DEPARTMENT OF MATHEMATICS AND STATISTICS

SYLLABUS AND COURSE PLAN
(Academic year 2022-23)

Course name   : Basic Mathematics for Competitive Examinations

Course code   :
Course fee   **:** 500

Duration   **:** 30Hrs (To be engaged as offline sessions after routine classes of   regular programmes on week days and as special offline/online sessions)
Intake   : 25 Students

COURSE OBJECTIVE/SCOPE:

- This course deals with the nuts and bolts of Mathematics. Students will become equipped with a solid foundation of the mathematical tools required to solve more complex mathematical problems. This course would benefit any student (regardless of science background) who requires help understanding basic math skills in order to pass a competitive examination, test, a course, a specific job, or a review or brush up on math skills.
- Syllabus will focus on set theory, basics of number system, , the various forms of numbers such as fractions, decimals, ratios, proportions . In addition this course will focus on logical reasoning also.

COURSE OUTCOMES:

1. Students will demonstrate knowledge of the basic concepts of set theory.
2. Students will understand numbers, way of representing numbers, relationships among numbers, and number systems.
3. Students will capable of solving logical problems that appear in competitive examinations
4. Students will apply ratio and proportion to problems in real life
5. Students will demonstrate the ability to solve financial math problems.
6. Students will communicate their mathematical thinking coherently and clearly to students, peers, and others.

SYLLABUS OF PROPOSED COURSE:

Module I : Set Theory & Number system-   10 hours

Set theory: Modern theory in mathematics, Definition, elements and types of sets, operations on sets and Cartesian product of two sets.
Number system, Basic operation Divisibility techniques, BODMAS , Simplifications, square and square roots, Quadratic Equations, geometrical shapes-areas and parameters .

Module II : Logical reasoning-   10 hours

Problems on blood relations, Clock and Calendar, Direction problems, Seating arrangements, Coding-decoding,Missing numbers, Missing patterns.

Module III : Ratio and Proportion - 10 hours

Averages, Ratio and proportion, Age relationships, Simple and compound interests, Profit and loss, Time and distance, Work and time, work and wages

EVALUATION:

1. Course end examination-(Objective, short answer and essays-2hr duration)-50 marks
2. Assignment/ Continuous Evaluation-30 mark
3. Theory class attendance-20

Criterion for issuing certificate: separate minimum of 40% is required in items 1,2,3 of the above-mentioned components

CORDINATOR   : **Nasreen A**

TEACHERS IN CHARGE   : **Fahad Ali P H (8547100269)**

                                            : **Sabeena P A (9746310200)**

                                            : **Keerthana S V   (6235447071)**