Summative Assessment - Model Paper
Mathematics
(English Version)

Time : 15 Min + 2 hr. 30 min. **Paper-I** **Max. Marks :** 40

Instructions : 1. Read the whole question paper and understand every question thoroughly, without writing any thing and 15 minutes of time is alloted for this.
2. Answer all the questions.
3. Write answers to the objective type questions on answer sheet, but at same place.

I. Answer every question. Each question carries one mark.

1. Find centroid of the triangle formed by A(-1, 2), B(0, 3), C(-2, 4) (P.S.)
2. How do you find the distance between two points on the line parallel to x-axis. Explain. (R & P)
3. If the slope of linesegment joining P(-2, 3), Q(x, 6) is -1, then find x. (P.S.)
4. Simplify $\log_9 243$. (Com)
5. Explain the nature of roots of $3x^2 - 2x + 16 = 0$ with reasons. (Com)
6. Find cubic polynomial with the zero values -7, 1, 2. (P.S.)
7. Can x+2, x+4 and x+9 be in A.P. Justify your answer. (R & P)

II. Answer every question. Each question carries 2 marks.

8. How many two digit numbers are divisible by 7 ? (Com)
9. Show that $2\sqrt{3}$ is irrational number. (R & P)
10. If A = {1, 3, 6, 9}, B = {1, 2, 3, 4, 5, 6} then show $A \cup B$ and A-B as Venn diagrams. (Rep & V)
11. Are sets of multiples of 3 and muliples of 2 disjoint sets. Justify your answer ? (R & P)
12. Find the ratio in which y-axis devides the line segments joining the points A(3, 2), B(-1, 2). (P.S.)
13. Find the area of quadrillateral formed by the points A(2, 1), B(4, 3), C(-1, 3), D(-3, 1) (P.S.)

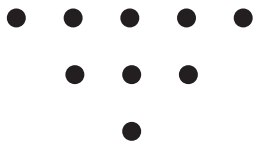
III. Answer every question. Each question carries 4 mark.

14(a) The length and breadth of a rectangular metal sheet are in the ratio 7 : 5. Four 3cm × 3cm squares have been separated from the cornersof that rectangle and it has been moulded into a cuboid of 96 cm^3 of valume. Find the area of the rectangular metal sheet take in the begining. (Connection)

(OR)

(b) A stone is thrown vertically upwards from a building of 96 ft hight with a initial velocity of 116 ft/sec. If the accellaration due to gravity is 32 ft/sec^2, then after how many seconds the stone will reach the ground. (Connection)

15(a) Rama has arranged 256 dots to draw a rangoli in the following ways. In how many rows has she arrange the dots. (P.S.)



(OR)

(b) In a nuclear fusion reaction a U^{235} Nucious will split two lighter nuclear creates 3 Nutrons and 200 MeV of energy. These three Nutrons will again split three U^{235} Nucleas. Find the energy released if this process continuous for 10 stages. (P.S.)

16(a) Draw the graph of $p(x) = x^2 - 12x + 35$ and fidn the zeroes of the polynomial of it.

(OR)

(b) The product of two consequetive multiples of 3 is 81. Form a quadratic equation and by using this information draw its graph. (Rep & V)

17(a) Solve $\frac{1}{x+y} + \frac{2}{x-y} = \frac{1}{15}$

$\frac{1}{3(x+2y)} - \frac{1}{3(x-2y} = \frac{-8}{45}$ (P.S.)

(OR)

(b) 5 women and 3 men having same capacity can complete a work in 6 days. And 3 men, 3 women of same capacity together complete the same work in 9 days, then in how many days a women or a man can complete the work. (P.S.)

IV. Choose the wright answer, and write the correct answer in the brackets.

18. The decimal form of $\frac{1}{400}$ is (Comm) ( )

A) 0.25 B) 0.025 C) 0.0025 D) 0.00025

19. A = {1, 2, 3, 4, 5, 6}, B = {2, 4, 6} then (Comm) ( )

A) B $\in$ A B) A $\in$ B C) B $\subset$ A D) A $\subset$ B

20. If there is no x term in a cubic polynomial then (R & P) ( )

A) $\alpha+\beta+\gamma = 0$ B) $\alpha\beta+\beta\gamma+\alpha\gamma = 0$ C) $\alpha+\beta+\gamma = 0$ D) Not possible

21. If 2x - 5y = 17 and 4x - 10y = 8 then these equation are (R & P) ( )

A) Consistant B) Inconsistant C) Equal D) none of the above

22. The product of two consequitive numbers is 56. Then quadatic equation formed by this is (Comm) ( )

A) $x^2 + x - 56 = 0$ B) $x^2 - x + 56 = 0$

C) $x^2 + x + 56 = 0$ D) $x^2 - x - 56 = 0$

23. If x-coordinates of two points are zero. Then slope of the line segment joined by these two points is (R & P) ( )

A) 0 B) 1 C) -1 D) not defined

24. 1, -2, 4, -8, ... is (P.S.) ( )

A) AP B) GP C) Both D) None of these

25. A = {x : x $\in$ N; x $\leq$ 0} then (Comm) ( )

A) A = {0} B) A = 0 C) A = {ϕ} D) A = ϕ

26. Discriminant of $\alpha x^2 + \beta x + \gamma = 0$ (P.S.) ( )

A) $b^2 - 4ac$ B) $\sqrt{b^2-4ac}$ C) $\beta^2 - 4\alpha\gamma$ D) $\beta^2 + 4\alpha\gamma$

27. The ratios of corresponding co-efficients and constants in 2 two variable linear equations are equal. Then the equations show the lines (R & P) ( )

A) Inter-secting lines B) Coinsiding lines

C) Parallel lines D) none of the above