

SCERT, Andhra Pradesh

MATHEMATICS

Summative Assessment - I

Orientation on

**OMR Based Objective Type
Examination**

Merits of Objective Type Examination

- It prevents rote memory
- It is helpful to understand real learning standard of the students.
- It is easy to value and has got validity
- We can get result of students immediately.
- It trains the students for future competitive examinations.
- Develops creativity, reasoning, analytical ability of the students.

Syllabus & Weightages for Class- VIII

- Chapters 1 to 9 (up to November syllabus as per Academic Calendar – 2017-18).

Weightage Table

Academic Standard	Weightage Percentage	No. of Questions	Marks
Problem Solving	40%	32	32
Reasoning and Proof	20%	16	16
Communication	10%	8	8
Connections	15%	12	12
Representation & Visualization	15%	12	12
TOTAL	100%	80	80

Syllabus & Weightages for Class- IX

➤ Paper – I (6 Chapters)

- Real Numbers
- Polynomials & Factorizations
- The Elements of Geometry
- Lines and Angles
- Linear Equations in two variables
- Surface Areas and Volumes

Syllabus & Weightages for Class- IX

➤ Paper – II (5 Chapters)

- Coordinate Geometry
- Triangles
- Quadrilaterals
- Statistics
- Areas

Weightages for Class- IX for Paper-I&II

Weightage Table

Academic Standard	Weightage Percentage	No. of Questions	Marks
Problem Solving	40%	32	16
Reasoning and Proof	20%	16	8
Communication	10%	8	4
Connections	15%	12	6
Representation & Visualization	15%	12	6
TOTAL	100%	80	40

Types of Questions

- Straight (Direct) Objective Type Questions
- Passage / Information Type Questions
- MCQs using 2 or 3 Statements
- Odd man Out
- Assertion and Reasoning
- Diagram based Questions
- Re-arranging Steps of Solution
- Multiple Answers type
- Matching
- Completion of the tables or by using data filling the answers etc.

Examples

Straight (Direct) Objective Type Questions

Q1: Value of $(256)^{0.16} \times (256)^{0.09}$ is

1) 4

2) 16

3) 64

4) 256.25

Q2: Value of the Polynomial $4x^2 - 5x + 3$ when $x = -1$ is

1) 2

2) 4

3) -6

4) 12

Passage / Information Type Questions

Very larger are very small numbers can be expressed in the simplest form by using scientific notation. In this notation can written as the product of number (< 10) and powers of 10.

Q1: The Scientific notation of 123456789 is

- 1) 1.23456789×10^8
- 2) $1.23456789 \times 10^{-8}$
- 3) 1.23456789×10^9
- 4) $1.23456789 \times 10^{-9}$

Q2: Express the size of the bacteria 0.0000004 in standard form

1) 4.0×10^{-6}

2) 4.0×10^{-7}

3) 4.0×10^{-8}

4) 4.0×10^7

Q3: Express 32.5×10^{-4} in usual form

1) 32.50000

2) 0.3250

3) 0.00325

4) 0.000325

MCQs using 2 or 3 Statements

Q1: Statement – I: Every rectangle is a parallelogram.
Statement – II: Every parallelogram is a rectangle.

- 1) Both statements I and II are true
- 2) Statement -I is true and II is false
- 3) Statement -I is false and II is true
- 4) Both statements I and II are false

Q2: Statement–A: The degree of linear equation is one
Statement –B: The degree of simple equation is one

- 1) Both statements A and B are true
- 2) Statement A is true and B is false
- 3) Statement A is false and B is true
- 4) Both statements A and B are false

Odd man Out

Q1: Which of these is not related

- 1) (1, 2)
- 2) (-3, 4)
- 3) (0, -5)
- 4) (4, -2)

Q2: Which of the following is not related

- 1) mean
- 2) median
- 3) mode
- 4) range

Assertion and Reasoning

Q1: Assertion (A): The measure of the supplement of 65° is 115°

Reason (R): Two angles are said to be supplement if the sum of their measures is 180°

- 1) Both A and 'R' are correct. 'R' is the correct explanation of 'A'
- 2) Both A and 'R' are correct. 'R' is the not correct explanation of 'A'
- 3) 'A' is correct, 'R' is incorrect.
- 4) 'A' is incorrect, 'R' is correct.

Q2: Assertion (A): The value of $(4^0 - 2^0) \times 5^0 = 0$

Reason (R): $a^{-1} = \frac{1}{a}$ ($a \neq 0$)

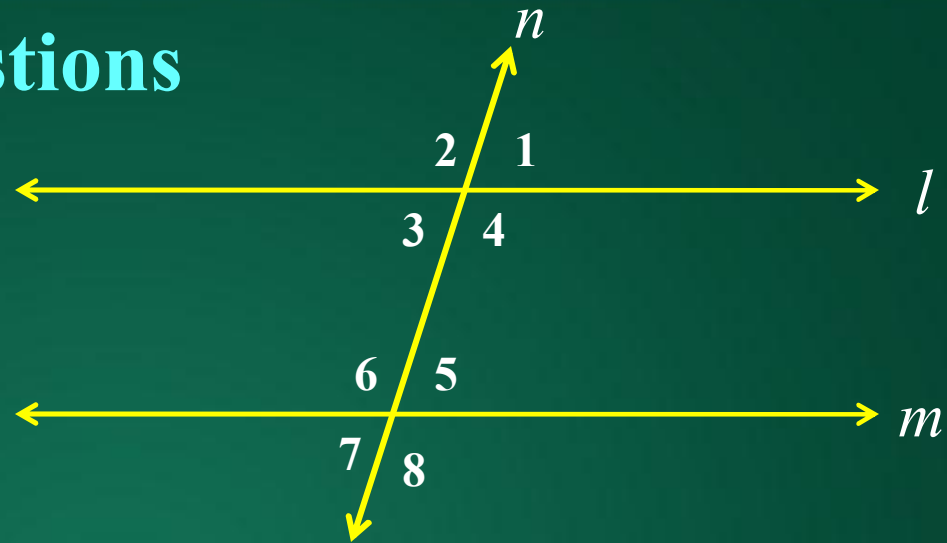
- 1) Both A and 'R' are correct. 'R' is the correct explanation of 'A'
- 2) Both A and 'R' are correct. 'R' is the not correct explanation of 'A'
- 3) 'A' is correct, 'R' is incorrect.
- 4) 'A' is incorrect, 'R' is correct.

Diagram based Questions

In the figure

' l ' is parallel to ' m '

and ' n is transversal



Q1: If $\angle 6 = 50^\circ$ then $\angle 1$ is

- 1) 50°
- 2) 60°
- 3) 130°
- 4) 120°

Q2: $\angle 1 = \angle 7$ because they are

- 1) Corresponding angles
- 2) Alternative interior angles
- 3) Alternative exterior angles
- 4) Vertically opposite angles

Q3: Corresponding angle of $\angle 2$ is

- 1) $\angle 3$
- 2) $\angle 4$
- 3) $\angle 6$
- 4) $\angle 7$

Observe the following figures and answer the questions.



Q1: Which figure has no lines of symmetry

- 1) Circle
- 2) rectangle
- 3) parallelogram
- 4) square

Q2: Figure having more than two lines of symmetry are

- 1) Circle and rectangle
- 2) Rectangle and parallelogram
- 3) Parallelogram and square
- 4) Circle and square

Q3: Which of the above figures has infinite number of order of rotation

- 1) Circle
- 2) Rectangle
- 3) Parallelogram
- 4) square

Re-arranging Steps of Solution

Q1: While constructing a Rhombus BEST with $BE = 4.5$ cm. and $ET = 5$ cm. construction steps are jumbled as shown below: and keep them in an order.

- a) Draw $\triangle BET$ using SSS property of construction with measures $BE = 4.5$ cm. $BT = 4.5$ cm. $ET = 5$ cm
- b) Draw a rough sketch of the Rhombus with given measurements
- c) Join E, S and S, T to complete the required Rhombus BEST
- d) By drawing the arcs locate the vertex 'S' with the remaining two measures $ES = 4.5$ and $ST = 4.5$

1) b, d, c, a

2) b, d, a, c

3) b, a, d, c

4) c, b, d, a

Q2: Solving steps of dividing $3x^2 + x - 1$ by $x+1$ are jumbled.
Keep them in an order

Step-1: $(x+1) 3x = 3x^2+3x$

Step-2: $-2x / 2 = -2$ is a second term of quotient

Step-3: divide $3x^2/x = 3x$ is the first term of quotient

Step-4: multiply $(x+1) -2 = -2x -2$, subtract from $-2x -2$
from $-2x -1$ which gives 1.

Step-5: quotient is $3x -2$ and remainder is 1

1) 2, 3, 1, 4, 5

2) 3, 1, 2, 4, 5

3) 4, 3, 1, 2, 5

4) 4, 2, 3, 1, 5

Multiple Answers type

Q1: If $P(5, 1)$, $Q(8, 0)$, $R(0, 4)$, $S(0, 5)$ and $O(0, 0)$ are plotted on the graph paper then the points on X -axis are

- | | |
|----------------|----------------|
| a) P and R | b) R and S |
| c) Only Q | d) Q and O |
- 1) a
 - 2) b
 - 3) c
 - 4) d

Q2: Which of the following does not require a proof.

a) Theorem

b) Axiom

c) Definition

d) Postulate

1) a and b

2) b and c only

3) a, b and c

4) b, c and d

Match the following

Column – I

- 1) Equation of X -axis
- 2) Equation of Y -axis
- 3) Line parallel to X -axis
- 4) Line parallel to Y -axis

Column- II

- A) $Y = k$
- B) $X = k$
- C) $Y = 0$
- D) $X = 0$

1) 1-D, 2-C, 3-B, 4-A

2) 1-C, 2-D, 3-A, 4-B

3) 1-B, 2-A, 3-C, 4-D

4) 1-A, 2-B, 3-D, 4-C

Column – I

Column- II

- | | |
|--------------------------|-------------------------|
| 1) $300^\circ, 60^\circ$ | A) Complementary angles |
| 2) $100^\circ, 80^\circ$ | B) Supplementary angles |
| 3) $40^\circ, 50^\circ$ | C) Conjugate angles |

1) 1-A, 2-B, 3-C

2) 2-A, 3-B, 1-C

3) 3-A, 2-B, 1-C

4) 2-A, 1-B, 3-C

Completion of the tables or by using data filling the answers

Cost Price	Expenses	Selling Price	Profit	Loss	Percentage of profit	Percentage of loss
Rs 750/-	Rs. 50/-	A	Rs. 80/-		B	
Rs. 4500/-	Rs. 500/-	C		Rs. 1000/-		D

- 1) A - Rs. 800, B-10% , C - Rs.4000/- D - 20%
- 2) A - Rs. 720, B-10% , C - Rs.4000/- D - 10%
- 3) A - Rs. 880, B-20% , C - Rs.4000/- D - 10%
- 4) A - Rs. 720, B-20% , C - Rs.4000/- D - 20%

Q:

CI	0 – 5	5 – 10	10 – 15	15 – 20	20 – 25
F	10	15	12	20	9

The sum of lower limits of median and modal classes is

- 1) 15
- 2) 25
- 3) 30
- 4) 35

Q:

Monthly income in Rs.	Number of families
Income more than 10000	100
Income more than 13000	85
Income more than 16000	69
Income more than 19000	50
Income more than 22000	33
Income more than 25000	17

The number of families having income range 16000/- to 19000/- is

- 1) 15 2) 16
3) 17 4) 19

Internal Marks Calculation

- ❖ 20% of marks taken from internals.
- ❖ 80% of marks taken from SSC or S.A-3 examination
- ❖ Internal marks can be calculated as follows:

4 Formatives @ 50 = 200 Marks

1 Summative @ 80 = 80 Marks

TOTAL 280 Marks reduced to 20

THANK YOU