<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>District Institute of Education and Training</td>
<td>Pudukkottai / Mannarkudi / Keelapaluvoor / Kurukkaty / Kumulur / Aduthurai / Mayanur</td>
</tr>
<tr>
<td>2</td>
<td>Type of Management</td>
<td>Government / Aided / Private</td>
</tr>
<tr>
<td>3</td>
<td>Type of School</td>
<td>Male / Female / Co-Education</td>
</tr>
<tr>
<td>4</td>
<td>Group of Study at +2 level</td>
<td>Maths / Science / Arts / Vocational</td>
</tr>
<tr>
<td>5</td>
<td>Community</td>
<td>FC / BC / MBC / SC / ST</td>
</tr>
<tr>
<td>6</td>
<td>Parental Annual income</td>
<td>1-5000, 5001-10000, 10001-15000, 15001 and above</td>
</tr>
<tr>
<td>7</td>
<td>Locale</td>
<td>Corporation / Municipality / Village</td>
</tr>
<tr>
<td>8</td>
<td>Reason for Joining the course</td>
<td>Self interest / parents Compulsion / Job opportunity / job work is light</td>
</tr>
</tbody>
</table>
## Annexure II

### ATTITUDE TOWARDS MATHEMATICS EDUCATION

**(Pooled items)**

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
<th>Response Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Mathematics Education does not kindle creative thinking</td>
<td>Yes / No</td>
</tr>
<tr>
<td>2.</td>
<td>Mathematics Education helps us to spend the leisure time in an useful manner</td>
<td>Yes / No</td>
</tr>
<tr>
<td>3.</td>
<td>I wish to introduce a new technique of teaching in Mathematics</td>
<td>Yes / No</td>
</tr>
<tr>
<td>4.</td>
<td>Mathematics Education is so interesting that I cannot feel the time sense</td>
<td>Yes / No</td>
</tr>
<tr>
<td>5.</td>
<td>Self - confidence of the individual is developed by Mathematics Education</td>
<td>Yes / No</td>
</tr>
<tr>
<td>6.</td>
<td>I don’t like Mathematics Education lesson</td>
<td>Yes / No</td>
</tr>
<tr>
<td>7.</td>
<td>I eagerly expect to teach Mathematics classes</td>
<td>Yes / No</td>
</tr>
<tr>
<td>8.</td>
<td>I will prefer other subjects in stead of Mathematics for my higher studies</td>
<td>Yes / No</td>
</tr>
<tr>
<td>9.</td>
<td>Learning / Teaching Mathematics is boring to me</td>
<td>Yes / No</td>
</tr>
<tr>
<td>10.</td>
<td>Mathematics Education helps to develop Humanity</td>
<td>Yes / No</td>
</tr>
<tr>
<td>11.</td>
<td>I won’t choose Mathematics for my higher studies</td>
<td>Yes / No</td>
</tr>
<tr>
<td>12.</td>
<td>Mathematics develops speed and accuracy</td>
<td>Yes / No</td>
</tr>
<tr>
<td>13.</td>
<td>I don’t think that learning Mathematics is essential for every individual</td>
<td>Yes / No</td>
</tr>
<tr>
<td>14.</td>
<td>Mathematics is the most important for Society development</td>
<td>Yes / No</td>
</tr>
<tr>
<td>15.</td>
<td>Mathematics Education establishes narrow Thinking among us</td>
<td>Yes / No</td>
</tr>
<tr>
<td>16.</td>
<td>Mathematics creates Social awareness among the students</td>
<td>Yes / No</td>
</tr>
<tr>
<td>17.</td>
<td>I fell that every student should know about the great Mathematician</td>
<td>Yes / No</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Response Options</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>18.</td>
<td>I wish to study the auto-biography of the famous Mathematician</td>
<td>Yes / No</td>
</tr>
<tr>
<td>19.</td>
<td>I feel that the time goes slowly in Mathematics class</td>
<td>Yes / No</td>
</tr>
<tr>
<td>20.</td>
<td>I study Mathematics to become a good Mathematics Teacher</td>
<td>Yes / No</td>
</tr>
<tr>
<td>21.</td>
<td>One should study Mathematics to get Mathematics Attitude</td>
<td>Yes / No</td>
</tr>
<tr>
<td>22.</td>
<td>Mathematics Education helps to teach Mathematics using local resources</td>
<td>Yes / No</td>
</tr>
<tr>
<td>23.</td>
<td>There is no use in studying Mathematics absolutely</td>
<td>Yes / No</td>
</tr>
<tr>
<td>24.</td>
<td>Mathematics Education does not help the individual to live harmoniously in the society</td>
<td>Yes / No</td>
</tr>
<tr>
<td>25.</td>
<td>I feel sorry to teach Mathematics</td>
<td>Yes / No</td>
</tr>
<tr>
<td>26.</td>
<td>I feel fresh when I see the sequences and series</td>
<td>Yes / No</td>
</tr>
<tr>
<td>27.</td>
<td>Mathematics Education develops unity among us</td>
<td>Yes / No</td>
</tr>
<tr>
<td>28.</td>
<td>Mathematics Education does not develop social skills</td>
<td>Yes / No</td>
</tr>
<tr>
<td>29.</td>
<td>I wish to do Research for the up lift of Mathematics</td>
<td>Yes / No</td>
</tr>
<tr>
<td>30.</td>
<td>Mathematics Education helps the individual to lead a good life</td>
<td>Yes / No</td>
</tr>
<tr>
<td>31.</td>
<td>Learning Mathematics develops creativity</td>
<td>Yes / No</td>
</tr>
<tr>
<td>32.</td>
<td>If is easy to prepare Teaching aids in Mathematics</td>
<td>Yes / No</td>
</tr>
<tr>
<td>33.</td>
<td>Mathematics Learner / Teacher always speak truth</td>
<td>Yes / No</td>
</tr>
<tr>
<td>34.</td>
<td>Mathematics Education helps us to find out the individual differences</td>
<td>Yes / No</td>
</tr>
<tr>
<td>35.</td>
<td>Mathematics Education helps the students to reduce the individual difference and to increase the total achievement</td>
<td>Yes / No</td>
</tr>
<tr>
<td>36.</td>
<td>Mathematics helps in solving the day to day problems</td>
<td>Yes / No</td>
</tr>
<tr>
<td>37.</td>
<td>Mathematics teacher is capable of solving the problem very easily</td>
<td>Yes / No</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Response</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>38.</td>
<td>Mathematics develops aesthetic value</td>
<td>Yes / No</td>
</tr>
<tr>
<td>39.</td>
<td>Mathematics develops self Protection</td>
<td>Yes / No</td>
</tr>
<tr>
<td>40.</td>
<td>Mathematics learner / Teacher is always having a tendency to help others</td>
<td>Yes / No</td>
</tr>
<tr>
<td>41.</td>
<td>Mathematics develops the skill of analysing the cause and effect</td>
<td>Yes / No</td>
</tr>
<tr>
<td>42.</td>
<td>Mathematics Education is important for the development of culture and Heritage</td>
<td>Yes / No</td>
</tr>
<tr>
<td>43.</td>
<td>If is easy to learn other subjects for a Mathematics student</td>
<td>Yes / No</td>
</tr>
<tr>
<td>44.</td>
<td>Teacher Trainees should develop a positive attitude towards Mathematics</td>
<td>Yes / No</td>
</tr>
<tr>
<td>45.</td>
<td>I enjoy doing Mathematics activities</td>
<td>Yes / No</td>
</tr>
<tr>
<td>46.</td>
<td>Mathematics activities develop quality of appreciation</td>
<td>Yes / No</td>
</tr>
<tr>
<td>47.</td>
<td>Mathematics is the servant to all sciences</td>
<td>Yes / No</td>
</tr>
<tr>
<td>48.</td>
<td>Mathematics is the queen of sciences</td>
<td>Yes / No</td>
</tr>
<tr>
<td>49.</td>
<td>Teaching of Mathematics is superior than teaching other subjects</td>
<td>Yes / No</td>
</tr>
<tr>
<td>50.</td>
<td>Mathematics has no room for biasedness.</td>
<td>Yes / No</td>
</tr>
</tbody>
</table>
Annexure III

**ATTITUDE TOWARDS MATHEMATICS EDUCATION**

(Developed by the Investigator, Dr. T.K. Swatandra Devi & Dr. D. Vincent De Paul 2004)

<table>
<thead>
<tr>
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<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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<td>10</td>
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<tr>
<td>11</td>
<td></td>
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</tbody>
</table>

1. I will prefer other subjects instead of Mathematics for my higher studies
2. Learning / Teaching Mathematics is boring to me
3. I won’t choose Mathematics for my higher studies
4. I don’t think that learning Mathematics is essential for every individual
5. Mathematics Education establishes narrow Thinking among us
6. I feel that the time goes slowly in Mathematics class
7. I study Mathematics to become a good Mathematics Teacher
8. Mathematics Education helps to teach Mathematics using local resources
9. There is no use in studying Mathematics absolutely
10. Mathematics Education does not help the individual to live harmoniously in the society
11. I feel sorry to teach Mathematics
<p>| | | | | |</p>
<table>
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<tr>
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<tbody>
<tr>
<td>12</td>
<td>Mathematics Education develops unity among us</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>13</td>
<td>Mathematics Education does not develop social skills</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
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<tr>
<td>14</td>
<td>I wish to do Research for the up lift of Mathematics</td>
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<td>15</td>
<td>Mathematics develops aesthetic value</td>
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<td>16</td>
<td>Mathematics develops self Protection</td>
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<tr>
<td>17</td>
<td>Mathematics Education is important for the development of culture and Heritage</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>18</td>
<td>Mathematics activities develop quality of appreciation</td>
<td></td>
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</tbody>
</table>
### TEACHER ATTITUDE INVENTORY

*(Developed by Ahluwalia)*

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>If I had a son entering college, I would have encouraged him to become a teacher.</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>2.</td>
<td>A class-room should not be as quiet as graveyard.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3.</td>
<td>Students' behaviour should be taken into consideration by the teacher.</td>
<td></td>
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<tr>
<td>4.</td>
<td>Students work hard if they are not given freedom to ask questions in the class.</td>
<td></td>
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</tr>
<tr>
<td>5.</td>
<td>Students are generally sincere.</td>
<td></td>
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</tr>
<tr>
<td>6.</td>
<td>A teacher respects everybody.</td>
<td></td>
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<tr>
<td>7.</td>
<td>Individual differences among the students should not be paid much attention to.</td>
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<tr>
<td>8.</td>
<td>Teaching develops personality and character.</td>
<td></td>
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</tr>
<tr>
<td>9.</td>
<td>Class-room teaching makes the students disciplined.</td>
<td></td>
<td></td>
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<tr>
<td>10.</td>
<td>Freedom should not be given to the students to learn according to their own desire.</td>
<td></td>
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</tr>
<tr>
<td>11.</td>
<td>Pupils should be given freedom to express their views in the class.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>12.</td>
<td>Teachers are not free to express their views.</td>
<td></td>
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</tr>
<tr>
<td>13.</td>
<td>Those who fail in other fields of work usually become teachers.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>14.</td>
<td>Teaching work becomes easy in the class-room.</td>
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</tr>
<tr>
<td>15.</td>
<td>Students learn more by love than by punishment.</td>
<td></td>
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</tr>
<tr>
<td>16.</td>
<td>Pupils should not be let down before the class.</td>
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<tr>
<td>17.</td>
<td>Class-room teaching begets social atmosphere.</td>
<td></td>
<td></td>
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<tr>
<td>18.</td>
<td>Students do not live together in harmony with one another.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>19.</td>
<td>When one sees a teacher he feels like laughing at him.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>No occupation is better than the teaching profession.</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>21.</td>
<td>Students learn best by doing.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>22.</td>
<td>Now-a-days students do not obey their teachers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>Everybody pays attention to what a teacher says.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>24.</td>
<td>Teachers are boastful.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>25.</td>
<td>Teachers are self-esteem persons</td>
<td></td>
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</tr>
<tr>
<td>26.</td>
<td>There should be no students’ union in school.</td>
<td></td>
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<tr>
<td>27.</td>
<td>Teachers do not determine the moral standards of a nation.</td>
<td></td>
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</tr>
<tr>
<td>28.</td>
<td>Students’ health is an important responsibility of the school.</td>
<td></td>
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</tr>
<tr>
<td>29.</td>
<td>Just one method of teaching is not suitable for all the students.</td>
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<tr>
<td>30.</td>
<td>Students observe discipline only in the school.</td>
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<tr>
<td>31.</td>
<td>Most of the teachers are greedy.</td>
<td></td>
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</tr>
<tr>
<td>32.</td>
<td>Students are generally dis-interested in national problems.</td>
<td></td>
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<tr>
<td>33.</td>
<td>Group activities do not create sense of cooperation among the students.</td>
<td></td>
<td></td>
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<tr>
<td>34.</td>
<td>Teaching profession has a bright future.</td>
<td></td>
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</tr>
<tr>
<td>35.</td>
<td>Teaching profession appears to be interesting only in the beginning.</td>
<td></td>
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<tr>
<td>36.</td>
<td>Bright and talented students often suffer in class-room teaching.</td>
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<tr>
<td>36.</td>
<td>The surroundings of the school have an impact on the learning process.</td>
<td></td>
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</tr>
<tr>
<td>37.</td>
<td>Students should not be given freedom to think.</td>
<td></td>
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</tr>
<tr>
<td>38.</td>
<td>Class-room teaching does not inculcate a feeling of self-confidence in the students.</td>
<td></td>
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</tr>
<tr>
<td>39.</td>
<td>Pupils remain unsatisfied if their doubts are not clarified.</td>
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</tr>
<tr>
<td>40.</td>
<td>People do not look down upon teachers.</td>
<td></td>
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</tr>
<tr>
<td>41.</td>
<td>I take pride in telling that I belong to the teaching profession.</td>
<td></td>
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</tr>
<tr>
<td>42.</td>
<td>Class-room teaching makes students respect each other.</td>
<td></td>
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<tr>
<td>43.</td>
<td>The talents of students remain hidden if due attention is not paid to their special abilities.</td>
<td></td>
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<tr>
<td>44.</td>
<td>Students should enter the class only after obtaining permission from the teacher.</td>
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<tr>
<td>45.</td>
<td>Teacher do not have a sense of humour.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46.</td>
<td>There are more disadvantages than advantages in the teaching profession.</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>47.</td>
<td>Class-room teaching strengthens the desire to learn.</td>
<td></td>
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</tr>
<tr>
<td>48.</td>
<td>I want to take up the teaching profession only because my parents wish so.</td>
<td></td>
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</tr>
<tr>
<td>49.</td>
<td>Books are not all in all for students.</td>
<td></td>
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<tr>
<td>50.</td>
<td>Students can become good Citizens only when teachers are good teachers.</td>
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<td>51.</td>
<td>I get pleased when mischievous students get a beating.</td>
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<td>52.</td>
<td>One, who does according to what he says, has the qualities of a teacher.</td>
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<td>53.</td>
<td>Class-room teaching needs a change.</td>
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<td>54.</td>
<td>Different activities performed by the students should not have a place in their final evaluation.</td>
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*Study on Attitude towards Math Edn, Teaching Profession & Acad Achiev in Math Edn*
55. Good relationship between the teacher and the taught is essential for learning.
56. Students should not be allowed to ask questions in the class.
57. Teachers cannot satisfy the intellectually superior students.
58. Students can do anything in order to get through the examination.
59. There is a distance between teacher and students in class-room teaching.
60. It is a curse to remain in the teaching profession.
61. Back-benchers do not get proper attention in class-room teaching. 
62. It is good that now, a-days aptitude of students is given importance.
63. Teaching methods of the past were better than those of to-day.
64. While assigning home-task pupil's ability should be taken into consideration.'
65. The place of the student should not be supreme in class-room teaching ..
66. Teaching is a very stimulating profession.
67. Weak students gain a lot through the revision of the lesson by the teacher.
68. One, who does not inflict corporal punishment on students, is a poor teacher.
69. One should not even dream of becoming a teacher in his life.
70. Students often talk non-sense in the class.
71. Good learning condition is created when the relations between the teacher and the pupil are warm and friendly.
72. Teaching profession makes people lazy.
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<td>73.</td>
<td>Class-room teaching is book-centred rather than pupil centred.</td>
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<td>74.</td>
<td>Keeping students informed of their progress has little effect on learning.</td>
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<td>75.</td>
<td>The teacher should not make the lesson interesting for children.</td>
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<td>76.</td>
<td>A good teacher has little need for charts, maps, diagrams and the like.</td>
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<td>77.</td>
<td>Most students do not respect the teachers.</td>
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<td>78.</td>
<td>Teaching makes a teacher tired.</td>
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<td>79.</td>
<td>Teaching profession is not a goad medium of serving humanity.</td>
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<td>80.</td>
<td>We should fit the curriculum to the student and not the 'student to the curriculum.</td>
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<td>81.</td>
<td>Students take pride in the neat and attractive environment of the school.</td>
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<td>82.</td>
<td>Students should have right to express dis-agreement with what the teacher says.</td>
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<td>83.</td>
<td>One of. the difficulties with modern schools is that discipline is often sacrificed to the interest of students.</td>
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<td>84.</td>
<td>In class-room teaching the principle of &quot;learning by doing&quot; cannot be implemented.</td>
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<td>85.</td>
<td>I will not take up any other job except teaching.</td>
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<tr>
<td>86.</td>
<td>If I do not get any other job, I will join the teaching profession.</td>
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<td>87.</td>
<td>Teacher should not be strict in their dealings with students.</td>
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<td>88.</td>
<td>Teachers are the leaders of the nation.</td>
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<td>89.</td>
<td>If a student does not understand an assignment, it is the fault of the teacher</td>
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<tr>
<td>90.</td>
<td>A teacher's job is primarily one of the teaching and explaining the subject matter.</td>
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Annexure V

ACHIEVEMENT TEST IN MATHEMATICS EDUCATION

(All the Items)

1. Who said that Maths itself is God?
   a) Gandhiji  
   b) Aravinda  
   c) Vinobabave  
   d) Kamarajar

2. Which of these is developed while answering the question why, what and how?
   a) Trigonometry  
   b) Algebra  
   c) Analytical geometry  
   d) Measured

3. The necessary reinforcement for Natural learning of a child
   a) Minimum level of training  
   b) Punishment for the wrong doings  
   c) No fear for the teacher while he learns  
   d) using joyful learning

4. The main objective of Education
   a) Total personality development  
   b) Developing the knowledge  
   c) Physical development  
   d) Value development

5. The objective of learning of Mathematics is
   a) To get positive recognition from the society  
   b) Solving the problems and higher education  
   c) While away the time  
   d) To compensate the time

6. In our general education Mathematics is common and compulsory up to
   a) First 3 years  
   b) First 5 years  
   c) First 8 years  
   d) First 10 years

7. Minimum levels of learning mean
   a) Learning Minimum  
   b) Teaching Minimum  
   c) Students knowledge development  
   d) Students Total learning achievement

8. Choose the appropriate
   1) Maths Text book is not for the teachers to teach
   2) Maths Text book is only for students learning.
   a) Both are correct  
   b) Both are wrong  
   c) First statement alone correct  
   d) II Statement alone correct

9. The content why we teach? and How we teach? is
   a) Syllabus  
   b) Notes of lesson  
   c) Curriculum  
   d) Competences

10. In Text Book
    a) The language used must be simple and attractive  
    b) All the contents should be comprehensive  
    c) The language used must be more difficult  
    d) All the contents should not be easily understandable

Study on Attitude towards Math Edn, Teaching Profession & Acad Achiev in Math Edn
11. Which gives the Equitable and standard education?
   a) Standard Education  
   b) Resourceful Education  
   c) Minimum levels of Education  
   d) Primary Education  

12. Which country introduced Zero first?
   a) Arabian  
   b) Indian  
   c) Roman  
   d) American  

13. Micro Teaching develops
   a) Classroom learning  
   b) Competence learning  
   c) Self learning  
   d) Skills learning  

14. In which number system a symbol cannot he used more than thrice?
   a) Indian system  
   b) Roman system  
   c) Arabian system  
   d) Western system  

15. New Education policy is developed during
   a) 1986  
   b) 1987  
   c) 1981  
   d) 1983  

16. How many competencies are included in the primary level Mathematics?
   a) 207  
   b) 217  
   c) 227  
   d) 297  

17. Indian number system in applauded by
   a) Gauss  
   b) De-scartez  
   c) laplace  
   d) Pythagoras  

18. Syllabus is reconstructed once in
   a) 1 year  
   b) 2 years  
   c) 3 years  
   d) 4 years  

19. Induction Method is derived
   a) Generalizing from Examples  
   b) Concrete to abstract  
   c) Abstract to concrete  
   d) From General to specific  

20. The Chairman of the MLL Committee is
   a) N.H. Dawey  
   b) The teacher  
   c) Montesorri  
   d) Froebel  

21. The five steps introduced in induction method by
   a) Thorndike  
   b) Herbart  
   c) Laplace  
   d) N.H. Dawey  

22. The subject which is unbiased is;
   a) Language  
   b) Science  
   c) Mathematics  
   d) Value Education  

23. In a Multi grade situation a teacher should handle
   a) only one class  
   b) more than a class  
   c) More than 3 classes  
   d) at least Two class  

24. Which develops the expected learning out come?
   a) Teacher  
   b) Text book  
   c) Competency  
   d) Activity  

25. Mathematics laws are accepted only if ..........%. are correct
   a) 100  
   b) 90  
   c) 80  
   d) 85  

26. Which kindles the reflection in problem solving
   a) Maths Lab  
   b) Maths club  
   c) Maths workbook  
   d) Maths modules
27. The basis of continuous and Comprehensive Evaluation is
   a) joyful learning                     b) Test and Measure
       c) MLL                               d) equitable and standard education

28. Thro ‘spike’ Abacus
   a) we can show all the numbers easily
   b) we can subtract using place value
   c) we can teach place value
   d) we can teach cardinal and ordinal numbers

29. The test which is conducted frequently is
   a) Unit test                           b) achievement test
       c) Diagnostic test                   d) Remedial test

30. Learning abstract concepts .......... objects is easier
   a) not thro sensory organs             b) Thro sensory organs
       c) Thro joyful two learning          d) Thro activity oriented

31. The Tamil numeral equivalent to 7 is
   a) 2                                   b) J
       c) v                                 d) m

32. Simplified form of 25/75 is
   a) 2/7                                 b) 5/7
       c) 2/5                               d) (1/3)

33. 108 mg =
   a) 10.8 g                              b) 1.08 g
       c) 0.108 g                           d) 108 g

34. 2/3 is
   a) proper fraction                     b) improper fraction
       c) mixed fraction                    d) equivalent fraction

35. 0.1 x 0.1 =
   a) 0.01                               b) 0.001
       c) 0.1                              d) 0.11

36. (16/21) ÷ (-8) =
   a) 7/21,                               b) 4/21,
       c) -2/21                            d) -3/21

37. Which of these is Prime?
   a) 24                                  b) 63
       c) 57                                d) 2

38. P = Rs.100  n=1yr  i=8% the interest is
   a) Rs.100                              b) Rs.8
       c) Rs.8.50                           d) Rs.12.50

39. (-15) ÷ (-15) =
   a) -1                                 b) 30
       c) +0                                d) 1

40. Find the loss or Profit percentage if one dozen oranges were purchased for Rs.100
   and sold for Rs.80
   a) Profit 10%                           b) profit 20%
       c) Loss 10%                          d) Loss 20%

41. The sum of the interior angle of the quadrilateral is
   a) 180°                                b) 360°
       c) 90°                               d) 270°

42. 40° and 50° are mutually .................
   a) Right angle                         b) Supplementary
       c) Complementary                     d) Straight angle
43. \(70^0 \) and \(110^0\) are mutually ..........  
   a) Supplementary  
   b) Complementary  
   c) Zero  
   d) Right angle

44. The number of integers between -7 and 2 are  
   a) 10  
   b) 8  
   c) 0  
   d) infinity

45. \(7.454545\) is  
   a) irrational number  
   b) Decimal number  
   c) Complex number  
   d) Rational number

46. \(1 \text{ Hectare} =\)  
   a) \(10,000 \text{ M}^2\)  
   b) \(1,00,000 \text{ M}^2\)  
   c) \(1,000 \text{ M}^2\)  
   d) \(10,00,000 \text{ M}^2\)

47. What is the 8\(^{th}\) day from Thursday?  
   a) Thursday  
   b) Friday  
   c) Saturday  
   d) Sunday

48. \((3y^2 - 7y) + (2y^2 + 4) =\)  
   a) \(y^2 = 7y + 4\)  
   b) \(5y^2 = 7y - 4\)  
   c) \(5y^2 - 7y + 4\)  
   d) \(y^2 + 7y - 4\)

49. \(2^2 \times 3^2 =\)  
   a) 5  
   b) 6  
   c) 10  
   d) 36

50. What is the root order of \(\sqrt{7}\)?  
   a) 2  
   b) 7  
   c) \(1/2\)  
   d) 1

51. The negative polynomial of \(2x^3 - 5x^2 + 4x - 5\)  
   a) \(-2x^3 + 5x^2 - 4x + 5\)  
   b) \(2x^3 + 5x^2 - 4x + 5\)  
   c) \(-2x^3 - 5x^2 - 4x + 5\)  
   d) \(-2x^3 + 5x^2 - 4x - 5\)

52. Distance and speed are  
   a) Direct variation  
   b) Inverse variation  
   c) Both a & b  
   d) Compound variations

53. The greatest chord of a circle is  
   a) Diameter  
   b) Radius  
   c) Circumference  
   d) Area

54. The degree of the term \(x^4y^4\) is  
   a) 7  
   b) 6  
   c) 8  
   d) 5

55. The binary form of 31 is  
   a) \(11011_2\)  
   b) \(111111_2\)  
   c) \(11010_2\)  
   d) \(101111_2\)

56. How many straight lines can be drawn thro 2 points in a plane?  
   a) Only one line  
   b) Two straight lines  
   c) many number of lines  
   d) Line Cannot be drawn

57. \(\frac{2}{3} \times \frac{5}{6} =\)  
   a) \(\frac{5}{9}\)  
   b) \(\frac{5}{6}\)  
   c) \(\frac{5}{18}\)  
   d) \(\frac{10}{3}\)

58. The sum of three interior angles in a triangle is  
   a) 360  
   b) 90  
   c) 270  
   d) 180

59. All natural numbers are  
   a) Positive integers  
   b) Negative integers  
   c) irrational  
   d) Prime number
60. What is the improper from of $2\frac{1}{4}$ is
   a) $\frac{5}{4}$  b) $\frac{9}{4}$
   c) $\frac{10}{2}$  d) $\frac{7}{4}$

61. If $4x = 9y$ then $x:y =$ ............
   a) $9:4$  b) $4:9$
   c) $2:3$  d) $3:2$

62. $l = \frac{c - s}{c} \times 100 \quad s = 8 
   a) $\frac{1}{20}$
   b) $\frac{1}{10}$
   c) 25
   d) 50

63. What is 20% of 250
   a) 50  b) 40
   c) 75  d) 35

64. When a bottle of 3400 ml is transferred to 8 bottles equally, each bottle contains
   a) 425 ml  b) 450 ml
   c) 475 ml  d) 420 ml

65. $(-\frac{2}{3}) \times (\frac{5}{7}) \times (\frac{3}{15}) = ?$
   a) $\frac{2}{21}$
   b) $\frac{-5}{21}$
   c) $\frac{-3}{21}$
   d) $\frac{-15}{21}$

66. LCM of 6 & 8 is
   a) 24  b) 12
   c) 48  d) 8

67. If $2^m = 16$ what is $2^{m-1}$ ?
   a) 8  b) 32
   c) 4  d) 2

68. Convert $\frac{2}{3}$ in to percentage
   a) 66.66%
   b) 33.33%
   c) 60%
   d) 62%

69. In a cyclic quadrilateral PQRS $m\angle P = 3$. M\angle R find $m\angle P$
   a) 45  b) 90
   c) 135  d) 270

70. Five Times of a number with seven gives 12 find the number?
   a) 1  b) 2
   c) 0  d) 13

71. A watch is bought for Rs.120 and sold for Rs.150 the profit percentage =
   a) 25%
   b) 30%
   c) 20%
   d) 32%

72. The inner radius of a circular ring is 15 cm width is 5 cm. Then the radius of the outer ring is
   a) 20
   b) 10
   c) 25
   d) 5

73. One more number than the previous one is called
   a) Predecessor
   b) Successor
   c) Zero
   d) The same number

74. $(-\frac{5}{9}) \times (-\frac{4}{9})$
   a) $\frac{20}{81}$
   b) $\frac{-20}{81}$
   c) $\frac{-4}{8}$
   d) $\frac{-5}{81}$

75. $\frac{4}{13} + \frac{4}{1.3} = $
   a) $\frac{44}{13}$
   b) $\frac{40}{13}$
   c) $\frac{40}{1.3}$
   d) $\frac{40}{13}$

76. $\frac{3}{8} + \frac{5}{12} = $
   a) $\frac{8}{12}$
   b) $\frac{8}{24}$
   c) $\frac{19}{24}$
   d) $\frac{15}{24}$

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Study on Attitude towards Math Edn, Teaching Profession & Acad Achiev in Math Edn
77. 1 quintal =
   a) 100 kg       b) 1000 g       c) 1000 kg       d) 10 kg
78. 1 Are =
   a) 10000 M²      b) 100 M²      c) 1000 M²      d) 100 M²
79. Area of the ring with usual notation is
   a) \(\pi(R+r)(R-r)\)  b) \(\pi R^2\)  c) \(\pi r^2\)  d) \(2\pi(R+r)\)
80. In a binary system the place value of a number is
   a) indices       b) Multiples      c) Sum       d) Subtracts
81. The greatest of 0, -5, 3, -1 is
   a) 0       b) -5       c) 3       d) -1
82. In a rectangle Diagonals
   a) are parallel       b) are perpendicular       c) do not join       d) bisect each other
83. To find the percentage of a fraction, if should be multiplied by
   a) 100       b) 1000       c) 10       d) 0
84. The least distance between any two points is
   a) line       b) line sesurent       c) ray       d) angle
85. The total number of prime numbers from 1 to 100
   a) 100       b) 90       c) 25       d) 20
86. The area of the rectangle if 140 M² the length is 28 m the breadth is
   a) 5       b) 7       c) 10       d) 12
87. \(a + b = 9\)  \((a - b) = 7\)  \(a^2 - b^2 = ?\)
   a) 2       b) 63       c) 16       d) 81
88. In Roman numerals, there is no symbol for
   a) 0       b) 10       c) 1       d) 2
89. The present system of curriculum is based on
   a) Spiral       b) Topic wise       c) Inductive       d) Synthetic
90. In Tamilnadu most of the Elementary Schools are .......... teacher schools
   a) Two       b) five       c) Three       d) four
91. The centre of the ............ project is lanner or students
   a) learning       b) teaching       c) activity       d) School
92. The characteristics of the child centred approach is the teacher should be acting as
   a) Facilitator       b) Trainer       c) Learner       d) Guide
93. The basic of Learning by doing ............... learning
   a) Self       b) Thro others       c) thro teacher       d) Two peer
94. The learning is permanent if he learns thro
   a) Concrete object       b) concept       c) Book       d) teacher
95. Test is used to find the position of a student in a lesson
   a) Diagnostic b) achievement c) unit d) Revision

96. Activities of the Mathematics club is
   a) To given Home work
   b) To reinforce the student’s achievement
   c) To give overburden to the students
   d) To lead more expensive

97. To teach hard spot in Mathematics it
   a) may be taught as a simple concept
   b) It may be made the students to memorize the formula
   c) May be taught by drill
   d) May be taught as small concepts

98. ........ is an evidence for achievement the competency
   a) knowledge development b) spiritual development
   c) physical development d) Mental development

99. I, C, X may be subtracted from the next ........ higher numerals
   a) Two b) Three c) Four d) One

100. Number is formed by which of the following concepts
    a) (0, 1)
    b) Place value & face value
    c) Bigger number and smaller number
    d) place value & name

101. The best teaching Aid for a Mathematics teacher is
     a) Black board b) Notes of lesson c) text book d) Hard book

102. “I” feeling is removed in which method?
     a) Activity oriented method b) participation method
     c) Observation method d) Simulation method

103. What is the first step in 23 + 14 =
     a) Subtract one from two  b) Add four with three
     c) subtract 3 from 4   d) Subtract 1 from 4

104. I am a number even if 9 am multiplied by a number, I am unchanged. Find the number by which I am multiplied?
     a) 0 b) 1 c) The same number d) successor

105. 3/3 =
     a) 1 b) 3 c) 0 d) 1/3

106. Twice of 125 is
     a) 125 x 2 b) 125 + 2 c) 2 + 125  d) 125 x 125

107. The length of a playground is 70 M 50 cm. The breadth is 15m 50cm. The difference in length is greater than the breadth by
     a) 45 m  b) 55 m c) 65 m d) 35 m

108. 1 million = ............ lakhs
     a) 10 b) 100 c) 1000 d) 1
109. L cm of 8, 4 is
   a) 8 b) 4 c) 16 d) 32

110. 2 x 2 x 2 x 2 x 2 can be written in the indices form as
   a) $2^5$ b) $2^6$ c) $2^{32}$ d) $2^4$

111. 1/7 & 5/7 are ................. fractions
   a) Homogeneous b) Heterogeneous c) Equivalent d) Mixer

112. (-6) - (-2) =
   a) -8 b) - 4 c) +8 d) -6

113. 5 xy is of the same kind as ..............
   a) 5 x b) 5 y c) -5 xy d) $x^2$

114. In 16 x, x means
   a) Constant b) variable c) term d) coefficient

115. Which is greater among 0.6 & 0.06
   a) 0.6 b) 0.06 c) Equal d) can't compare

116. The middle term of the score arranged in any order is_
   a) mean b) mode c) median d) SD

117. 4/10 + 8/100 + 9/1000 =
   a) 0.489 b) 4.89 c) 48.9 d) 489

118. The length, breadth and height of the room is 10 m, 8 m, and 3 m respectively. Find the area of Four walls
   a) 240 M$^2$ b) 108 M$^2$ c) 78 M$^2$ d) 54 M$^2$

119. 134.345 + 11.12 + 25.3 =
   a) 170.448 b) 170.765 c) 170.360 d) 170.495

120. The GCD and LCM of 3, 5
   a) 1, 15 b) 3,5 c) 1,5 d) 1,3
Annexure VI

ACHIEVEMENT TEST IN MATHEMATICS EDUCATION
(After Item Analysis)

1. The necessary reinforcement for Natural learning of a child
   a) Minimum level of training b) Punishment for the wrong doings
      c) No fear for the teacher while he learns d) using joyful learning

2. Which country introduced Zero first?
   a) Arabian b) Indian c) Roman d) American

3. New Education policy is developed during
   a) 1986 b) 1987 c) 1981 d) 1983

4. How many competencies are included in the primary level Mathematics?
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7. In a Multi grade situation a teacher should handle
   a) only one class b) more than a class c) More than 3 classes
      d) at least Two class

8. Which develops the expected learning out come?
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9. Mathematics laws are accepted only if ...............%. are correct
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    a) irrational number b) Decimal number
       c) Complex number d) Rational number

14. 1 Hectare =
    a) 10,000 M\(^2\) b) 1,000,000 M\(^2\) c) 1,000 M\(^2\)
       d) 10,00,000 M\(^2\)

15. What is the 8th day from Thursday?
    a) Thursday b) Friday c) Saturday d) Sunday
16. Distance and speed are
   a) Direct variation
   b) Inverse variation
   c) Both a & b
   d) Compound variations

17. If $4x = 9y$ then $x : y = ............$
   a) 9:4
   b) 4:9
   c) 2:3
   d) 3:2

18. $(-2/3) \times (5/7) \times (3/15) = ?$
   a) -2/21
   b) -5/21
   c) -3/21
   d) -15/21

19. Convert 2/3 in to percentage
   a) 66.66%
   b) 33.33%
   C) 60%
   d) 62%

20. In a binary system the place value of a number is
   a) indices
   b) Multiples
   c) Sum
   d) Subtracts

21. The area of the rectangle if 140 M² the length is 28 m the breadth is
   a) 5
   b) 7
   c) 10
   d) 12

22. I, C, X may be subtracted from the next .......... higher numerals
   a) Two
   b) Three
   c) Four
   d) One

23. Number is formed by which of the following concepts
   a) (0, 1)
   b) Place value & face value
   c) Bigger number and smaller number
   d) place value & name

24. $2 \times 2 \times 2 \times 2 \times 2$ can be written in the indices form as
   a) 25
   b) 26
   c) 232
   d) 24

25. The length, breadth and height of the room is 10 m, 8 m, and 3 m respectively. Find
   the area of Four walls
   a) 240 M²
   b) 108 M²
   c) 78 M²
   d) 54 M²