



BLESSING PATHWAY EDUCATION (OPC) PRIVATE LIMITED.



BLESSING POWER GUIDE

+ BLESSING TUITION & TUTORIAL CENTRE +

No.12, Ganesh Apartment, Trust Square Street,
Medavakkam, Ayanavaram, Chennai – 600023.

ISO 9001:2015 Certified Institution

9TH STD MATHEMATICS

QUARTERLY EXAM MODEL QUESTION PAPER (1) – 2026 & 27

Part - I

Choose the correct answer:

14 x 1 = 14

1. If $A = \{x, y, z\}$ then the number of non-empty subsets of A is
a) 8 b) 5 c) 6 d) 7
2. If n is a natural number then $\sqrt{n}$ is
a) always a natural number b) always an irrational number
c) always a rational number d) may be rational or irrational
3. If $n(A) = 10$ and $n(B) = 15$ then the minimum and maximum number of elements in $A \cap B$ is
a) 10, 15 b) 15, 10 c) 10, 0 d) 0, 10
4. For any three sets A, B and C, $(A-B) \cap (B-C)$ is equal to
a) A only b) B only c) C only d) $\{\}$
5. Which of the following is not true?
a) Every rational number is a real number b) Every integer is a rational number
c) Every real number is an irrational number d) Every natural number is a whole number
6. Which one of the following is an irrational number?
a) $\sqrt{25}$ b) $\sqrt{9/4}$ c) $7/11$ d) 0
7. $0.34 + 0.34 =$
a) 0.687 b) 0.68 c) 0.70 d) 0.687
8. If $\sqrt{80} = K\sqrt{5}$, then $K = ?$
a) 2 b) 4 c) 8 d) 16
9. If $x^3 + 6x^2 + kx + 6$ is exactly divisible by $(x+2)$, then $k = ?$
a) -6 b) -7 c) -8 d) 11
10. The zero of the polynomial $2x+5$ is
a) $5/2$ b) $-5/2$ c) $2/5$ d) $-2/5$
11. If $P(a) = 0$ then $(x-a)$ is a of $P(x)$
a) divisor b) quotient c) remainder d) factor
12. The exterior angle of a triangle is equal to the sum of two
a) exterior angles b) interior opposite angles
c) alternate angles d) interior angles
13. ABCD is a square, diagonals AC and BD meet at O. The number of pairs of congruent triangles with vertex O are
a) 6 b) 8 c) 4 d) 12

14. Which of the following is true?

- a) $A - B = A \cup B$ b) $A - B = B - A$ c) $(A \cup B)' = B' \cup A'$ d) $(A \cap B)' = A' \cup B'$

Part - II

II. Answer any 10 questions. Q.No. 28 Compulsory.

(10 x 2 = 20)

15. If $A = \{a, \{a, b\}\}$ write all the subsets of A.
16. If $A = \{6, 7, 8, 9\}$ and $B = \{8, 10, 12\}$ find $A \blacktriangle B$.
17. If $K = \{a, b, d, e, f\}$, $L = \{b, c, d, g\}$ and $M = \{a, b, c, d, h\}$ then find $K \cup (L \cap M)$.
18. If $n(A) = 25$, $n(B) = 40$, $n(A \cup B) = 50$ and $n(B') = 25$. Find $n(A \cap B)$ and $n(U)$.
19. Find any two rational numbers between $1/2$ and $2/3$
20. Convert the decimal $0.24\bar{4}$ in the form of p/q .
21. Express the following in the form of 4^n .
i) 16 ii) 32
22. Using addition property of surds: $5\sqrt{3} + 18\sqrt{3} - 2\sqrt{3}$
23. Show that $(x+2)$ is a factor of $x^3 - 4x^2 - 2x + 20$.
24. Find the product of $(x+5)$ & $(x+6)$
25. Expand $(3a - 4b)^3$
26. Factorise: $2x^2 - 15x - 27$
27. The angles of a triangle are in the ratio 1:2:3. Find the measure of each angle of the triangle.
28. Express the surds in the simplest form:
i) $\sqrt{8}$ ii) $^3\sqrt{192}$

Part - III

III. Answer any 10 questions. Q.No. 42 is compulsory.

10 x 5 = 50

29. Let $U = \{0, 1, 2, 3, 4, 5, 6, 7\}$, $A = \{1, 3, 5, 7\}$, $B = \{0, 2, 3, 5, 7\}$. Find the following sets:
1) A' 2) B' 3) $A' \cup B'$ 4) $A' \cap B'$ 5) $(A \cup B)'$
30. Verify $(A \cup B)' = A' \cap B'$ using Venn diagram.
31. In a party of 45 people, each one likes tea or coffee or both. 35 people like tea and 20 people like coffee. Find the number of people who:
i) like both tea and coffee ii) do not like tea iii) do not like coffee
32. If $U = \{x: x \in \mathbb{N}, x \leq 10\}$, $A = \{2, 3, 4, 8, 10\}$ and $B = \{1, 2, 5, 8, 10\}$, then verify that:
 $n(A \cup B) = n(A) + n(B) - n(A \cap B)$
33. Represent $\sqrt{9.3}$ on a number line.
34. Simplify the following: $2^3\sqrt{40} + 3^3\sqrt{625} - 4^3\sqrt{320}$
35. Arrange in ascending order: $^3\sqrt{5}$, $^9\sqrt{4}$, $^6\sqrt{3}$
36. Write the following in scientific notation: $(300000)^3 \times (20000)^4$
37. Show that $(x+2)$ is a factor of $x^3 - 4x^2 - 2x + 20$
38. Find the value of m , if $(x-2)$ is a factor of the polynomial $2x^3 - 6x^2 + mx + 4$
39. Factorise: $x^3 - 5x^2 - 2x + 24$
40. Find the quotient and remainder of the following: $(4x^3 + 6x^2 - 23x + 18) \div (x+3)$
41. The angles of a quadrilateral are in the ratio 2:4:5:7. Find all the angles.
42. If $A = \{b, c, e, g, h\}$, $B = \{a, c, d, g, i\}$ and $C = \{a, d, e, g, h\}$, then show that:
 $A - (B \cap C) = (A - B) \cup (A - C)$

Part - IV**IV. Answer all the questions:****2 x 8 = 16**

43. a) Draw $\triangle ABC$, where $AB = 6\text{cm}$, $\angle B = 110^\circ$ and $AC = 9\text{cm}$ and construct the centroid.

(OR)

b) Draw an equilateral triangle of sides 6.5 cm and locate its orthocentre.

44. a) Draw the graph for the following: $y = 3x - 1$

(OR)

b) solve the following system of equations:

$$x + y = 5; 2x - y = 4.$$



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9TH STD MATHEMATICS

QUARTERLY EXAM MODEL QUESTION PAPER (2) – 2026 & 27

PART - I

I. Choose the best answer:

(14 x 1 = 14)

1. If $A \cup B = A \cap B$, then:
 - a) $A \cup B$ b) $A = B$ c) $A \cap B$ d) $B \cup A$
2. If $B - A$ is B , then $A \cap B$ is:
 - a) A b) B c) $\{\}$ d) 0
3. For any three sets A , B and C , $(A-B) \cap (B-C)$ is equal to
 - a) A only b) B only c) C only d) $\{\}$
4. If $A = \{x: x \text{ is an odd integer and divisible by } 2\}$ then A is:
 - a) Singleton set b) Empty set c) Finite set d) Infinite set
5. If $\sqrt{80} = K\sqrt{5}$, then $K = ?$
 - a) 2 b) 4 c) 8 d) 16
6. If $x^3 + 6x^2 + kx + 6$ is exactly divisible by $(x+2)$, then $k = ?$
 - a) -6 b) -7 c) -8 d) 11
7. The zero of the polynomial $2x+5$ is
 - a) $5/2$ b) $-5/2$ c) $2/5$ d) $-2/5$
8. The root of the polynomial equation $2x + 3 = 0$ is:
 - a) $1/3$ b) $-1/3$ c) $-3/2$ d) $-2/3$
9. Degree of the polynomial $(y^3 - 2)(y^3 + 1)$ is:
 - a) 9 b) 2 c) 3 d) 6
10. A cubic polynomial may have a maximum of _____ linear factors.
 - a) 1 b) 2 c) 3 d) 4
11. GCD of any two prime numbers is:
 - a) -1 b) 0 c) 1 d) 2
12. The exterior angle of a triangle is equal to the sum of two:
 - a) Exterior angles b) Interior opposite angles c) Alternate angles d) Interior angles
13. The centroid divides each median in the ratio _____ from the vertex.
 - a) 1:2 b) 2:1 c) 3:1 d) 1:3
14. An irrational number between 2 and 2.5 is:
 - a) 11 b) 5 c) 2.5 d) 8

PART - II**II. Answer any 10 questions: [Q.No. 28 is compulsory]****(10 x 2 = 20)**

15. Write the power set of $X = \{1, 2, 3\}$.
16. If $A = \{1, 2, 5, 7, 9\}$ and $B = \{2, 3, 5, 9, 11\}$, then verify the commutative property of intersection of sets.
17. Draw the Venn diagram for: $A \triangle B$
18. A and B are two sets such that $n(A - B) = 32 + x$, $n(B - A) = 5x$, and $n(A \cap B) = x$. Illustrate the information by means of a Venn diagram. Given that $n(A) = n(B)$, calculate the value of x .
19. Find the value of $(64)^{2/3}$
20. Find any three rational numbers between $-1/5$ and $2/5$
- 21) Write the following number in decimal form:
 - (i) 5.678×10^4
 - (ii) 2.530009×10^{-7}
- 22) Subtract: $(7x^3 + 6x - 1) - (6x - 9)$
- 23) Determine the value of m , if $(x+3)$ is a factor of $x^3 - 3x^2 - mx + 24$.
- 24) Evaluate: $10^3 - 15^3 + 5^3$
- 25) Find GCD $16x^3y^2, 24xy^3z$.
- 26) The angle of a triangles are in the ratio 1:2:3, find the measure of each angle of the triangle?
- 27) Expand: $(x+2y+3z)^2$
- 28) Convert the following decimal numbers in the form of p/q : 0.568

PART-III**III. Answer any 10 questions: [Q.No. 42 is compulsory]****10×5=50**

- 29) If $A = \{0, 2, 4, 6, 8\}$, $B = \{2, 3, 5, 7\}$, $C = \{5, 6, 7, 8\}$ then verify $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$.
- 30) Verify $(A \cup B)' = A' \cap B'$ using Venn diagrams.
- 31) In a party of 60 people, 35 had Vanilla ice cream, 30 had Chocolate ice cream. All the people had atleast one ice cream. Then how many of them had,
 - i) both Vanilla and Chocolate ice cream
 - ii) only Vanilla ice cream
 - iii) only Chocolate ice cream
- 32) Represent the numbers on the number line 4.73 upto 4 decimal places.
- 33) Arrange surds in descending order: $\sqrt[3]{5}, \sqrt[4]{4}, \sqrt[3]{3}$
- 34) If $x = \sqrt{5} + 2$, then find the value of $x^2 + 1/x^2$.
- 35) Check if $(x+2)$ and $(x-4)$ are the sides of a rectangle whose area is $x^2 - 2x - 8$ by using factor theorem.
- 36) If $x^2 + 1/x^2 = 23$, then find the value of $x + 1/x$ and $x^3 + 1/x^3$.
- 37) $(4x^3 + 6x^2 - 23x + 18) \div (x+3)$ find the quotient and remainder.
- 38) Factorise: $-7x + 3 + 4x^3$
- 39) The lengths of the diagonals of a Rhombus are 12 cm and 16 cm . Find the side of the rhombus.
- 40) Simplify: $5\sqrt[3]{40} + 2\sqrt[3]{625} - 3\sqrt[3]{320}$
- 41) Verify the associative property of intersection of set $A = \{-11, \sqrt{2}, \sqrt{5}, 7\}$, $B = \{\sqrt{3}, \sqrt{5}, 6, 13\}$, $C = \{\sqrt{2}, \sqrt{3}, \sqrt{5}, 9\}$.
- 42) Simplest form of Surds $\sqrt[3]{(1024)^{-2}}$ and find its order, radicand and coefficient.

PART-IV

IV. Answer both questions:

 $2 \times 8 = 16$

43) A) Draw and locate the orthocentre of a right triangle PQR where PQ = 4.5 cm, QR = 6 cm and PR = 7.5 cm.

(OR)

B) Construct the circumcentre of the $\triangle ABC$ with AB = 5 cm, $\angle A = 60^\circ$ and $\angle B = 80^\circ$. Also draw the circumcircle and find the circumradius of the $\triangle ABC$.

44) A) Draw the graph: $y = 3x - 1$

(OR)

B) Draw the graph: $y = \frac{3}{2}x + 3$



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9TH STD MATHEMATICS

QUARTERLY EXAM MODEL QUESTION PAPER (3) – 2026 & 27

PART - I

I. Choose the correct answer

(14 x 1 = 14)

1. The set $P = \{x \mid x \in \mathbb{Z} \text{ and } -1 \leq x \leq 1\}$ is a
 - a) Singleton set
 - b) Power set
 - c) Null set
 - d) Subset
2. If $A = \{x, y, z\}$ then the number of non-empty subsets of A is
 - a) 8
 - b) 5
 - c) 6
 - d) 7
3. If $B - A$ is B, then $A \cap B$ is
 - a) A
 - b) B
 - c) U
 - d) $\{\}$
4. The number of subsets of a set with m elements is
 - a) m
 - b) 2^m
 - c) $m - 1$
 - d) $2^m - 1$
5. If n is a natural number then $\sqrt{n}$ is
 - a) always a natural number
 - b) always an irrational number
 - c) always a rational number
 - d) may be rational or irrational
6. If $A = \{x \mid x \text{ is an odd integer and divisible by } 2\}$ then A is:
 - a) Singleton set
 - b) Empty set
 - c) Finite set
 - d) Infinite set
7. If $\sqrt{80} = K\sqrt{5}$, then K = ?
 - a) 2
 - b) 4
 - c) 8
 - d) 16
8. The length & breadth of a rectangular plot are 5×10^5 and 4×10^4 metres respectively. Its area is
 - a) $9 \times 10^1 \text{ m}$
 - b) $9 \times 10^9 \text{ m}^2$
 - c) $2 \times 10^{10} \text{ m}^2$
 - d) $20 \times 10^{20} \text{ m}^2$
9. The root of the polynomial equation $2x + 3 = 0$ is
 - a) $1/3$
 - b) $-1/3$
 - c) $-3/2$
 - d) $-2/3$
10. Degree of the polynomial $(y^3 - 2)(y^3 + 1)$ is
 - a) 9
 - b) 2
 - c) 3
 - d) 6
11. If $P(a) = 0$ then $(x - a)$ is a of P(x)
 - a) divisor
 - b) quotient
 - c) remainder
 - d) factor
12. If $(x + 5)$ and $(x - 3)$ are the factors of $ax^2 + bx + c$, then the values of a, b and c are
 - a) 1, 2, 3
 - b) 1, 2, 15
 - c) 1, 2, -15
 - d) 1, -2, 15
13. GCD of any two prime numbers is
 - a) -1
 - b) 0
 - c) 1
 - d) 2
14. The exterior angle of a triangle is equal to the sum of two
 - a) Exterior angles
 - b) Interior opposite angles
 - c) Alternate angles
 - d) Interior angles

PART - II**II. Do the following: (Answer any 10) Q.No. 28 is compulsory:****(10 x 2 = 20)**

15. If $A = \{1, 2, 5, 7, 9\}$ and $B = \{2, 3, 5, 9, 11\}$, then verify the commutative property of intersection of sets.
16. Write all the subsets of $A = \{a, b\}$
17. If $K = \{a, b, d, e, f\}$, $L = \{b, c, d, g\}$ & $M = \{a, b, c, d, h\}$, then find $K \cap (L \cup M)$
18. In a party of 45 people, each one likes tea or coffee or both. 35 people like tea and 20 like coffee.
Find the number of people who (i) like both tea and coffee (ii) do not like tea
19. Find any two rational numbers between $1/2$ and $2/3$
20. Write the following number in decimal form:
(i) 5.678×10^4 (ii) 2.530009×10^{-7}
21. Find the value of $(243)^{3/5}$
- 22) Simplify: $4\sqrt{5} + 2\sqrt{5} - 1\sqrt{5}$
- 23) Represent 5694300000000 in scientific notation
- 24) Find the degree of the polynomial $(x^7 - x^4 + 6x^3) / x^2$
- 25) Find the root of $5x - 3 = 0$
- 26) Expand: $(x + 5)(x + 6)(x + 4)$
- 27) The angles of a triangle are in the ratio 1:2:3, find the measure of each angle of the triangle
- 28) $p(x)$ is a polynomial of degree 1 and $q(x)$ is a polynomial of degree 2.
What kind of polynomial $p(x) \times q(x)$ is?

PART - III**III. Answer any 10 of the following: Q.No. 42 is compulsory:****10 x 5=50**

- 29) Verify $A - (B \cup C) = (A - B) \cap (A - C)$ using Venn diagrams
- 30) In a group of 100 students, 85 speak Tamil, 40 speak English, 20 speak French, 32 speak Tamil and English, 13 speak English and French, 10 speak Tamil and French. If each student knows atleast one of the languages then find the number of students who speak all the three languages
- 31) Let $U = \{0, 1, 2, 3, 4, 5, 6, 7\}$ $A = \{1, 3, 5, 7\}$ $B = \{0, 2, 3, 5, 7\}$ find
(i) A' (ii) $(B)'$ (iii) $A' \cup B'$ (iv) $A' \cap B'$ (v) $(A)'$
- 32) If $U = \{4, 7, 8, 10, 11, 12, 15, 16\}$ $A = \{7, 8, 11, 12\}$ $B = \{4, 8, 12, 15\}$ then,
verify De Morgan's law of complementation (any one)
- 33) Represent 3.45 on the number line upto 4 decimal places.
- 34) Find the value of a and b if $(\sqrt{7} - 2) / (\sqrt{7} + 2) = a\sqrt{7} + b$
- 35) Represent $(0.000001)^{11} \div (0.005)^3$ in scientific notation
- 36) Compute and give the answer in the simplest form $2\sqrt{72} \times 5\sqrt{32} \times 3\sqrt{50}$
- 37) Expand $(3a - 4b)^3$
- 38) Find the value of m, if $(x - 2)$ is a factor of the polynomial $2x^3 - 6x^2 + mx + 4$
- 39) Factorise: $(a + b)^2 + 9(a + b) + 18$
- 40) Two numbers are in the ratio 5:6. If 8 is subtracted from each of the numbers, the ratio becomes 4:5.
Find the numbers
- 41) The lengths of the diagonals of a Rhombus are 12 cm and 16 cm . Find the side of the rhombus.
- 42) Factorise: $x^3 - 5x^2 - 2x + 24$

PART - IV**IV. All all the questions:****2 x 8=16**43) a) Represent $\sqrt{9.3}$ on a number line**(OR)**b) Represent $\sqrt{4.7}$ on the number line44) a) Construct the centroid of ΔPQR whose sides are $PQ = 8\text{cm}$, $QR = 6\text{cm}$ and $RP = 7\text{cm}$ **(OR)**b) Draw a triangle ABC , where $AB = 8\text{cm}$, $BC = 6\text{cm}$ and $\angle B = 70^\circ$ and locate its circumcentre and draw the circumcircle.



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9TH STD MATHEMATICS

QUARTERLY EXAM MODEL QUESTION PAPER (4) – 2026 & 27

PART - I

I. Choose the correct answer:

14 × 1 = 14

1. If $A = \{x, y, z\}$, then the number of non-empty subsets of A is
 a) 8 b) 5 c) 6 d) 7
2. If $B - A$ is B then $A \cap B$ is
 a) A b) B c) U d) $\emptyset$
3. Let $A = \{\emptyset\}$ and $B = P(A)$ then $A \cap B$ is
 a) $\{\emptyset, \{\emptyset\}\}$ b) $\{\emptyset\}$ c) $\emptyset$ d) $\{0\}$
4. If $U = \{x/x \in \mathbb{N} \text{ and } x < 10\}$, $A = \{1, 2, 3, 5, 8\}$ and $B = \{2, 5, 6, 7, 9\}$, then $n(A \cup B)'$ is
 a) 1 b) 2 c) 4 d) 8
5. Which one of the following is an irrational number?
 a) $\sqrt{25}$ b) $\sqrt{9/4}$ c) $7/11$ d) π
6. Find the odd one out of the following:
 a) $\sqrt{32} \times \sqrt{2}$ b) $\sqrt{27}/\sqrt{3}$ c) $\sqrt{72} \times \sqrt{8}$ d) $\sqrt{54}/\sqrt{18}$
7. $0.34 + 0.34 =$
 a) 0.687 b) 0.68 c) 0.70 d) 0.687
8. If $\sqrt{80} = k\sqrt{5}$, then $k =$
 a) 2 b) 4 c) 8 d) 16
9. If $x^3 + 6x^2 + kx + 6$ is exactly divisible by $(x + 2)$, then $k = ?$
 a) -6 b) -7 c) -8 d) 11
10. The zeros of the polynomial $2x + 5$ is
 a) $5/2$ b) $-5/2$ c) $2/5$ d) $-2/5$
11. If $x - 3$ is a factor of $P(x)$, then the remainder is
 a) 3 b) -3 c) $p(3)$ d) $p(-3)$
12. Find the value of m from the equation $2x + 3y = m$. If its one solution is $x = 2$ and $y = -2$.
 a) 2 b) -2 c) 10 d) 0
13. The exterior angle of a triangle is equal to the sum of two
 a) exterior angles b) interior opposite angles
 c) alternate angles d) interior angles
14. For any three sets A, B and C, $(A - B) \cap (B - C)$ is equal to
 a) A only b) B only c) C only d) $\emptyset$

PART - II

II. Answer any 10 questions. Q.No. 28 Compulsory.

 $10 \times 2 = 20$

15. Write the set of letters of the following words in Roster form:

a) ASSESSMENT b) PRINCIPAL

16. Write all the subsets of $A = \{a, b\}$.17. If $n(A) = 4$, find $n[P(A)]$.18. Find the symmetric difference between the sets: $P = \{2, 3, 5, 7, 11\}$ $Q = \{1, 3, 5, 11\}$ 19. If $K = \{a, b, d, e, f\}$, $L = \{b, c, d, g\}$ and $M = \{a, b, c, d, h\}$, then find the following: $K \cap (L \cup M)$ and verify distributive law.20. Find any two rational numbers between $1/2$ and $2/3$.21. Express $1/13$ in decimal form. Find the length of the period of decimals.22. Find the value of: i) $81^{5/4}$ ii) $64^{2/3}$ 23. Simplify: $\sqrt{63} - \sqrt{175} + \sqrt{28}$ 24. Write the coefficient of x^2 and x in the following polynomial: $6 - 2x^2 + 3x^3 - \sqrt{7}x$ 25. If $p(x) = x^2 - 2\sqrt{2}x + 1$, find $p(2\sqrt{2})$.26. Expand: $(5x + 4y)(5x - 4y)$ 27. Factorise: $2a^2 + 4a^2b + 8a^2c$ 28. The angles of a triangle are in the ratio $1 : 2 : 3$. Find the measure of each angle of the triangle.

PART - III

III. Answer any 10 questions. Q.No. 42 is compulsory.

 $10 \times 5 = 50$ 29. Let $U = \{0, 1, 2, 3, 4, 5, 6, 7\}$, $A = \{1, 3, 5, 7\}$, $B = \{0, 2, 3, 5, 7\}$ Find the following sets: 1. A' 2. B' 3. $A' \cup B'$ 4. $A' \cap B'$ 5. $(A \cup B)'$ 30. If $A = \{x/x = 2^n, n \in \mathbb{W} \text{ and } n < 4\}$, $B = \{x/x = 2n, n \in \mathbb{N} \text{ and } n < 4\}$ and $C = \{0, 1, 2, 5, 6\}$, then verify the associative property of intersection of sets.31. Verify $A - (B \cup C) = (A - B) \cap (A - C)$ using Venn diagrams.

32. In a party of 60 people, 35 had Vanilla ice cream and 30 had Chocolate ice cream. All the people had at least one ice cream. Then how many of them had:

i) Both Vanilla and Chocolate ice cream

ii) Only Vanilla ice cream

iii) Only Chocolate ice cream

33. Represent the numbers on the number line $6.\overline{444}$ upto 3 decimal places.34. Represent the following irrational number on the number line: $\sqrt{4.7}$

35. Simplify the following using multiplication and division properties of surds:

i) $\sqrt{3} \times \sqrt{5} \times \sqrt{2}$ ii) $(\sqrt{225}/\sqrt{729} - \sqrt{25}/\sqrt{144}) + \sqrt{(16/81)}$ 36. Find the value of a and b if $(\sqrt{7} - 2)/(\sqrt{7} + 2) = a\sqrt{7} + b$ 37. Expand: $(5a - 3b)^3$

38. Factorise the following:

i) $27x^3 + 125y^3$ ii) $2x^4 - 16xy^3$ 39. Find the quotient and the remainder when $(5x^2 - 7x + 2) \div (x - 1)$ 40. Factorise the following polynomial using synthetic division: $x^3 - 3x^2 - 10x + 24$ 41. The angles of a quadrilateral are in the ratio $2:4:5:7$. Find all the angles.

42. Represent the following numbers in scientific notations:

- i) $(300000)^2 \times (20000)^4$ ii) $(0.000001)^{11} + (0.005)^3$

PART - IV

IV. Answer all the questions:

$2 \times 8 = 16$

43. a) Construct the centroid of $\triangle PQR$ whose sides are: $PQ = 8$ cm, $QR = 6$ cm, $RP = 7$ cm.

(OR)

b) Draw $\triangle PQR$ with sides: $PQ = 7$ cm, $QR = 8$ cm and $PR = 5$ cm and construct the orthocentre.

44. a) Draw a triangle ABC where: $AB = 8$ cm, $BC = 6$ cm and $\angle B = 70^\circ$ and locate its circumcentre and the circumcircle.

(OR)

b) Construct the incentre of $\triangle ABC$ with: $AB = 6$ cm, $\angle B = 65^\circ$ and $AC = 7$ cm. Also draw the incircle and measure its radius.



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9TH STD MATHEMATICS

QUARTERLY EXAM MODEL QUESTION PAPER (5) – 2026 & 27

PART-I

I. Choose the best answer

$14 \times 1 = 14$

1. If $A = \{x, y, z\}$ then the number of non-empty subsets of A is
a) 8 b) 5 c) 6 d) 7
2. If n is a natural number then $\sqrt{n}$ is
a) always a natural number b) always an irrational number
c) always a rational number d) may be rational or irrational
3. If $n(A) = 10$ and $n(B) = 15$ then the minimum and maximum number of elements in $A \cap B$ is
a) 10, 15 b) 15, 10 c) 10, 0 d) 0, 10
4. For any three sets A, B and C, $(A-B) \cap (B-C)$ is equal to
a) A only b) B only c) C only d) $\{\}$
5. Which of the following is not true?
a) Every rational number is a real number b) Every integer is a rational number
c) Every real number is an irrational number d) Every natural number is a whole number
6. The number of subsets of a set with m elements is
a) m b) 2^m c) $m - 1$ d) $2^m - 1$
7. If n is a natural number then $\sqrt{n}$ is
a) always a natural number b) always an irrational number
c) always a rational number d) may be rational or irrational
8. If $A = \{x: x \text{ is an odd integer and divisible by } 2\}$ then A is:
a) Singleton set b) Empty set c) Finite set d) Infinite set
9. If $\sqrt{80} = K\sqrt{5}$, then K = ?
a) 2 b) 4 c) 8 d) 16
10. The length & breadth of a rectangular plot are 5×10^5 and 4×10^4 metres respectively. Its area is
a) $9 \times 10^1 \text{ m}$ b) $9 \times 10^9 \text{ m}^2$ c) $2 \times 10^{10} \text{ m}^2$ d) $20 \times 10^{20} \text{ m}^2$
11. If $(x-3)$ is a factor of $p(x)$, then the remainder is
a) 3 b) -3 c) $p(3)$ d) $p(-3)$
12. Degree of the constant polynomial is _____
a) 3 b) 2 c) 1 d) 0
13. The exterior angle of a triangle is equal to the sum of two
a) exterior angles b) interior opposite angles
c) alternate angles d) interior angles

14. Degree of the polynomial $(y^3-2)(y^3+1)$ is

- a) 9 b) 2 c) 3 d) 6

PART – II

II. Answer any 10 questions. (Q.No.28 is compulsory)

$10 \times 2 = 20$

15. If $A = \{-3, -2, 1, 4\}$ and $B = \{0, 1, 2, 4\}$, find (i) $(A-B)$ (ii) $(B-A)$
16. If $n[P(A)] = 256$, find $n(A)$.
17. Find the symmetric difference between $X = \{5, 6, 7\}$ and $Y = \{5, 7, 9, 10\}$
18. If $n(A) = 25$, $n(B) = 40$, $n(A \cap B) = 50$ and $n(B') = 25$, find $n(A \cup B)$ and $n(U)$.
19. Write 625 in the form of 5^n .
20. Rationalise the denominator: $5/\sqrt{3}$
21. write in decimal form. 6.34×10^4
22. Simplify: $5\sqrt{3} + 18\sqrt{3} - 2\sqrt{3}$
23. $x^3 - x^4 + 6x^6$ Find the degree.
24. Evaluate by using identities. $(1001)^3$
25. Factorise: $27x^3 + 125y^3$
26. Find the GCD. $9a^2b^2c^3, 15a^3b^2c^4$
27. The angles of a triangle are in the ratio 1:2:3, find the measure of each angle of the triangle
28. Write in Roster form: A = The set of all even natural numbers less than 20.

PART – III

III. Answer any 10 questions. (Q.No.42 is compulsory)

$10 \times 5 = 50$

29. If $S = \{\text{square, rectangle, circle, rhombus, triangle}\}$
 - i) The set of shapes which have 4 equal sides
 - ii) The set of shapes which have radius
 - iii) The set of shapes in which the sum of all interior angles is 180°
 - iv) The set of shapes which have 5 sides
30. If $A = \{p, q, r, s\}$, $B = \{m, n, q, s, t\}$, $C = \{m, n, p, q, s\}$, Verify $A - (B \cup C) = (A - B) \cap (A - C)$
31. Verify $A - (B \cup C) = (A - B) \cap (A - C)$ using Venn diagrams.
32. Out of 500 car owners investigated, 400 owned car A and 200 owned car B, 50 owned both A and B cars. Is this data correct?
33. Represent 4.863 on the number line.
34. Represent $\sqrt{9.3}$ on a number line.
35. Arrange surds in descending order: $2\sqrt{3}\sqrt{5}, \sqrt[3]{4}\sqrt{7}, \sqrt{\sqrt{3}}$
36. Rationalise the denominator of $\frac{5 + \sqrt{3}}{5 - \sqrt{3}}$
37. Check if $(x+2)$ and $(x-4)$ are the sides of a rectangle whose area is $x^2 - 2x - 8$
38. Find the quotient and remainder when $(3x^3 - 4x^2 - 5)$
39. Factorise: $(x+y)^2 + 9(x+y) + 20$
40. What should be $2x^3 + 6x^2 - 5x + 8$ added to $3x^3 - 2x^2 + 6x + 15$?
41. A triangle ABC and triangle DEF are two triangles in which $AB=DF$, angle $ACB=70^\circ$, angle $ABC=60^\circ$; angle $DEF=70^\circ$ and angle $EDF=60^\circ$. Prove that the triangles are congruent.
42. Represent the number 3.45 on the number line up to 4 decimal places.

PART – IV**IV. Answer all the questions. $2 \times 8 = 16$**

43. a) Construct the centroid of triangle PQR whose sides are PQ = 8cm, QR = 6cm, RP = 7cm

(OR)

b) Construct the right triangle PQR whose perpendicular sides are 4.5 cm and 6 cm. Also locate its circumcentre and draw the circumcircle.

44. a) Draw an equilateral triangle of sides 6.5 cm and locate its orthocentre.

(OR)

b) Construct the in-centre of triangle ABC with AB = 6cm, angle of B = 65° and AC = 7cm. Also draw the in - circle and measure its radius.

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