



INDIAN SCHOOL AL WADI AL KABIR

Revision Question Paper

Pre-Mid-Term Examination (2025-26)

Class: X

Sub: MATHEMATICS (041)

Max Marks: 30

Date: 08-05-2025

Time: 1 hour

General Instructions:

1. This question paper is divided into 4 sections- A, B, C and D.
2. Section A comprises of 7 questions of 1 mark each.
3. Section B comprises of 3 questions of 2 marks each.
4. Section C comprises of 3 questions of 3 marks each.
5. Section D comprises of two case study-based questions of 4 marks each.
6. Internal choice has been provided for certain questions.

Section A (1 mark each)

Q.1.	A quadratic polynomial, the sum of whose zeroes is 0 and one zero is 4, is							
	A	$x^2 - 16$	B	$x^2 + 16$	C	$x^2 + 4$	D	$x^2 - 4$
Q.2.	The value of k for which the pair of equations $kx = y + 2$ and $6x = 2y + 3$ has infinitely many solutions is							
	A	$k = 3$	B	does not exist	C	$k = -3$	D	$k = 4$
Q.3.	The LCM of the smallest two-digit number and the largest multiple of 6 which is less than 50 is							
	A	2	B	48	C	120	D	240
Q.4.	If $2x + 3y = 11$ and $x - 2y = -12$, then the value of 'm' for which $y = mx + 3$ is							
	A	1	B	-1	C	2	D	-2
Q.5.	The HCF of two numbers is 18 and their product is 12960. Their LCM will be							
	A	420	B	600	C	720	D	800
Q.6.	The zeroes of the quadratic polynomial $6x^2 - 3 - 7x$ are							
	A	$\frac{3}{2}, -\frac{1}{3}$	B	$\frac{2}{3}, \frac{1}{3}$	C	$\frac{3}{5}, -\frac{3}{7}$	D	$\frac{1}{3}, -\frac{1}{3}$

Q.7.	DIRECTION: In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A) (b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A) (c) Assertion (A) is true but reason (R) is false. (d) Assertion (A) is false but reason (R) is true. Assertion (A): $p(x) = 4x^3 - x^2 + 3x - 2^4$ is a polynomial of degree 4. Reason (R): The highest power of x in the polynomial p(x) is the degree of the polynomial.
Section B (2 marks each)	
Q.8.	If the sum of the squares of zeroes of the quadratic polynomial $f(x) = x^2 - 8x + k$ is 40, then find the value of k.
Q.9.	(a) Solve for x and y: $99x + 101y = 499; 101x + 99y = 501$ OR (b) Solve using substitution method: $5x + 4y - 4 = 0; x - 12y - 20 = 0$
Q.10.	Three bells ring at intervals of 9, 12, 15 minutes respectively. If they start ringing together at a time, after what time will they next ring together?
Section C (3 marks each)	
Q.11.	(a) Prove that $\sqrt{5}$ is an irrational number. OR (b) Aakriti decided to distribute milk in an orphanage on her birthday. The supplier brought two milk containers which contain 398 litres and 436 litres of milk. The milk is to be transferred to other containers using a drum. After transferring, 7 litres and 11 litres of milk are left in both the containers respectively. What will be the maximum capacity of the drum?

Q.12.	Solve the following pair of linear equations graphically: $2x + 3y = 12$ and $x - y = 1$ Find the area of the region bounded by the two lines representing the above equations and y -axis.
Q.13.	If α and β are the zeroes of $x^2 - x - 2$, form a quadratic polynomial whose zeroes are $2\alpha+1$ and $2\beta+1$.

Section D (4 marks each)

Q.14.	<u>Case study-based – 1</u> Reading comprehension encompasses a variety of skills that can permeate all aspects of life. Having strong reading abilities can enable you to interpret and find meaning in all that you read, and when you continuously improve these skills, you can develop your ability to communicate effectively through writing. To enhance the reading skills of grade X students, the school set up a class library. There are two sections- section A and section B of grade X. There are 40 students in section A and 42 students in section B.  <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">(i)</td><td style="width: 85%;">Express 42 as the product of its prime factors.</td><td style="width: 10%; text-align: center;">1m</td></tr> <tr> <td style="text-align: center;">(ii)</td><td>If p and q are positive integers such that $p = ab^2$ and $q = a^2b$, where a, b are prime numbers, then find the LCM (p, q).</td><td style="text-align: center;">1m</td></tr> <tr> <td style="text-align: center;">(iii)</td><td> (a)What is the minimum number of books acquired for the class library, so that they can be distributed equally among students of Section A or Section B? <b style="text-align: center;">OR (b)If the students in each section are to be arranged in rows in the library so that students are equally distributed in a row, what is the maximum number of students in a row? </td><td style="text-align: center;">2m</td></tr> </table>		(i)	Express 42 as the product of its prime factors.	1m	(ii)	If p and q are positive integers such that $p = ab^2$ and $q = a^2b$, where a, b are prime numbers, then find the LCM (p, q).	1m	(iii)	(a)What is the minimum number of books acquired for the class library, so that they can be distributed equally among students of Section A or Section B? <b style="text-align: center;">OR (b)If the students in each section are to be arranged in rows in the library so that students are equally distributed in a row, what is the maximum number of students in a row?	2m
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Q.15.

Case study-based – 2

A test consists of ‘True’ or ‘False’ questions. One mark is awarded for every correct answer while 0.25 mark is deducted for every wrong answer. A student knew answers to some of the questions. Rest of the questions he attempted by guessing. He answered 120 questions and got 90 marks.

Type of question	Marks given for correct answer	Marks deducted for wrong answer
True/False	1	0.25

(i)	If answer to all questions he attempted by guessing were wrong, then how many questions did he answer correctly?	1m
(ii)	How many questions did he guess?	1m
(iii)	(a) If answer to all questions he attempted by guessing were wrong and answered 80 correctly, then how many marks he got? OR (b) If answer to all questions he attempted by guessing were wrong, then how many questions answered correctly to score 95 marks?	2m

Answers

1.	A	2.	B	3.	D	4.	A
5.	C	6.	A	7.	d	8.	k = 12
9.	$x = 3, y = 2$ $x = 2, y = \frac{-3}{2}$	10.	180 minutes	11.	(b) 17 litres	12.	7.5 sq. units
13.	$k(x^2 - 4x - 5)$	14.	(i) $2 \times 3 \times 7$ (ii) a^2b^2 (iii) 840 or 2	15.	(i) 96 questions (ii) 24 questions (iii) 70 marks OR 100 questions		