

Adabistan-e-Soophia

Code: 2052

Test No: 3

Paper: Mathematics

Name: _____

Class: X Sec: _____

Syllabus: Ch. 3, 4, 12 (Theorem 1)

Question Numbers	1	2	3	4		Total	Grade	%age
Maximum Marks	08	16	08	08		40		
Marks Obtained								

Remarks: _____

Time Allowed: 15 mins

(Objective Type)

Max. Marks: 08

	A	B	C	D	Write Correct option		A	B	C	D	Write Correct option		A	B	C	D	Write Correct option		A	B	C	D	Write Correct option
1	A	B	C	D		5	A	B	C	D		9	A	B	C	D		13	A	B	C	D	
2	A	B	C	D		6	A	B	C	D		10	A	B	C	D		14	A	B	C	D	
3	A	B	C	D		7	A	B	C	D		11	A	B	C	D		15	A	B	C	D	
4	A	B	C	D		8	A	B	C	D		12	A	B	C	D		16	A	B	C	D	

Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink. Cutting or filling two or more times result in zero mark in that question.

Q.1	Questions	(A)	(B)	(C)	(D)
1	In a ratio $a:b$, a is called:	Relation	Antecedent	Consequent	Extremes
2	In continued proportion $a:b = b:c$, c is said to be _____ proportioned to a and b .	Third	Fourth	Means	Extremes
3	If $y^2 \propto \frac{1}{x^3}$ then	$y^2 = \frac{k}{3}$	$y^2 = \frac{1}{x^3}$	$y^2 = x^2$	$y^2 = kx^3$
4	If $\frac{u}{v} = \frac{v}{w} = k$, then	$u = wk^2$	$u = vk^2$	$u = w^2k$	$u = v^2k$

Q.1	Questions	(A)	(B)	(C)	(D)
5	If $a:b = x:y$, then invertendo property is:	$\frac{a}{x} = \frac{b}{y}$	$\frac{a}{a-b} = \frac{x}{x-y}$	$\frac{a+b}{b} = \frac{x+y}{y}$	$\frac{b}{a} = \frac{y}{x}$
6	If $\frac{a}{b} = \frac{c}{d}$, then componendo property is:	$\frac{a}{a+b} = \frac{c}{c+d}$	$\frac{a}{a-b} = \frac{c}{c-d}$	$\frac{ad}{bc}$	$\frac{a-b}{b} = \frac{c-d}{d}$
7	If w varies inversely as p^2 then $k =$	w^2p	wp^2	$\frac{w}{p^2}$	$\frac{p^2}{w}$
8	The third proportional of x^2 and y^2 is:	$\frac{y^2}{x^2}$	x^2y^2	$\frac{y^4}{x^2}$	$\frac{y^2}{x^4}$
9	The identity $(5x+4)^2 = 25x^2 + 40x + 16$ is true for:	One value of x	Two values of x	All values of x	Constant value
10	$\frac{x^3}{(x^2+4)^2}$ is:	An improper fraction	An equation	A proper fraction	Quadratic equation
11	$(x+3)^2 = x^2 + 6x + 9$ is:	A linear equation	An equation	An identity	Fraction
12	Partial fractions of $\frac{x^2+1}{(x+1)(x-1)}$ are of the form:	$\frac{A}{x+1} + \frac{B}{x-1}$	$1 + \frac{A}{x+1} + \frac{Bx+C}{x-1}$	$1 + \frac{A}{x+1} + \frac{B}{x-1}$	$\frac{Ax+B}{x+1} + \frac{C}{x-1}$
13	A function of the form $f(x) = \frac{N(x)}{D(x)}$, with $D(x) \neq 0$ where $N(x)$ and $D(x)$ polynomials in x is called:	An identity	An equation	A fraction	Both (A) & (B)
14	A fraction in which the degree of the numerator is greater or equal to the degree of denominator is called:	A proper fraction	An improper fraction	An equation	Algebraic relation
15	Resolve $\frac{5x+4}{(x-4)(x+2)}$ into partial fraction:	$\frac{-4}{x-4} + \frac{1}{x+2}$	$\frac{4}{x-4} - \frac{1}{x+2}$	$\frac{4}{x-4} + \frac{1}{x+2}$	$\frac{-4}{x-4} - \frac{1}{x+2}$
16	$\frac{x^3+1}{(x-1)(x+2)}$ is:	A proper fraction	An improper fraction	An identity	A constant

(Section - I)

2. Attempt the following questions.**(8×2=16)**

- i. What is a proper fraction?
- ii. Resolve $\frac{1}{(x^2-1)(x+1)}$ into partial fraction.
- iii. Define proportion.
- iv. If $y \propto \frac{x^2}{z}$ and $y = 28$ when $x = 7, z = 2$ then find y .
- v. Find the third proportional to 28 and 4.
- vi. Find the value of p , if the ratios $2p + 5 : 3p + 4$ and $3 : 4$ are equal.
- vii. Find a mean proportional between $x^2 - y^2, \frac{x-y}{x+y}$
- viii. If $a : b = 7 : 6$, find the value of $3a + 5b : 7b - 5a$

(Section - II)

Note: Solve the following questions.**(8×2=16)**

3. (a) Resolve into partial fractions. $\frac{3x-11}{(x+3)(x^2+1)}$ **(4)**
- (b) If $\frac{a}{b} = \frac{c}{d} = \frac{e}{f}$ ($a, b, c, d, e, f, \neq 0$), then show that $\frac{ac+ce+ea}{bd+df+fb} = \left[\frac{ace}{bdf}\right]^{2/3}$ **(4)**
4. 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. **(8)**