The Andhra Pradesh State Council of Higher Education (APSCHE) conducts ICET (Integrated Common Entrance Test) for admission into M.C.A and M.B.A courses (Full-Time/Part-Time/Evening/Distance Mode) at all universities in the state of Andhra Pradesh including their affiliated colleges for every year. The Candidate seeking admission into M.B.A course should have passed a Bachelor’s Degree examination of not less than three years duration from any recognized university or equivalent thereof besides passing S.S.C or equivalent examination with mathematics as one of the subjects and the Candidate seeking admission into M.C.A course should have passed a Bachelor’s Degree examination of not less than three years duration in any discipline with mathematics at 10+2 level or should have passed a Bachelor’s Degree examination of not less than three years duration in any discipline with mathematics as one of the subjects besides other eligibility criteria such as local/Non local, Nationality, qualifying marks etc. (ICET, 2008). Therefore, it reflects that the non-formal stream students those who took admission through ET (Eligibility Test) and completed their undergraduate programme from Dr.B.R.Ambedkar Open University are not eligible to take admission into M.B.A or M.C.A Courses.

The Programme Structure of the University is unconventional, flexible and free from rigidities of the traditional kind. The first year programme consists of four Foundations Courses which are common and compulsory for all the students admitted to the Undergraduate Programmes of B.A., B.Com., and B.Sc., They are:

1. The Foundation Course in English Language
2. The Foundation Course in Modern Indian Language (Telugu/Urdu/Hindi) or Functional English
3. The Foundation Course in Science & Technology
4. The Foundation Course in Social Sciences

The Foundation Courses in English and Modern Indian Languages (Telugu/Urdu/Hindi) help the candidates to develop communication skills while the Foundation Course in Science & Technology and Social Sciences help the students understand the basic concepts in science and society. But the Foundation Course in Mathematics, which puts those graduated from an Open University, through non-
formal stream (without schooling or with lower level educational qualification below SSC), on par with those graduated from a Conventional University, as far as the minimum level of mathematical knowledge and skills is concerned,

- is essential in daily life activities,
- is essential in any career, and
- is mandatory to pursue Academic Programmes in computers and management after graduation was not included in the first year.

Any student at the time of admission into any undergraduate programme in any conventional university possesses certain mathematical knowledge and skills learnt up to SSC level at least. Besides these graduates, the remaining graduates, with or without mathematics as one of the optional subjects at undergraduate level, must have studied mathematics at least up to +2 level. So, it is expected by the public in general and employers in particular the minimum mathematical abilities (of SSC level) from the graduates.

To meet the deficiency of Foundation Course in Mathematics at Undergraduate level the present study to develop a Foundation Course in Mathematics for Distance Learners of Open University was undertaken. This course was prepared for the first year undergraduate students of Dr. B. R. Ambedkar Open University.

The material has been dividing into five blocks.

**BLOCK I: Number System**

**BLOCK II: Algebra**

**BLOCK III: Geometry & Trigonometry**

**BLOCK IV: Calculus**

**BLOCK V: Statistics & Probability**

*Introduction*

The study has been conducted with the main purpose of developing course content on ‘Foundation Course in Mathematics for Distance Learners of Open University’ which can be utilized as instructional material for first year undergraduate students of Dr. B. R. Ambedkar Open University. Details regarding the nature of the course content developed and details of the procedures adopted in its development have
been given in Volume I of the thesis. The course content is its final form is given in the present volume.

As has been already described in volume I of the thesis, validation of the course content and an experiment have been conducted for comparing effectiveness of the course content. For structuring the lectures, the comparison becomes meaningful, five blocks have been developed corresponding to the twenty units of the course. These five blocks which have been used as learning material for students in the contact programme are presented in the present volume.

Foundation Course in Mathematics for Distance Learners of an Open University, for the first year undergraduate students’ of Dr. B. R. Ambedkar Open University.

*About the learning material*

Using this material course you can learn all that you need to know about ‘Foundation Course in Mathematics’. The material has been dividing into five blocks.

*BLOCK I: Number System*

*BLOCK II: Algebra*

*BLOCK III: Geometry & Trigonometry*

*BLOCK IV: Calculus*

*BLOCK V: Statistics & Probability*

1. All the topics are dealt with mainly in the context of the importance of mathematics in daily life.

2. The main purpose of the course is to help you prepare for higher mathematics learning and to apply the learned mathematics concepts in daily life situations.

3. It helps the non-mathematics and non-formal stream students in learning mathematics and also provides extra information for mathematics and formal stream students.
4. You may think that this is just another text book on ‘Foundation Course in Mathematics’. No, it is not just a text-book.

- By reading this course, carefully you learn about ‘Foundation Course in Mathematics’ yourself. You do not require a lecture to teach you.
- As every one of you a copy of the course, you would read and learn at your own speed.
- When a teacher teaches you or when you try to learn by reading text books, it is possible that after much has been covered you relax that you have not understand anything. But, such a situation never arises in this course. As after each step you come to know whether you have understood the point or not.

5. The course contains a number of small sections are called units. Each unit presents some information includes, a question which you are to answer in the space provided. The correct answer to each question is given at end of content presentation under the heading Answers to check your progress.

6. Although there are question and answers the course is ‘not a test’. Through question and answers the material has been organized in logical steps so that it is easy for you to learn by yourself.

**How to learn using this course**

1. Read the course at your own speed.

2. You will find that the concepts are presented in simple language. Read each concept carefully and thoroughly so that you properly understand the question asked in it.

3. While reading the course, you will come across word or words understand. Study these words carefully as they may help you in answering the questions that come after words.
4. For the questions given each unit write your answers in the space provided. Do not write anything in the course.

5. Your answer should be brief and to the point.

6. Since you have to answer a question in every unit you would naturally be interested in knowing whether your answer is correct or not. Therefore, the correct answer is given immediately after the unit.

7. After writing your answer, you move then and compare your answer with the correct answers, your will find that your answer right almost all the time. If your answer is wrong, read the unit again and understand the why you are wrong and then go to the next unit.

Now you may turn the page and start the reading the course.

Foundation Course in Mathematics for Distance Learners of an Open University for the first year undergraduate students’ of Dr. B. R. Ambedkar Open University.

**BLOCK I: Number System, 4 units of 100 pages**

**BLOCK II: Algebra, 4 units of 126 pages**

**BLOCK III: Geometry & Trigonometry, 4 units of 164 pages**

**BLOCK IV: Calculus, 4 units of 76 pages**

**BLOCK V: Statistics & Probability, 4 units of 103 pages**
**About this Learning Material**

You will be given course of five blocks about Foundation Course in Mathematics for Distance Learners of Open University, for the first year under graduate students’ of Dr. B. R. Ambedkar Open University. These blocks correspond to the five instructional units of the course ‘Foundation Course in Mathematics for Distance Learners of Open University.’

The five blocks are:

- **BLOCK I: Number System**
- **BLOCK II: Algebra**
- **BLOCK III: Geometry & Trigonometry**
- **BLOCK IV: Calculus**
- **BLOCK V: Statistics & Probability**

All these topics are dealt with mainly, in the context of daily usage of mathematics.

Note that this material is additional course at foundation level for under graduate open distance learners. This material meant to help you remember what you learn through the self-instructional in an organized manner.