शिक्षकांसाठी माहिती   गणित (इंग्रजी माध्यम)

**Maharashtra State Council of Educational Research and Training
(Vidya Parishad) Pune 30.**
Pragat Shaikshanik Maharashtra
Educational Achievement Test
Baseline Test 2016-17 : Subject - Mathematics
**Information for Teachers and Instructions for Practical & Oral Test Papers
(From Std. II to VIII)**

Role and change in vision :

The Government of Maharashtra initiated 'Pragat Shaikshanik Maharashtra' programme vide Government Resolution 22nd June 2015, from the academic year 2015-2016. This programmes aims at :

- Designing various Educational Achievement Tests (Shaikshnik Pragati Chachani) and testing whether each student have achieved age-appropriate competencies or not.

- There by planning remedial programmes and action plans to assist students and teachers as needed.

    The First test within this programme was called the 'Baseline Test'. The aim of this test was to assess competencies of the students in First Language and Mathematics for the previous class level. In the academic year 2015-2016 the first Baseline Test was conducted between 14th Sept. 2015 to 7th Oct. 2015. The results of this test enabled teachers to identify the gaps and issues and implement action plans to fulfil these gaps and improve the results to achieve the desired outcome.

    In continuation of 'Pragat Shaikshanik Maharashtra' programme for the year 2016-2017 the Baseline Test is to be conducted for all students of all the mediums from Government recognized schools all over the state. The frame work of the Baseline Test is same as last year. That is for the students of Std. II to VIII and for the two subjects namely First Language and Mathematics.

    The whole procedure of testing intend to develop and maintain trust and confidence between students, teachers, officers and experts. Good rapport of teachers with the students will drive up the performance of their students and ultimately help to achieve better results. Students will enjoy the process of solving oral/practical and written questions within this motivating and supportive atmosphere. **These test may enable students to learn and understand the concepts for the first time while attempting the test. Even teachers may also bring new ideas and innovative examples which will help students in learning concepts in a different way.**

There are three stages for planning and implementation of these tests :

    1. Preplanning   2. Conducting tests   3. Collection of data

Teachers must collect or prepare necessary material required to conduct oral/practical tests. Depending on the number of students, teachers should have a time management plan for Oral/ Practical tests.

There is no such time bound for these tests. Tests should be given to students when their attention span is maximum. Avoid scheduling tests close to recess break or when students are expected to be tired. If students leave some questions unanswered, teachers should ask whether they need any assistance and should motivate them to solve the questions. However, assistance should be in the form of examples only. Teachers should refrain from directing them towards the answer.

Nature of the test :

The Baseline Test is based on the basic concepts learnt in previous classes. The test is comprises of three types of questions to check the understanding and application of mathematical concepts.

    1) Practical   2) Mental Math (Oral)   3) Written Test.

Weightage of the test is as per the continuous comprehensive evaluation (CCE) as follows.

Std.	Practical / Oral	Written	Total
Std. II	10	20	30
Std. III and IV	10	30	40
Std. V and VI	10	40	50
Std. VII and VIII	10	50	60

Note : Subject teachers must conduct the test and also evaluate it for their class.

Suggestions for conducting test and correcting the test papers :

- **For II and III standard :** The teacher must read the question to the students. Explain what to do and then ask the students to solve it. Follow these steps for each and every question one by one till the end. While explaining the question do not point towards direct answers.

- **For IV and V standard :** The teacher must read one question at a time and then explain what to do if necessary. Do not point out answers.

- **For VI to VIII standard :** Students must read and solve the question paper on their own. Help them only if they ask for it. Read the question for them but don't give answers directly. Explain the question if needed.

- For the question having one mark, allow students to do the rough work in the space provided. Give full credit for correct answer. For the question having two marks the teacher will decide from the response of the student whether to give one mark or two marks.
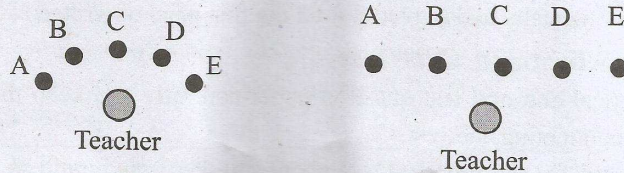
- Over look the spellings or minor mistakes in solution.
- Give full credit even though the student uses Devnagari or International numerals or both even in one answer.
- Ask the students to write the answer with the appropriate unit wherever necessary.
- Full credit should be given if the student has understood the concept clearly otherwise give zero. Don't give half mark or marks in fraction.
- **For II to VI standard :** In the written test each question carry 1 mark.
- **For VII and VIII standard :** In the written test
    Q. No. 1 to 30 carry 1 mark each .... Total 30 Marks
    Q. No. 31 to 40 carry 2 marks each .... Total 20 Marks
    So take precautions while entering the marks in the record sheet.
- Give the instructions to write the answer in the box given or in the place given for it. Allow them to do the necessary work nearby that question to finalised the answer.
- Make sure that students write answer in the proper place.
- There is only one Record Sheet for written, practical and oral test. Marks should be noted question wise for each student. The total marks of the students should be shown and to be filled in the 'SARAL' database system.

How to administer practical and oral test :
- By making groups of 5 students at a time take the practical/oral test.
- Ask the batch of 5 students (A, B, C, D, E) to seat in a semi circle or in a line as shown below. Keep the required material in front of them.

- Question paper for practical and oral is to be only with the teachers. In this paper first question consist of 5 sub questions of same type for 5 students namely student A, student B,C,D and E. Follow the same sequence of numbers or activities as it is given in the question paper. The teacher must read the question first then explain the students what to do and then ask the students to solve it. Be careful, not to point out the answers. Response of the students should be marked immediately in the response sheet. For correct response/ answer give 1 mark otherwise give 0 (zero). After finishing with first question for all in a group proceed for second question and so on. When one group finishes with all questions call the second group of 5 students. Approximately 25 to 30 minutes is enough for one group. No matter if more or less time require for the same. It's not compulsory to take the practical/oral of the whole class on the same day.

- Use the symbols which are known to the students for units, tens, hundreds, thousands.... For ex. group of sticks, beads and strings, bundles-units, currency notes of Re. 1, Rs. 10, Rs. 100, Rs. 1000 etc. You can prepare notes by writing Re. 1, Rs. 10, Rs. 100, Rs. 1000 on the cards. Students should be familiar with the symbols before using it for the test. Introduce the symbols well in advance and make them to practice before using it for testing. Even after that if the students get confused at the time of test ask them to show the units, tens, hundreds etc... and get the required activity done. Be cautious not to reveal the answer.
- **For II to V standard :** In the practical/oral paper questions are written serially from 1 to 10. All these ten questions are to be asked to the group of 5 students as prescribed in the instruction sheet specially designed for that class and to follow it accordingly. Mark the responses immediately in the record sheet (1 or 0) question group-wise for the each of the student.
- **For VI to VIII standard :** In the practical paper questions are written serially from P-1 to P-5. Execute this test by calling a group of 5 students as mentioned above. Record the response immediately in the record book for all the groups of a class. After practical test conduct the oral test as follows :

    Oral test should be taken for all the students of a class at a time. These questions are marked as M-1 to M-5. Students should record their responses on the first page of the WRITTEN TEST paper in the place given in front of M-1 to M-5. So teacher has to distribute the written test paper for recording the answers of oral test.

    Teacher will read each question of the oral test loudly from M-1 to M-5 and students has to find the answer mentally and to record it on the first page of written test in the given place.

Instructions for Practical and Oral Test :

1. Read the practical and oral test question paper carefully and keep the required material ready before conducting the test.
2. Material required for the practical test should be kept ready and in sufficient quantity.
3. For administering the practical/oral test the group of 5 students will seat in front of teacher and gives the test. Give them sufficient time. At this time make other groups to seat far away or seat separately.
4. Response of the student (in terms of mark 1 or 0) for practical/oral question should be recorded in the given cumulative record sheet **immediately. (Don't** rely on memory.) Don't give half mark.
5. Take the second group of students only when first group has completed the test in all respect. Likewise the whole class test should be taken.
6. There is no time limit for both the tests i.e. practical/oral and written.

Std. II **Baseline Test (Practical and Oral)** **Sub. : Mathematics**

Practical and Oral Questions **Total Marks : 10**

Sr. No.	Instructions for Teachers.	Students				
		A	B	C	D	E
P/O.1.	Tell one digit number to each one and ask to give the same number of objects. (Objects - Pebbles, beads, etc.)	5	7	8	6	9
P/O.2.	(Take P 2 to P 4 in a row for each student.) Teachers will take some objects in one hand and ask, how many objects are there? (number up to 5)	4	5	3	2	1
P/O.3.	Take some objects in other hand and ask, how many objects are there? (Number up to 4)	2	3	1	4	4
P/O.4.	Now combine objects of both the hands and ask, how many objects are there?	-	-	-	-	-
P/O.5.	Take 6 pebbles in one hand and show them. From that take some pebbles in other hand and show them. At that time close the feast of first hand and ask, how many pebbles are there in closed feast. • Number of pebbles in second hand. ⇨	4	2	5	1	3
P/O.6.	Ask each one to read number on the card and tell to show the number using tens-units symbols (keep the symbols which are known to the students e.g. beads and strings in adequate number) (keep number cards ready)	35	29	44	30	42
P/O.7.	Show the number using tens-units symbols and ask the number.	59	70	87	91	66
P/O.8.	Read the number and ask to show it on 100 - beads string.	91	64	55	73	82
P/O.9.	Give two objects in the hands of the student and tell to identify the heavier?	-	-	-	-	-
P/O.10.	Tell the student to show number 5 using fingers of both the hands.	-	-	-	-	-

Note : Read all the questions carefully before starting practical/oral test and keep the required material ready in adequate number. Use of material for the test is compulsory.

Std. III   **Baseline Test (Practical and Oral)**   **Sub. : Mathematics**
Practical and Oral Questions   **Total Marks : 10**

Sr. No.	Instructions for Teachers.	Students				
		A	B	C	D	E
P/O.1.	Give duster, box, match box, ball, tin to each one and ask to count number of edges and corners.	-	-	-	-	-
P/O.2.	Give duster, box, match box, coin, glass to each one and ask to draw shape by moving pencil along the edges and ask to name that shape.	-	-	-	-	-
P/O.3.	Ask each one to measure the length of an object with hand span and ask how many hand span the length is?	-	-	-	-	-
P/O.4.	Read the number and ask to show the number by using symbols. (Use the symbols which are known to the student in adequate number)	45	29	36	70	53
P/O.5.	Show number in the form of tens and units using symbols and ask to identify that number.	23	73	48	55	60
P/O.6.	Ask student to tell the name of the student which is to the left or right to him/her.	-	-	-	-	-
P/O.7.	Tell the name of a month and ask the name of next month.	-	-	-	-	-
P/O.8.	Give number card to each one and ask to read the number on that card. (keep number cards ready)	28	34	52	75	90
P/O.9.	Ask student to read the number on card in tens-unit form (Use the same card as in P/O.8)	28	34	52	75	90
P/O.10.	Using the same cards in P/O.8 ask students to tell the next consecutive number for the given number.	28	34	52	75	90

Note :   Read all the questions carefully before starting practical/oral test and keep the required material ready in adequate number. Use of material for the test is compulsory.

Std. IV **Baseline Test (Practical and Oral)** **Sub. : Mathematics**

Practical and Oral Questions **Total Marks : 10**

Sr. No.	Instructions for Teachers.	Students				
		A	B	C	D	E
P/O.1.	Give the cutouts of paper or craft paper as shown and ask to count the corners (Keep number of cutouts equal to number of students.)	▭	▢	⬭	△	◯
P/O.2.	Ask whether the cutout used in P 1 is symmetric or not by folding it.	▭	▢	⬭	△	◯
P/O.3.	Ask to show the number written in words on the card using digit cards. (Keep the cards ready.)	Nine Hundred Eight	Five Hundred Seven	Seven Hundred Ten	Six Hundred Ninety	One Hundred nine
P/O.4.	Ask to read the number on number card. (Keep number cards ready.)	189	239	849	319	979
P/O.5.	Tell to represent the number on number card using notes of rupee 100, 10 and 1 (Use, the same cards as in P 4) (Keep adequate notes and coins)	189	239	849	319	979
P/O.6.	Use the same cards as in P 4 and ask the digits at hundred, ten and unit's place.	189	239	849	319	979
P/O.7.	Use the same cards as in P 4 and ask the place value of digits at hundred, ten and unit's place.	189	239	849	319	979
P/O.8.	Ask to recite the table.	6	9	7	8	10
P/O.9.	Ask to show the given time in the clock or model of clock.	12:00	1:05	2:10	3:15	4:20
P/O.10.	Tell to measure the length of Book/Note book in centimetre.	-	-	-	-	-

Note : Read all the questions carefully before starting practical/oral test and keep the required material ready in adequate number. Use of material for the test is compulsory.

Std. V   **Baseline Test (Practical and Oral)**   **Sub. : Mathematics**

Practical and Oral Questions   **Total Marks : 10**

Sr. No.	Instructions for Teachers.	Students				
		A	B	C	D	E
P/O.1.	Tell to show given part of circle by folding circular paper. (Keep number of circular cut-outs of paper as per the number of students.)	Dia-meter	Dia-meter	Centre	Radius	Chord
P/O.2.	Ask to identify odd/even number by making groups of 2-2 objects (seeds, beads, etc.)	18	15	19	22	11
P/O.3.	Ask to give change of Rs. 1000 note as per the instructions. (Give 10, 20, 50, 100, 500, 1000 rupee notes or symbols in adequate number.)	10 Rupee Notes	50 Rupee Notes	100 Rupee Notes	500 Rupee Notes	20 Rupee Notes
P/O.4.	Ask to show given angle using elbow.	Acute angle	Right angle	Obtuse angle	Right angle	Acute angle
P/O.5.	Tell to show the given fraction using circular discs. (Keep circular discs.)	One and half	Two and half	One and one quarter	One and three quarter	Three quarter
P/O.6.	Ask to read the number on number card. (Keep number cards ready.)	4243	3322	6025	4351	1126
P/O.7.	Read the sum and ask to add the numbers mentally. Tell them to write the whole sum with answer.	100 + 5	200 + 7	400 + 5	500 + 5	300 + 5
P/O.8.	Teacher has to show the time in the model of clock or clock and ask to read the time.	2:15	6:00	4:15	7:45	12:30
P/O.9.	Tell to measure the length of notebook by ruler in cm.	—	—	—	—	—
P/O.10.	Tell to read the given circular parts on card in terms of fraction. (Keep cards ready as given.)					

Note : Read all the questions carefully before starting practical/oral test and keep the required material ready in adequate number. Use of material for the test is compulsory.

Std. VI **Baseline Test (Practical and Oral)** **Sub. : Mathematics**

Practical and Oral Questions **Total Marks : 10**

Sr. No.	Instructions for Teachers.	Students				
		A	B	C	D	E
P 1)	Tell to draw the circle of given radius and ask the length of diameter.	5 cm	3 cm	4 cm	5 cm	3 cm
P 2)	Tell to measure the angle on card and ask its measure. (Keep cards ready with angles drawn of given measure.)	60^0	80^0	110^0	70^0	120^0
P 3)	Ask to read the number on card. (Keep number cards ready.)	2458	4613	6057	3295	4003
P 4)	Ask to make four digit greatest number using any four digit cards. (Keep digit cards ready from 0 to 9)	–	–	–	–	–
P 5)	Ask to arrange two sticks as per given instruction.	Parallel	Perpendicular	Parallel	Perpendicular	Intersecting

Oral Questions

Instructions : 1) Students should write the answers by mental calculations.

2) Distribute the written test papers among students and ask them to write answer of oral questions in the place given for M1 to M5.

M1 : As per 24 - Hour clock, the time is 13:00 hrs. then what is the time as per 12 - Hour clock?

M2 : Write any three multiples of 12.

M3 : Write the shape of cylindrical tank, when you see it from above.

M4 : Write the following property by using alphabets for unknown numbers and proper mathematical signs.

"The product of any two numbers and the product obtained after changing the order of those numbers is the same."

M5 : Write in figure 'Five thousand two hundred seven'.

Note : **Read all the questions carefully before starting practical test and keep the required material ready in adequate number. Use of material for test is compulsory.**

Baseline Test (Practical and Oral)   Sub. : Mathematics

Practical and Oral Questions   Total Marks : 10

Sr. No.	Instructions for Teachers.	Students				
		A	B	C	D	E
P 1)	Give sticks of length 3, 4, 5, 6, 7, 8, 9, 10 cm. and ask students to make a triangle. Then ask whether is it possible to make a triangle by using any three sticks? Hence ask for the property of sides of a triangle.	Ask the students in the group to do the activity simultaneously.				
P 2)	Ask to show pairs of angles using sticks as per instructions.	Angles in linear pair	Adja-cent angles	Comple-mentary angles	Supple-mentary angles	Verti-cally op-posite angles
P 3)	Ask to show a transversal of two parallel lines using sticks and hence ask to show the pairs of angles.	Alter-nate angles	Interior angles	Corre-sponding angles	Verti-cally opposite angles	Angles in linear pair
P 4)	Ask to draw a rectangle having area 24 sq. cm. on graph paper and ask to write length and breadth of that rectangle. (Provide enough graph papers.)	Ask the students in the group to do the activity simultaneously.				
P 5)	Ask to show addition/subtraction of numbers on a number line. (Draw a number line on block board.)	$-2+3$	$-3+3$	$4-3$	$0+4$	$0-4$

Oral Questions

Instructions : 1) Students should write the answers by doing calculations orally.

         2) Distribute the written test papers among students and ask them to write the answer of oral test questions in the place given from M1 to M5.

M1 : What is the sum of measures of all angles of a triangle ?

M2 : How many 100 rupee notes make Rs. 1000 ?

M3 : There are 40 passengers in a bus. 8 passengers get down and 12 new passengers board the bus at first stop. Now how many passengers are there in the bus ?

M4 : Write 1000 in the form of index number using base 10.

M5 : Convert decimal fraction 0.5 in percentage.

Note : **Read all the questions carefully before starting practical test and keep the required material ready in adequate number. Use of material for test is compulsory.**

Std. VIII　　　**Baseline Test (Practical and Oral)**　　**Sub. : Mathematics**

Practical and Oral Questions　　　**Total Marks : 10**

Sr. No.	Instructions for Teachers.	Students				
		A	**B**	**C**	**D**	**E**
P 1)	Ask to show a number on number line. (Teacher should draw the number line on blackboard and ask students to draw the same in note book. as follows.)	$2\frac{3}{5}$	1.7	−1.8	$-2\frac{1}{2}$	Opposite number of (−3)

Sr. No.	Instructions for Teachers.	A	B	C	D	E
P 2)	Give triangular pieces of paper to each student. By using set squares and folding the given paper ask to show suggested activity. (Keep adequate number of triangular pieces ready.)	All three angle bisectors	All three Medians	All three Perpendicular bisectors	All three Altitudes	All three angle bisectors
P 3)	Ask to note down the heights of the five students into their note books and tell to find the average height of the group. (Before practical test ask students to measure and note the heights with the help of each other. Make necessary arrangement.)	–	–	–	–	–
P 4)	Ask to draw two distinct rectangles of the given area on graph paper and hence ask to write the lengths and breadths respectively. (Keep graph papers as per the number of students)	24 sq cm	12 sq cm	16 sq cm	18 sq cm	20 sq cm
P 5)	Ask to draw a quadrilateral, ask to name it and hence ask the question.	Name of the vertices	Pairs of opposite sides	Pairs of adjacent sides	Pairs of opposite angles	Name of the quadrilateral

Oral Questions

Instructions : 1) Students should write the answers by mental calculations.

2) Distribute the written test paper to the students and ask them to write answers of oral questions in the place given for M1 to M5.

M 1 : $\triangle$ ABC and $\triangle$ PQR are congruent triangles.
Write this statement using symbol of congruence.

M 2 : Write in figure $\rightarrow$ Four Lakhs Two Thousand Three.

M 3 : Which number should be added in 5 to get the answer Zero?

M 4 : Anil bought a pen for Rs. 10 and a notebook for Rs. 20 from a shopkeeper. He gave 50 Rupee note to the shopkeeper then how much amount the shopkeeper will return to him?

M 5 : Anita scored 15 marks out of 20 in test of mathematics. What is her percentage of marks?

Note : Read all the questions carefully before starting practical test and keep the required material ready in adequate number. Use of material for test is compulsory.

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