Welcome

TEACHER TRAINING PROGRAM X- MATHEMATICS

PROF.B.G.MAPARI

CONVENOR OF BOARD OF STUDIES IN MATHEMATICS

MAHARASHTRA STATE SECONDARY AND HIGHER SECONDARY BOARD PUNE

WARM WELCOME FROM

MAPARI B.G.

CONVENOR

BOARD OF STUDIES IN MATHEMATICS

MAHARASHTRA STATE SECONDARY& HIGHER SECONDARY EDUCATION BOARD.

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MATHEMATICS
STANDARD X

- NEW CURRICULUM
- NEW SYLLABUS
- NEW TEXTBOOK
- NEW EVALUTION
- NEW VISION

TEACHING MATHEMATICS

- The main goal of Mathematics education in school is the mathematisation of the child's thinking. clarity of thought &pursuing assumptions to logical conclusion in central to the mathematical enterprise. There are many ways of thinking one learns in mathematics is an ability to handle abstractions and approach of problem solving.

Universalisation of schooling has important implications for mathematics curriculum. Mathematics is compulsory subject of study, access to quality mathematics education is every child's right. We want mathematics education that is affordable to every child & at the same time ,enjoyable. With many time children existing the system after class VIII, mathematics education at the elementary stage should help children prepare for challenges they face further in life.

VISION

- In our vision school mathematics takes place in situation where
- (1)children learn to enjoy mathematics.
- (2) children learn important mathematics.
- (3)Mathematics is a part of children's life experience which they talk about.
- (4)Children pose & solve meaningful problems.
- (5)Children use abstractions to perceive relationship& structure.
- (6)Children understand the basic structure of mathematics .
- (7) Teacher expect to engage every child in class.

- On other hand mathematics education in our school is beset with problems. We identify core areas of concern:
- (a)Sense of fear & failure regarding mathematics among majority of children
- (b)A curriculum that disappoints both a talented minority as well as the non participating majority at the same time
- (c)Crude method of assessment that encourage perception of mathematics as mechanical computation &
- (d)Lack of teacher preparation & support in teaching of mathematics. system problems further aggravate the situation in the sense that the structures of social discrimination get reflected in mathematics education as well. Especially worth mentioning in this regard is the gender dimension ,Leading to stereotype that boys are better at Mathematics than girls.

RECOMMENDETION

- (a) Shifting focus of Mathematics education from achieving “narrow” goal to “higher” goal.
- (b)Engaging every child with sense of success, while same time offering conceptual challenges to the emerging Mathematician.
- (c)Changing mode of assessment to examine student’s mathematisation ability rather than procedural knowledge.
- (d)Enriching teacher with variety of mathematical resources.

FOCUS

- The shift in focus we propose is from mathematical content to mathematical learning environment ,where a whole range of processes take procedure: formal problem solving, use of heuristics, estimation &approximation, optimisation, use of patterns, visualisation, representation, reasoning of proof making connection, giving importance to these processes also helps in removing fear of Mathematics from children's mind.

- A crucial implication of such shift lies in offering multiplicity of approaches, procedures, solutions. We this as crucial liberating school mathematics from the tyranny of the one right answer ,found by applying one algorithm taught. Such learning environment invite participation, engage children,& offer sense of success.
- In terms of assessment we recommend that Board examinations be restructured, so that the minimum eligibility for a state certificate be numeracy, reducing the instant of failure in Mathematics. On the other hand, at higher end, we recommend that examination be more challenging, evaluating conceptual understanding & competence.

- We note that great deal needs to be done towards preparing teacher for mathematics education. A large treasury of resource material, which teacher can access freely as well as contribute to, is badly needed. Networking of school teachers among themselves as well as university teachers will help.

- When it come to curricular choices, we recommend moving away from the current structure to tall & spindly education(where one concept builds on another, culminating in university Mathematics), to a broader & well-rounded structure with many topics “closer to the ground”. If accommodating process like geometric visualisation can only be done by reducing content, we suggest that content be reduced rather than compromise on the former. Moreover we suggest principle of postponement: in general, if theme can be offered with better motivation & application at a later stage, wait for introducing it at that stage rather than go for technical preparation without due motivation.

- Our vision of excellent mathematical education is based on the twin premises that all students can learn Mathematics & that all students need to learn Mathematics. It is therefore imperative that we offer Mathematics education of the very highest quality to all children.