کیجیے:  $(1 - 3\omega - 3\omega^2)^5$

(vi) دوسری مساوات بنائیے جس کے رہنماء (Roots) 3 اور 4 ہوں۔

(vii) نسبت کی تعریف کیجیے۔

(viii) کامیاب تابع معلوم کیجیے۔

(ix) اگر 12 اور p اور 3 میں ملکل نسبت میں ہوں تو p معلوم کیجیے۔

12 Write short answers to any SIX parts.

Define rational fraction.

$$\text{If } \frac{5x+4}{(x-4)(x+2)} = \frac{A}{x-4} + \frac{B}{x+2} \text{ then find the values of A and B.}$$

If  $X = \{1, 4, 7, 9\}$  and  $Y = \{2, 4, 5, 9\}$  then find  $X \cup Y$ .

If  $X = \{1, 4, 7, 9\}$  and  $Y = \{2, 4, 5, 9\}$  then find  $X \cap Y$ .

If  $X = \{2, 4, 6, \dots, 20\}$  and  $Y = \{4, 8, 12, \dots, 24\}$  then find  $X - Y$ .

If  $X = \{2, 4, 6, \dots, 20\}$  and  $Y = \{4, 8, 12, \dots, 24\}$  then find  $X - Y$ .

Find a and b, if  $(a - 4, b - 2) = (2, 1)$

(a) a = 6, b = 3 (b) a = 5, b = 3 (c) a = 4, b = 3 (d) a = 3, b = 3 (e) a = 2, b = 3 (f) a = 1, b = 3 (g) a = 0, b = 3 (h) a = -1, b = 3 (i) a = -2, b = 3 (j) a = -3, b = 3 (k) a = -4, b = 3 (l) a = -5, b = 3 (m) a = -6, b = 3 (n) a = -7, b = 3 (o) a = -8, b = 3 (p) a = -9, b = 3 (q) a = -10, b = 3 (r) a = -11, b = 3 (s) a = -12, b = 3 (t) a = -13, b = 3 (u) a = -14, b = 3 (v) a = -15, b = 3 (w) a = -16, b = 3 (x) a = -17, b = 3 (y) a = -18, b = 3 (z) a = -19, b = 3 (aa) a = -20, b = 3 (bb) a = -21, b = 3 (cc) a = -22, b = 3 (dd) a = -23, b = 3 (ee) a = -24, b = 3 (ff) a = -25, b = 3 (gg) a = -26, b = 3 (hh) a = -27, b = 3 (ii) a = -28, b = 3 (jj) a = -29, b = 3 (kk) a = -30, b = 3 (ll) a = -31, b = 3 (mm) a = -32, b = 3 (nn) a = -33, b = 3 (oo) a = -34, b = 3 (pp) a = -35, b = 3 (qq) a = -36, b = 3 (rr) a = -37, b = 3 (ss) a = -38, b = 3 (tt) a = -39, b = 3 (uu) a = -40, b = 3 (vv) a = -41, b = 3 (ww) a = -42, b = 3 (xx) a = -43, b = 3 (yy) a = -44, b = 3 (zz) a = -45, b = 3 (aa) a = -46, b = 3 (bb) a = -47, b = 3 (cc) a = -48, b = 3 (dd) a = -49, b = 3 (ee) a = -50, b = 3 (ff) a = -51, b = 3 (gg) a = -52, b = 3 (hh) a = -53, b = 3 (ii) a = -54, b = 3 (jj) a = -55, b = 3 (kk) a = -56, b = 3 (ll) a = -57, b = 3 (mm) a = -58, b = 3 (nn) a = -59, b = 3 (oo) a = -60, b = 3 (pp) a = -61, b = 3 (qq) a = -62, b = 3 (rr) a = -63, b = 3 (ss) a = -64, b = 3 (tt) a = -65, b = 3 (uu) a = -66, b = 3 (vv) a = -67, b = 3 (ww) a = -68, b = 3 (xx) a = -69, b = 3 (yy) a = -70, b = 3 (zz) a = -71, b = 3 (aa) a = -72, b = 3 (bb) a = -73, b = 3 (cc) a = -74, b = 3 (dd) a = -75, b = 3 (ee) a = -76, b = 3 (ff) a = -77, b = 3 (gg) a = -78, b = 3 (hh) a = -79, b = 3 (ii) a = -80, b = 3 (jj) a = -81, b = 3 (kk) a = -82, b = 3 (ll) a = -83, b = 3 (mm) a = -84, b = 3 (nn) a = -85, b = 3 (oo) a = -86, b = 3 (pp) a = -87, b = 3 (qq) a = -88, b = 3 (rr) a = -89, b = 3 (ss) a = -90, b = 3 (tt) a = -91, b = 3 (uu) a = -92, b = 3 (vv) a = -93, b = 3 (ww) a = -94, b = 3 (xx) a = -95, b = 3 (yy) a = -96, b = 3 (zz) a = -97, b = 3 (aa) a = -98, b = 3 (bb) a = -99, b = 3 (cc) a = -100, b = 3 (dd) a = -101, b = 3 (ee) a = -102, b = 3 (ff) a = -103, b = 3 (gg) a = -104, b = 3 (hh) a = -105, b = 3 (ii) a = -106, b = 3 (jj) a = -107, b = 3 (kk) a = -108, b = 3 (ll) a = -109, b = 3 (mm) a = -110, b = 3 (nn) a = -111, b = 3 (oo) a = -112, b = 3 (pp) a = -113, b = 3 (qq) a = -114, b = 3 (rr) a = -115, b = 3 (ss) a = -116, b = 3 (tt) a = -117, b = 3 (uu) a = -118, b = 3 (vv) a = -119, b = 3 (ww) a = -120, b = 3 (xx) a = -121, b = 3 (yy) a = -122, b = 3 (zz) a = -123, b = 3 (aa) a = -124, b = 3 (bb) a = -125, b = 3 (cc) a = -126, b = 3 (dd) a = -127, b = 3 (ee) a = -128, b = 3 (ff) a = -129, b = 3 (gg) a = -130, b = 3 (hh) a = -131, b = 3 (ii) a = -132, b = 3 (jj) a = -133, b = 3 (kk) a = -134, b = 3 (ll) a = -135, b = 3 (mm) a = -136, b = 3 (nn) a = -137, b = 3 (oo) a = -138, b = 3 (pp) a = -139, b = 3 (qq) a = -140, b = 3 (rr) a = -141, b = 3 (ss) a = -142, b = 3 (tt) a = -143, b = 3 (uu) a = -144, b = 3 (vv) a = -145, b = 3 (ww) a = -146, b = 3 (xx) a = -147, b = 3 (yy) a = -148, b = 3 (zz) a = -149, b = 3 (aa) a = -150, b = 3 (bb) a = -151, b = 3 (cc) a = -152, b = 3 (dd) a = -153, b = 3 (ee) a = -154, b = 3 (ff) a = -155, b = 3 (gg) a = -156, b = 3 (hh) a = -157, b = 3 (ii) a = -158, b = 3 (jj) a = -159, b = 3 (kk) a = -160, b = 3 (ll) a = -161, b = 3 (mm) a = -162, b = 3 (nn) a = -163, b = 3 (oo) a = -164, b = 3 (pp) a = -165, b = 3 (qq) a = -166, b = 3 (rr) a = -167, b = 3 (ss) a = -168, b = 3 (tt) a = -169, b = 3 (uu) a = -170, b = 3 (vv) a = -171, b = 3 (ww) a = -172, b = 3 (xx) a = -173, b = 3 (yy) a = -174, b = 3 (zz) a = -175, b = 3 (aa) a = -176, b = 3 (bb) a = -177, b = 3 (cc) a = -178, b = 3 (dd) a = -179, b = 3 (ee) a = -180, b = 3 (ff) a = -181, b = 3 (gg) a = -182, b = 3 (hh) a = -183, b = 3 (ii) a = -184, b = 3 (jj) a = -185, b = 3 (kk) a = -186, b = 3 (ll) a = -187, b = 3 (mm) a = -188, b = 3 (nn) a = -189, b = 3 (oo) a = -190, b = 3 (pp) a = -191, b = 3 (qq) a = -192, b = 3 (rr) a = -193, b = 3 (ss) a = -194, b = 3 (tt) a = -195, b = 3 (uu) a = -196, b = 3 (vv) a = -197, b = 3 (ww) a = -198, b = 3 (xx) a = -199, b = 3 (yy) a = -200, b = 3 (zz) a = -201, b = 3 (aa) a = -202, b = 3 (bb) a = -203, b = 3 (cc) a = -204, b = 3 (dd) a = -205, b = 3 (ee) a = -206, b = 3 (ff) a = -207, b = 3 (gg) a = -208, b = 3 (hh) a = -209, b = 3 (ii) a = -210, b = 3 (jj) a = -211, b = 3 (kk) a = -212, b = 3 (ll) a = -213, b = 3 (mm) a = -214, b = 3 (nn) a = -215, b = 3 (oo) a = -216, b = 3 (pp) a = -217, b = 3 (qq) a = -218, b = 3 (rr) a = -219, b = 3 (ss) a = -220, b = 3 (tt) a = -221, b = 3 (uu) a = -222, b = 3 (vv) a = -223, b = 3 (ww) a = -224, b = 3 (xx) a = -225, b = 3 (yy) a = -226, b = 3 (zz) a = -227, b = 3 (aa) a = -228, b = 3 (bb) a = -229, b = 3 (cc) a = -230, b = 3 (dd) a = -231, b = 3 (ee) a = -232, b = 3 (ff) a = -233, b = 3 (gg) a = -234, b = 3 (hh) a = -235, b = 3 (ii) a = -236, b = 3 (jj) a = -237, b = 3 (kk) a = -238, b = 3 (ll) a = -239, b = 3 (mm) a = -240, b = 3 (nn) a = -241, b = 3 (oo) a = -242, b = 3 (pp) a = -243, b = 3 (qq) a = -244, b = 3 (rr) a = -245, b = 3 (ss) a = -246, b = 3 (tt) a = -247, b = 3 (uu) a = -248, b = 3 (vv) a = -249, b = 3 (ww) a = -250, b = 3 (xx) a = -251, b = 3 (yy) a = -252, b = 3 (zz) a = -253, b = 3 (aa) a = -254, b = 3 (bb) a = -255, b = 3 (cc) a = -256, b = 3 (dd) a = -257, b = 3 (ee) a = -258, b = 3 (ff) a = -259, b = 3 (gg) a = -260, b = 3 (hh) a = -261, b = 3 (ii) a = -262, b = 3 (jj) a = -263, b = 3 (kk) a = -264, b = 3 (ll) a = -265, b = 3 (mm) a = -266, b = 3 (nn) a = -267, b = 3 (oo) a = -268, b = 3 (pp) a = -269, b = 3 (qq) a = -270, b = 3 (rr) a = -271, b = 3 (ss) a = -272, b = 3 (tt) a = -273, b = 3 (uu) a = -274, b = 3 (vv) a = -275, b = 3 (ww) a = -276, b = 3 (xx) a = -277, b = 3 (yy) a = -278, b = 3 (zz) a = -279, b = 3 (aa) a = -280, b = 3 (bb) a = -281, b = 3 (cc) a = -282, b = 3 (dd) a = -283, b = 3 (ee) a = -284, b = 3 (ff) a = -285, b = 3 (gg) a = -286, b = 3 (hh) a = -287, b = 3 (ii) a = -288, b = 3 (jj) a = -289, b = 3 (kk) a = -290, b = 3 (ll) a = -291, b = 3 (mm) a = -292, b = 3 (nn) a = -293, b = 3 (oo) a = -294, b = 3 (pp) a = -295, b = 3 (qq) a = -296, b = 3 (rr) a = -297, b = 3 (ss) a = -298, b = 3 (tt) a = -299, b = 3 (uu) a = -300, b = 3 (vv) a = -301, b = 3 (ww) a = -302, b = 3 (xx) a = -303, b = 3 (yy) a = -304, b = 3 (zz) a = -305, b = 3 (aa) a = -306, b = 3 (bb) a = -307, b = 3 (cc) a = -308, b = 3 (dd) a = -309, b = 3 (ee) a = -310, b = 3 (ff) a = -311, b = 3 (gg) a = -312, b = 3 (hh) a = -313, b = 3 (ii) a = -314, b = 3 (jj) a = -315, b = 3 (kk) a = -316, b = 3 (ll) a = -317, b = 3 (mm) a = -318, b = 3 (nn) a = -319, b = 3 (oo) a = -320, b = 3 (pp) a = -321, b = 3 (qq) a = -322, b = 3 (rr) a = -323, b = 3 (ss) a = -324, b = 3 (tt) a = -325, b = 3 (uu) a = -326, b = 3 (vv) a = -327, b = 3 (ww) a = -328, b = 3 (xx) a = -329, b = 3 (yy) a = -330, b = 3 (zz) a = -331, b = 3 (aa) a = -332, b = 3 (bb) a = -333, b = 3 (cc) a = 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(yy) a = -382, b = 3 (zz) a = -383, b = 3 (aa) a = -384, b = 3 (bb) a = -385, b = 3 (cc) a = -386, b = 3 (dd) a = -387, b = 3 (ee) a = -388, b = 3 (ff) a = -389, b = 3 (gg) a = -390, b = 3 (hh) a = -391, b = 3 (ii) a = -392, b = 3 (jj) a = -393, b = 3 (kk) a = -394, b = 3 (ll) a = -395, b = 3 (mm) a = -396, b = 3 (nn) a = -397, b = 3 (oo) a = -398, b = 3 (pp) a = -399, b = 3 (qq) a = -400, b = 3 (rr) a = -401, b = 3 (ss) a = -402, b = 3 (tt) a = -403, b = 3 (uu) a = -404, b = 3 (vv) a = -405, b = 3 (ww) a = -406, b = 3 (xx) a = -407, b = 3 (yy) a = -408, b = 3 (zz) a = -409, b = 3 (aa) a = -410, b = 3 (bb) a = -411, b = 3 (cc) a = -412, b = 3 (dd) a = -413, b = 3 (ee) a = -414, b = 3 (ff) a = -415, b = 3 (gg) a = -416, b = 3 (hh) a = -417, b = 3 (ii) a = -418, b = 3 (jj) a = -419, b = 3 (kk) a = -420, b = 3 (ll) a = -421, b = 3 (mm) a = -422, b = 3 (nn) a = -423, b = 3 (oo) a = -424, b = 3 (pp) a = -425, b = 3 (qq) a = -426, b = 3 (rr) a = -427, b = 3 (ss) a = -428, b = 3 (tt) a = -429, b = 3 (uu) a = -430, b = 3 (vv) a = -431, b = 3 (ww) a = -432, b = 3 (xx) a = -433, b = 3 (yy) a = -434, b = 3 (zz) a = -435, b = 3 (aa) a = -436, b = 3 (bb) a = -437, b = 3 (cc) a = -438, b = 3 (dd) a = -439, b = 3 (ee) a = -440, b = 3 (ff) a = -441, b = 3 (gg) a = -442, b = 3 (hh) a = -443, b = 3 (ii) a = -444, b = 3 (jj) a = -445, b = 3 (kk) a = -446, b = 3 (ll) a = -447, b = 3 (mm) a = -448, b = 3 (nn) a = -449, b = 3 (oo) a = -450, b = 3 (pp) a = -451, b = 3 (qq) a = -452, b = 3 (rr) a = -453, b = 3 (ss) a = -454, b = 3 (tt) a = -455, b = 3 (uu) a = -456, b = 3 (vv) a = -457, b = 3 (ww) a = -458, b = 3 (xx) a = -459, b = 3 (yy) a = -460, b = 3 (zz) a = -461, b = 3 (aa) a = -462, b = 3 (bb) a = -463, b = 3 (cc) a = -464, b = 3 (dd) a = -465, b = 3 (ee) a = -466, b = 3 (ff) a = -467, b = 3 (gg) a = -468, b = 3 (hh) a = -469, b = 3 (ii) a = -470, b = 3 (jj) a = -471, b = 3 (kk) a = -472, b = 3 (ll) a = -473, b = 3 (mm) a = -474, b = 3 (nn) a = -475, b = 3 (oo) a = -476, b = 3 (pp) a = -477, b = 3 (qq) a = -478, b = 3 (rr) a = -479, b = 3 (ss) a = -480, b = 3 (tt) a = -481, b = 3 (uu) a = -482, b = 3 (vv) a = -483, b = 3 (ww) a = -484, b = 3 (xx) a = -485, b = 3 (yy) a = -486, b = 3 (zz) a = -487, b = 3 (aa) a = -488, b = 3 (bb) a = -489, b = 3 (cc) a = -490, b = 3 (dd) a = -491, b = 3 (ee) a = -492, b = 3 (ff) a = -493, b = 3 (gg) a = -494, b = 3 (hh) a = -495, b = 3 (ii) a = -496, b = 3 (jj) a = -497, b = 3 (kk) a = -498, b = 3 (ll) a = -499, b = 3 (mm) a = -500, b = 3 (nn) a = -501, b = 3 (oo) a = -502, b = 3 (pp) a = -503, b = 3 (qq) a = -504, b = 3 (rr) a = -505, b = 3 (ss) a = -506, b = 3 (tt) a = -507, b = 3 (uu) a = -508, b = 3 (vv) a = -509, b = 3 (ww) a = -510, b = 3 (xx) a = -511, b = 3 (yy) a = -512, b = 3 (zz) a = -513, b = 3 (aa) a = -514, b = 3 (bb) a = -515, b = 3 (cc) a = -516, b = 3 (dd) a = -517, b = 3 (ee) a = -518, b = 3 (ff) a = -519, b = 3 (gg) a = -520, b = 3 (hh) a = -521, b = 3 (ii) a = -522, b = 3 (jj) a = -523, b = 3 (kk) a = -524, b = 3 (ll) a = -525, b = 3 (mm) a = -526, b = 3 (nn) a = -527, b = 3 (oo) a = -528, b = 3 (pp) a = -529, b = 3 (qq) a = -530, b = 3 (rr) a = -531, b = 3 (ss) a = -532, b = 3 (tt) a = -533, b = 3 (uu) a = -534, b = 3 (vv) a = -535, b = 3 (ww) a = -536, b = 3 (xx) a = -537, b = 3 (yy) a = -538, b = 3 (zz) a = -539, b = 3 (aa) a = -540, b = 3 (bb) a = -541, b = 3 (cc) a = -542, b = 3 (dd) a = -543, b = 3 (ee) a = -544, b = 3 (ff) a = -545, b = 3 (gg) a = -546, b = 3 (hh) a = -547, b = 3 (ii) a = -548, b = 3 (jj) a = -549, b = 3 (kk) a = -550, b = 3 (ll) a = -551, b = 3 (mm) a = -552, b = 3 (nn) a = -553, b = 3 (oo) a = -554, b = 3 (pp) a = -555, b = 3 (qq) a = -556, b = 3 (rr) a = -557, b = 3 (ss) a = -558, b = 3 (tt) a = -559, b = 3 (uu) a = -560, b = 3 (vv) a = -561, b = 3 (ww) a = -562, b = 3 (xx) a = -563, b = 3 (yy) a = -564, b = 3 (zz) a = -565, b = 3 (aa) a = -566, b = 3 (bb) a = -567, b = 3 (cc) a = -568, b = 3 (dd) a = -569, b = 3 (ee) a = -570, b = 3 (ff) a = -571, b = 3 (gg) a = -572, b = 3 (hh) a = -573, b = 3 (ii) a = -574, b = 3 (jj) a = -575, b = 3 (kk) a = -576, b = 3 (ll) a = -577, b = 3 (mm) a = -578, b = 3 (nn) a = -579, b = 3 (oo) a = -580, b = 3 (pp) a = -581, b = 3 (qq) a = -582, b = 3 (rr) a = -583, b = 3 (ss) a = -584, b = 3 (tt) a = -585, b = 3 (uu) a = -586, b = 3 (vv) a = -587, b = 3 (ww) a = -588, b = 3 (xx) a = -589, b = 3 (yy) a = -590, b = 3 (zz) a = -591, b = 3 (aa) a = -592, b = 3 (bb) a = -593, b = 3 (cc) a = -594, b = 3 (dd) a = -595, b = 3 (ee) a = -596, b = 3 (ff) a = -597, b = 3 (gg) a = -598, b = 3 (hh) a = -599, b = 3 (ii) a = -600, b = 3 (jj) a = -601, b = 3 (kk) a = -602, b = 3 (ll) a = -603, b = 3 (mm) a = -604, b = 3 (nn) a = -605, b = 3 (oo) a = -606, b = 3 (pp) a = -607, b = 3 (qq) a = -608, b = 3 (rr) a = -609, b = 3 (ss) a = -610, b = 3 (tt) a = -611, b = 3 (uu) a = -612, b = 3 (vv) a = -613, b = 3 (ww) a = -614, b = 3 (xx) a = -615, b = 3 (yy) a = -616, b = 3 (zz) a = -617, b = 3 (aa) a = -618, b = 3 (bb) a = -619, b = 3 (cc) a = -620, b = 3 (dd) a = -621, b = 3 (ee) a = -622, b = 3 (ff) a = -623, b = 3 (gg) a = -624, b = 3 (hh) a = -625, b = 3 (ii) a = -626, b = 3 (jj) a = -627, b = 3 (kk) a = -628, b = 3 (ll) a = -629, b = 3 (mm) a = -630, b = 3 (nn) a = -631, b = 3 (oo) a = -632, b = 3 (pp) a = -633, b = 3 (qq) a = -634, b = 3 (rr) a = -635, b = 3 (ss) a = -636, b = 3 (tt) a = -637, b = 3 (uu) a = -638, b = 3 (vv) a = -639, b = 3 (ww) a = -640, b = 3 (xx) a = -641, b = 3 (yy) a = -642, b = 3 (zz) a = -643, b = 3 (aa) a = -644, b = 3 (bb) a = -645, b = 3 (cc) a = -646, b = 3 (dd) a = -647, b = 3 (ee) a = -648, b = 3 (ff) a = -649, b = 3 (gg) a = -650, b = 3 (hh) a = -651, b = 3 (ii) a = -652, b = 3 (jj) a = -653, b = 3 (kk) a = -654, b = 3 (ll) a = -655, b = 3 (mm) a = -656, b = 3 (nn) a = -657, b = 3 (oo) a = -658, b = 3 (pp) a = -659, b = 3 (qq) a = -660, b = 3 (rr) a = -661, b = 3 (ss) a = -662, b = 3 (tt) a = -663, b = 3 (uu) a = -664, b = 3 (vv) a = -665, b = 3 (ww) a = -666, b = 3 (xx) a = -667, b = 3 (yy) a = -668, b = 3 (zz) a = -669, b = 3 (aa) a

Differentiate between minor arc and major arc of a circle.

(vi) ایک دائرے میں صیرہ توں اور کبیرہ توں میں فرق بیان کیجیے۔

Define cyclic quadrilateral.

(vii) سایکل چوکر کی تعریف کیجیے۔

Define polygon.

(viii) اکٹھر الٹائی کی تعریف کیجیے۔

(ix) ایک منظم مثمن کے ضلع کی لمبائی 3 سم ہے۔ اس کا احاطہ معلوم کیجیے۔

The length of each side of a regular octagon is 3cm. Measure its perimeter.

حدود دو گم، کوئی سے تین سوالات کے جوابات تحریر کیجیے۔ ہر سوال کے 08 نمبریں۔ سوال نمبر 9 لازی ہے۔

Part - II, Attempt any THREE questions. Each question carries 08 marks.  
Question No. 9 is compulsory

04 Solve the equation:  $\sqrt{3x+100} - x = 4$

5. (الف) مساوات کو حل کیجیے:  $\sqrt{3x+100} - x = 4$

04

(ب) مسلسل ثابت اعداد کا حاصل ضرب 182 ہے۔ اعداد معلوم کیجیے۔

The product of two positive consecutive numbers is 182. Find the numbers.

04

6. (الف) 28 میں مسلسل تاب ہے دیئے گئے متغیر کی قیمت معلوم کیجیے۔

Find the value of the letter involved in the 7, m - 3, 28 continued proportion.

04

(ب) جزوی کسور میں تخلیل کیجیے:  $\frac{3x-11}{(x+3)(x^2+1)}$        $\frac{3x-11}{(x+3)(x^2+1)}$

04

- 7. (الف) اگر  $(A \cup B)' = A' \cap B'$ ، تو ثابت کیجیے:  $B = \{2, 3, 5, 7\}$ ,  $A = \{1, 3, 5, 7, 9\}$ ,  $U = \{1, 2, 3, \dots, 10\}$   
If  $U = \{1, 2, 3, \dots, 10\}$ ,  $A = \{1, 3, 5, 7, 9\}$ ,  $B = \{2, 3, 5, 7\}$  then verify  $(A \cup B)' = A' \cap B'$

04

(ب) پانچ اساتذہ کی تحویلیں (ردوپا میں) 11500, 12400, 15000, 14500, 14800 ہیں۔ ان کا معیاری انحراف معلوم کیجیے۔

The salaries of five teachers in Rupees are as 11500, 12400, 15000, 14500, 14800. Find standard deviation.

04

- 8. (الف) اگر  $\sin \theta > 0$  اور  $\cos \theta > 0$ ، تو پانچ گونیائی شاخیں کی قیمتیں معلوم کیجیے۔  
If  $\sin \theta = \frac{-12}{13}$  and  $\cos \theta > 0$ . Find the remaining trigonometric functions.

04

(ب) دو ٹھیک رکھتے ہوئے دائرے کے رадیوس 3 سم اور 4 سم ہیں۔ ان کے دو مشترک مماس کیجیے۔

Draw two common tangents to two intersecting circles of radii 3cm and 4cm.

9. ثابت کیجیے کہ تین نیز کھٹی نقاط سے ایک اور صرف ایک دائرہ گزر سکتا ہے۔

Prove that one and only one circle can pass through three non-collinear points.

--- OR ---

ثابت کیجیے کہ کسی دائرے میں قوس صیرہ سے بننے والا مرکزی زاویہ مقدار میں اپنی متعلقہ قوس کبیرہ کے محصور زاویہ سے دو گناہوتا ہے۔

Prove that the measure of a central angle of a minor arc of circle, is double that of the angle subtended by the corresponding major arc.

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