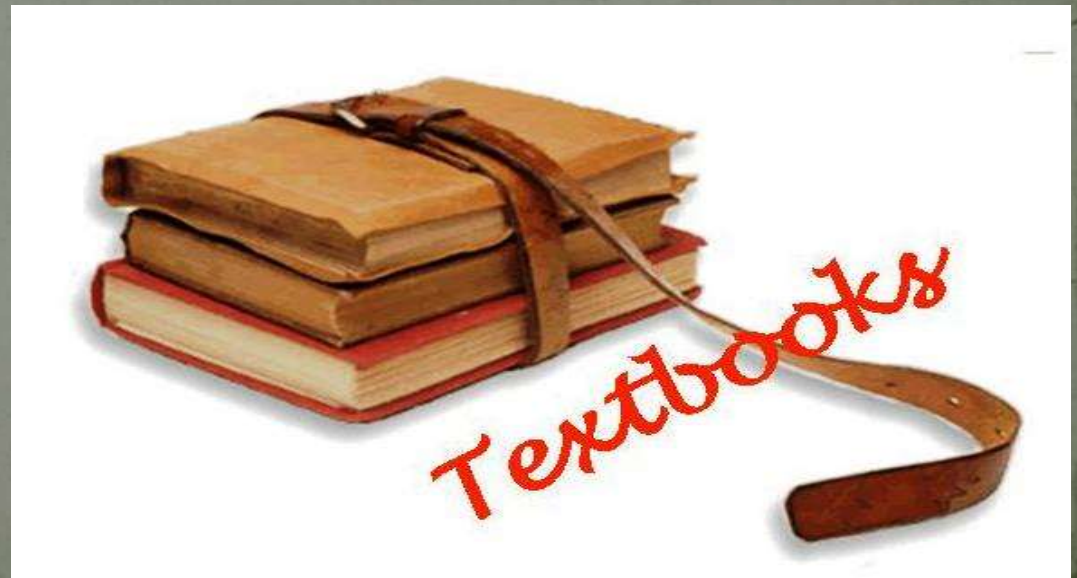




Text books Need, Importance and Quality

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Introduction

- The question of textbook is the most important and urgent one for our country. Energetic on state and national basis is required to progress the preparation of high quality school textbooks-

Kothari

- The textbook is probably the most important tool in the country.

Bars and Burton

Need of the Mathematics Textbook

A mathematics textbook is needed for the following reasons:

1. A textbook is written according to the syllabus and gives the outline of the course. Therefore it helps the teacher to decide about the limits and depth of the content to be presented to the students while teaching.
2. A textbook provides insight to the teacher in planning the lesson, in selecting the problems to be worked out, the methods of teaching to be adopted and the teaching aids to be used.
3. The textbook is written by experienced teachers of mathematics. By using textbooks, a teacher of mathematics, especially a beginner, can avail the experience and expertise of the authors.
4. The logical and psychological sequence followed in a textbook helps the teacher in presenting the subject matter in an orderly and systematic sequence.

5. A good textbook presents a variety of worked out examples on each topic. This helps the teacher in getting acquainted with different types of problems and the methods to solve them. This gives him more self-confidence while teaching.

6. The well-graded exercises provided after every topic in the textbook help the teacher in assigning suitable homework and assignment to the students to suit their intellectual capacity.

7. A textbook saves a lot of time for the teacher as he need not spend time to prepare problems and the solutions as they are readily available in the textbooks.

8. A mathematics textbook provides the teacher with the basic information considered essential in attaining the objectives of mathematics education and this helps the teacher to plan appropriate learning experiences.

Importance of the textbook in Mathematics

Usefulness to the teacher:

1. It provides suitable subject matter and guideline regarding the syllabus of the subject. So the teacher neglects no portion of the syllabus and does not waste time on relevant details.
2. The text books help the teacher planning his lessons, deciding his method of teaching and preparing suitable aids.
3. It provides certain well illustrated examples about a topic.
4. Text books are usually written by the well experienced teachers and subject experts. A teacher can make use of their services by making use of their Text-books.

Usefulness to the students:

1. They provide the students with well graded exercises for drill, revision and review.
2. Text books help in pre-preparation. At their home, students may get themselves prepared for studying the next day lesson.
3. Text-books help in doing self-learning, self-study and helping the students to acquire the habit of independent learning.
4. Text-books are also quite useful in case a student has to remain absent from class due to one (or) the other reason.

Characteristics of Good Text-books

1. It presents the subject-matter strictly in accordance with the latest-syllabus.
2. It is written by experienced teachers.
3. It should contain well graded problems for revision.
4. It should be according to the aims and objectives of teaching Mathematics in that particular class.
5. The new development and invention in the field of Mathematics should find their place in the text-book.
6. The psychological as well as logical order should be followed in the organization of the subject matter of the text-book.
7. All the definitions, concepts and principles given in the text book should be as clear and definite as possible.
8. It should make use of the national and international standard terminology in terms of symbols, formulae and definitions.
9. The principle “from simple to complex” should be followed in the arrangement of the topics of the text-book.
10. It should meet the abilities, experience and interest of the students for which it has been written. It should cater to the needs of all types of students – slow, average and fast learners.

What should be the qualities of the textbook?

Physical features:

- 1. The paper used in the textbook should be of superior quality.
- 2. It should have quality printing and the binding of the book should be strong and durable.
- 3. The printing should be bold and easily readable.
- 4. It should have an appealing and attractive cover page.

Author:

- 1. It should be written by qualified, experienced and competent teachers of mathematics or a committee of experts constituted by the state government.
- 2. The author should be familiar with the changing concepts and techniques of teaching.

Content:

1. The textbook should be written according to prescribed syllabus and every aspect of the Syllabus should be adequately covered.
2. It should be in accordance with the aims and objective of teaching mathematics in that Particular class.
3. The content presented in the textbook should be accurate and up-to-date. It should include the recent developments in the mathematics relating to the content dealt with.
4. The contents of the textbook should have a direct, practical and social utility value.
5. Oral mathematics should find its due place in the textbook.
6. The answers given at the end of each section should be correct.
7. It should satisfy the demands of examination.

Organisation and Presentation:

1. It should provide for individual differences. It should meet the needs of students of varying abilities, interests and attitudes.
2. There should be sufficient provision for revision, practice and review.
3. The textbook should relate the classroom learning to the real life needs and the physical and social environments of the learners.
4. The subject matter in the textbook should be carefully organized with reference to the logical as well as psychological considerations which make teaching effective.
5. The content should be organized in the increasing order of difficulty. Principle of vertical correlation should be followed to relate the present knowledge with the past and future.
6. The presentation of the content should foster right attitude towards self-study and self-reliance among pupils by suggesting project work, field work and laboratory work.
7. It should facilitate the use of analytic, synthetic, inductive deductive, problem solving and heuristic approaches to teaching.
8. The textbook should stimulate the initiative and originality of the students.
9. It should offer suggestions to improve study habits.

Language:

1. The language used in the textbook should be simple and easily understandable and within the grasp of the pupils.
2. The style and vocabulary used should be suitable to the age group of students for whom the book is written.
3. The terms and symbols used must be those which are popular and internationally accepted.
4. All terms and concepts and principles used in the text should be clearly and accurately stated and defined.

- 1. The presentation of the subject matter must be attractive and interesting with appropriate illustrations in terms of pictures, diagrams and figures.**
- 2. The diagrams used in the textbook should be easily recognizable and geometric constructions should be in proportion with the measurements prescribed by the problem.**
- 3. The illustrations should be accurate, clear and appropriate.**
- 4. It should provide adequate opportunities to motivate the students to solve problems by Presenting adequate number of worked out problems and problems constructed from daily life. Situations requiring the student to apply mathematical principles and formulae for their Solution.**
- 5. The text should contain some difficult problems or exercises to challenge the mathematically Gifted students.**
- 6. There should be well graded exercises give at the end of every topic to satisfy the needs of all Calibres.**

General:

1. The textbook should be of latest edition with necessary modifications.
2. The book should be of moderately priced and readily available in the market.

Thank You
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