Exam Paper

.

Test / Exam Name: MCQS TEST | Standard: 10TH | Subject: MATHEMATICS
Student Name: ---------- | Section: ---------- | Roll No.: ----------

Questions: 40	Time: 60 Mins	Marks: 40

Q1. Mark the correct alternative in the following: **1 Marks**
If the first term of an A.P. is 2 and common difference is 4, then the sum of its 40 terms is:

A. 3200 B. 1600 C. 200 D. 2800

Q2. The first term of an A.P. is m and its common difference is n, then its 10th term is: **1 Marks**

A. 9m - n B. 9m + n C. m - 9n D. m + 9n

Q3. The pair of equations x = 2 and y = -3 has: **1 Marks**

A. Infinitely many solutions
B. Two solutions
C. One solution
D. No solution

Q4. 200 logs are stacked in such a way that 20 logs in the bottom row, 19 logs in the next row, 18 logs in the row next to it, and so on. The total number of rows is: **1 Marks**

A. 10 B. 15 C. 12 D. 16

Q5. The next term of the AP $\sqrt{7}, \sqrt{28}, \sqrt{63}, \ldots$ is: **1 Marks**

A. $\sqrt{70}$
B. $\sqrt{84}$
C. $\sqrt{98}$
D. $\sqrt{112}$

Q6. In an A.P. if d = -4, n = 7 and an = 4, then 'a' is: **1 Marks**

A. 20 B. 6 C. 28 D. 7

Q7. Choose the correct answer from the given four options: **1 Marks**
One equation of a pair of dependent linear equations is -5x + 7y = 2. The second equation can be:

A. 10x + 14y + 4 = 0.
B. -10x - 14y + 4 = 0.
C. -10x + 14y + 4 = 0.
D. 10x - 14y + 4 = 0.

Q8. The pairs of equations x + 2y - 5 = 0 and -4x - 8y + 20 = 0 have: **1 Marks**

A. Unique solution
B. Exactly two solutions
C. Infinitely many solutions
D. No solution

Q9. The sum of first 20 odd natural numbers is: **1 Marks**

A. 100 B. 210 C. 400 D. 420

Q10. The pair of linear equations 5x - 3y = 11 and -10x + 6y = -22 are: **1 Marks**

A. Inconsistent B. Consistent C. Coincident D. None of these

Q11. Mark the correct alternative in the following: **1 Marks**
If S_r denotes the sum of the first r terms of an A.P. Then, $S_{3n} : (S_{2n} - S_n)$ is:

A. n B. 3n C. 3 D. None of these.

Q12. Choose the correct answer from the given four options: **1 Marks**
If x = a, y = b is the solution of the equations x - y = 2 and x + y = 4, then the values of a and b are, respectively:

A. 3 and 5. B. 5 and 3. C. 3 and 1. D. -1 and -3.

Q13. The nth term of an A.P. is 7 - 4n, then its common difference is: **1 Marks**

A. -4 B. -3 C. 3 D. 4

Q14. **Directions:** In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Marks**

Assertion: (A) $x + y - 4 = 0$ and $2x + ky - 3 = 0$ has no solution if $k = 2$.

Reason (R) $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ are consistent,

if $\frac{a1}{a2} \neq \frac{k1}{k2}$.

A. Ais true, Ris true; Ris acorrect explanation forA.
B. Ais true, Ris true; Ris not a correct explanation for A.
C. Ais true; Ris False.
D. Ais false; R is true.

Q15. The sum of the first 20 terms of the A.P. 10, 6, 2, ... is: **1 Marks**

A. -480 B. -500 C. -400 D. -560

Q16. If the lines $3x + 2$, $ky - 2 = 0$ and $2x + 5y + 1 = 0$ are parallel, then what is the value of k? **1 Marks**

A. $\frac{4}{15}$
B. $\frac{15}{4}$
C. $\frac{4}{5}$
D. $\frac{5}{4}$

Q17. **Directions:** In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Marks**

Assertion: The pairs of equations $9x + 3y + 12 = 0$ and $18x + 6y + 26 = 0$ have no solution.

Reason: $\frac{a1}{a2} = \frac{a1}{a2} \neq \frac{c1}{c2}$ So, the pairs of equations are parallel and the lines never intersect each other at any point, therefore there is no possible solution.

A. both assertion and reason are correct and reason is correct explanation for assertion
B. both assertion and reason are correct but reason is correct explanation for assertion
C. assertion is correct but reason is false
D. both assertion and reason are false

Q18. **Directions:** In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Marks**

Assertion: The two linear equations in the same two variables X and Y are called pair of linear equation in two variable

Reason: The equation of the form $ax + by + c = 0$ where a and b both are not zero is called linear equation in two variable

A. both assertion and reason are correct and reason is correct explanation for assertion
B. both assertion and reason are correct but reason is correct explanation for assertion
C. assertion is correct but reason is false
D. both assertion and reason are false

Q19. Mark the correct alternative in the following: **1 Marks**

If the first, second and last term of an A.P, are a, b and 2a respectively, its sum is

A. $\frac{ab}{2(b-a)}$
B. $\frac{ab}{(b-a)}$
C. $\frac{3ab}{2(b-a)}$
D. None of these.

Q20. If $\frac{1}{x} + \frac{2}{y} = 4$ and $\frac{3}{y} + \frac{1}{x} = 11$ then: **1 Marks**

A. $x = 2,\ y = 3$
B. $x = -2,\ y = 3$
C. $x = \frac{-1}{2},\ y = 3$
D. $x = \frac{-1}{2},\ y = \frac{1}{3}$

Q21. Choose the correct answer from the given four options: **1 Marks**

The pair of equations $y = 0$ and $y = -7$ has:

A. One solution.
B. Two solutions.
C. Infinitely many solutions.
D. No solution.

Q22. **Directions:** In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Marks**

Assertion: $3x - 4y = 7$ and $6x - 8y = k$ have infinite number of solution if $k = 14$.

Reason: $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ have a unique solution if $\frac{a1}{a2} \neq \frac{b1}{b2}$

A. Both assertion (A) and reason (R) are true and reason (R) isthe correct explanation of assertion (A).
B. Both assertion (A) and reason (R) are true but 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

Q23. Mark the correct alternative in the following: **1 Marks**
If k, 2k - 1 and 2k + 1 are three consecutive terms of an A.P., the value of k is

A. -2 B. 3 C. -3 D. 6

Q24. A sum of Rs. 700 is to be used to award 7 prizes. If each prize is Rs. 20 less than its preceding prize, then the value of the first prize is: **1 Marks**

A. Rs. 100 B. Rs. 160 C. Rs. 200 D. Rs. 180

Q25. Which term of the AP 72, 63 54, ...is 0? **1 Marks**

A. 8th B. 9th C. 10th D. 11th

Q26. The solution of the equations x - y = 2 and x + y = 4 is: **1 Marks**

A. 3 and 1 B. 4 and 3 C. 5 and 1 D. -1 and -3

Q27. Which of the following is not an A.P.? **1 Marks**

A. -1.2, -3.2, -5.2, -7.2, ...
B. a, 2a, 3a, 4a, ...
C. 2, 4, 8, 16, ...
D. 2, 5252, 3, 7272, ...

Q28. Mark the correct alternative in the following: **1 Marks**
Let S_n denote the sum of n terms of an A.P. whose first term is a. If the common difference d is given by $d = S_n - kS_{n-1} + S_{n-2}$, then k =

A. 1 B. 2 C. 3 D. None of these.

Q29. The 8^{th} term of an AP is 17 and its 14^{th} term is 29. The common difference of the AP is: **1 Marks**

A. 3 B. 2 C. v D. -2

Q30. If the angles of a triangle are in A.P. and the greatest angle is twice the least then one of its angles is: **1 Marks**

A. 60° B. 45° C. 70° D. 50°

Q31. If 29x + 37y = 103 and 37x + 29y = 95 then: **1 Marks**

A. x = 1, y = 2 B. x = 2, y = 1 C. x = 3, y = 2 D. x = 2, y = 3

Q32. Mark the correct alternative in the following: **1 Marks**
The common difference of the A.P. $\frac{1}{2b}, \frac{1-6b}{2b}, \frac{1-12b}{2b}, \ldots\ldots$ is.

A. 2b B. -2b C. 3 D. -3

Q33. Mark the correct alternative in the following: **1 Marks**
If the sum of P terms of an A.P. is q and the sum of q terms is p, then the sum of p + q terms will be:
0

A. 0 B. p - q C. p + q D. -(p + q)

Q34. **Directions:** In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Marks**
Assertion: Pair of linear equations : 9x+ 3y+ 12 = 0, 8x+ 6y+ 24 = 0 have infinitely many solutions.
Reason: Pair of linear equations a1x+b1y+c1=0 and a2x+b2y+c2=0 have infinitely many solutions, if $\frac{a1}{a2} = \frac{b1}{b2} = \frac{c1}{c2}$

A. Both assertion (A) and reason (R) are true and reason (R) isthe correct explanation of assertion (A).
B. Both assertion (A) and reason (R) are true but 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

Q35. 5 years hence, the age of a man shall be 3 times the age of his son while 5 years earlier the age of the man was 7 times the age of his son. The present age of the man is: **1 Marks**

A. 45 years B. 47 years C. 40 years D. 50 years

Q36. Choose the correct answer from the given four options: **1 Marks**
A pair of linear equations which has a unique solution x = 2, y = -3 is:

A. x + y = -1, 2x - 3y = -5.
B. 2x + 5y = -11, 4x + 10y = -22.
C. 2x - y = 1, 3x + 2y = 0.
D. x - 4y -14 = 0, 5x - y - 13 = 0.

Q37. The value of 'k' for which the system of equations 3x + 5y = 0 and kx + 10y = 0 has a non zero solution is: **1 Marks**

A. 6 B. 2 C. 8 D. 0

Q38. In an A.P. if $S_n = 3n^2 + 2n$, then the value of d is: **1 Marks**

A. 7 B. 9 C. 8 D. 6

Q39. Choose the correct answer from the given four options: **1 Marks**
The sum of first 16 terms of the AP 10, 6, 2, ... is:

A. -320 B. 320 C. -325 D. -400

Q40. The pair of linear equations. **1 Marks**
$\frac{3x}{2} + \frac{5y}{3} = 7$ and $9x + 10y = 14$ is:

A. Consistent.
B. Inconsistent.
C. Consistent with one solution.
D. Consistent with many solutions.