INDIAN SCHOOL AL WADI AL KABIR

Pre- Midterm Examination (2021-22)

Class: X | Sub: MATHEMATICS-Set 1 | Max Marks: 30

Date: 24-05-2021 | Time:1 hour

Instructions:

(i) ***All*** *questions are compulsory.*

Q.1.	**If sum of two numbers is 35 and their difference is 9, then the numbers are:**							
	(A)	**22 and 13**	**(B)**	**24 and 11**	**(C)**	**23 and 12**	**(D)**	**21 and 14**
Q.2.	**Given that HCF (156, 78) = 78. LCM (156, 78) is:**							
	(A)	**78**	**(B)**	**156**	**(C)**	**312**	**(D)**	**234**
Q.3.	**If a pair of linear equations is consistent, then the lines will be**							
	(A)	**parallel**			**(B)**	**always coincident**		
	(C)	**intersecting or coincident**			**(D)**	**always intersecting**		
Q.4.	**The pair of equations x= 4 and y = 3 graphically represents lines which are:**							
	(A)	**parallel**			**(B)**	**intersecting at (3, 4)**		
	(C)	**coincident**			**(D)**	**intersecting at (4,3)**		
Q.5.	**The exponent of 2 in the prime factorization of 288 is:**							
	(A)	**2**	**(B)**	**5**	**(C)**	**1**	**(D)**	**6**
Q.6.	**The value(s) of k for which the pair of linear equations 3x – 2y – 7 = 0 and 6x + ky + 11 = 0 have a unique solution is (are):**							
	(A)	**4**			**(B)**	**all real numbers except 4**		
	(C)	**-4**			**(D)**	**all real numbers except -4**		

Q.7.	**The cost of 5 oranges and 3 apples is ₹ 35 and the cost of 2 oranges and 4 apples is ₹ 28. The cost of 5 oranges is:**						
	(A)	**₹ 4**	**(B)**	**₹ 5**	**(C)**	**₹ 20**	**(D)**	**₹ 25**
Q.8.	**Sum of the ages of a father and the son is 40 years. If father's age is three times that of his son, then the age of father is:**						
	(A)	**20 years**	**(B)**	**30 years**	**(C)**	**60 years**	**(D)**	**40 years**
Q.9.	**The value of k for which 3x – y + 8 = 0 and 6x + ky = -16 represent coincident lines is:**						
	(A)	**-2**	**(B)**	$\frac{-1}{2}$	**(C)**	$\frac{1}{2}$	**(D)**	**2**
Q.10.	**The larger of two supplementary angles exceeds the smaller by 54°. The angles are:**						
	(A)	**54°, 126°**	**(B)**	**120°, 60°**	**(C)**	**127°, 53°**	**(D)**	**117°, 63°**
Q.11.	**Which of the following will have a non-terminating recurring decimal expansion?**						
	(A)	$\frac{9045}{90}$	**(B)**	$\frac{4116}{70}$	**(C)**	$\frac{8463}{50}$	**(D)**	$\frac{3985}{30}$
Q.12.	**Solve for *x* and *y*:** **99x+ 101y = 499 and 101x + 99y =501**						
	(A)	**x=-2, y =-3**	**(B)**	**x=3, y = 2**	**(C)**	**x= 2, y = 3**	**(D)**	**x= -2, y = 3**
Q.13	**Solve for x and y:** $x + \frac{6}{y} = 6;\ 3x - \frac{8}{y} = 5$						
	(A)	**x=-3, y=2**	**(B)**	**x=3, y=-2**	**(C)**	**x=3, y=2**	**(D)**	**x=-3, y=-2**
Q.14	**For what value of k, the pair of equations 4x - 3y = 9, 2x + ky = 11 has no solution:**						
	(A)	$\frac{9}{11}$	**(B)**	$\frac{1}{2}$	**(C)**	$\frac{2}{3}$	**(D)**	$\frac{-3}{2}$

Q.15	**The value of 'a' so that the point (3, a) lies on the line represented by 2x - 3y = 12 is:**						
	(A)	**1**	**(B)**	**-1**	**(C)**	**2**	**(D)**	**-2**
Q.16	**If x = 3m - 1 and y = 4 is a solution of the equation x + y = 6, then the value of 'm' is:**						
	(A)	**-1**	**(B)**	**1**	**(C)**	**0**	**(D)**	**2**
Q.17	**The HCF of two numbers 'a' and 'b' is 7 and their LCM is 300. Then the product of 'a' and 'b' is:**						
	(A)	**307**	**(B)**	**2100**	**(C)**	**300**	**(D)**	**295**
Q.18	**Two lines are given to be parallel. The equation of one of the lines is 4x + 3y = 14. The equation of the second line can be:**						
	(A)	**3x + 4y = 14**			**(B)**	**8x + 6y = -28**		
	(C)	**12x + 9y = 42**			**(D)**	**-12x + 9y =3**		
Q.19	**Find solution of the following pair of linear equations: x – y = 3; 4x + 2y = 0**						
	(A)	**x=-2, y =-1**	**(B)**	**x=2,y =-1**	**(C)**	**x = -1, y = 2**	**(D)**	**x = 1, y = -2**
Q.20	**After how many decimal places will the decimal expansion of $\frac{29}{2^4 \times 5^3}$ terminates?**						
	(A)	**1**	**(B)**	**2**	**(C)**	**3**	**(D)**	**4**
Q.21	**A pair of linear equations which has a unique solution x = 2, y = -3 is:**						
	(A)	**x + y = -1; 2x – 3y = 14**			**(C)**	**2x – y = 1; 3x + 2y = 0**		
	(B)	**2x + 5y = 11; 4x + 10y = -22**			**(D)**	**x- 4y + 14 = 0; 5x - y- 13 = 0**		

<table>
<tr><td>Q.22</td><td colspan="8">Case Study Based Question:
On 71st republic day parade, Captain R S Meel is planning for parade of following two groups:
(a) First group of Army troops of 624 members behind an army band of 32 members.
(b) Second group of CRPF troops with 468 soldiers behind the 228 members of bikers.
These two groups are to march in the same number of columns.
This sequence of soldiers is followed by different states Jhanki which are showing the culture of the respective states.
  </td></tr>
<tr><td>1</td><td colspan="8">What is the maximum number of columns in which the army troop can march?</td></tr>
<tr><td></td><td>(A)</td><td>8</td><td>(B)</td><td>16</td><td>(C)</td><td>4</td><td>(D)</td><td>32</td></tr>
<tr><td>2</td><td colspan="8">What is the maximum number of columns in which the CRPF troop can march?</td></tr>
<tr><td></td><td>(A)</td><td>4</td><td>(B)</td><td>8</td><td>(C)</td><td>16</td><td>(D)</td><td>12</td></tr>
<tr><td>3</td><td colspan="8">What is the maximum number of columns in which total army troop and CRPF troop together can march past?</td></tr>
<tr><td></td><td>(A)</td><td>4</td><td>(B)</td><td>2</td><td>(C)</td><td>6</td><td>(D)</td><td>8</td></tr>
</table>

Q.23. **Fill in the blanks**

PART A	**If a is a prime number then LCM of a, a^2 and a^3 is……..**
PART B	**If 'a' and 'b' are two consecutive natural numbers then the HCF (a, b) is…….**
PART C	**If 'a' is a factor of 'b', then HCF (a, b) is……**

Q.24 **Find the number of solutions possible for each of the given pair of linear equations in two variables.**

PART A	**2x + 5y =10; 3x + 4y = 7**
PART B	**2x + 5y =10; 6x + 15 y = 20**
PART C	**5x + 2y = 10; 10x + 4y = 20**

Answers

Answers	1	A	2	B	3	C	4	D
	5	B	6	D	7	C	8	B
	9	B	10	D	11	D	12	B
	13	C	14	D	15	D	16	B
	17	B	18	B	19	D	20	D
	21	A	22	1.B, 2.D, 3.A	23	PART A: a^3, PART B: 1, PART C: a		
	24	PART A: unique solution, PART B: no solution, PART C: infinite solutions						