Govt. Cadet College Muzaffarabad

Entry Test Syllabus Mathematics for Class-8th

A. Syllabus Aim

The Mathematics syllabus for the entry test is designed to provide candidates a target of preparation to acquire minimum of the foundation of Mathematics before getting admission in CCM. The foundation requires a balance between knowledge, understanding and skills to enable students to become effective learners to continue their educational journey.

B. Assessment Objectives.

Candidates should be able to:

- Recognize the appropriate mathematical procedures for a given situation.
- Perform calculation by suitable methods without calculator.
- Understand system of measurement in everyday use and make use of them in the solution of problems.
- Estimate, approximate and work to degrees of accuracy appropriate to the context and convert between equivalent numerical forms.
- Organize, interpret and present information accurately in written tabular, graphical and diagrammatic forms.
- Use mathematical instrument to measure and to draw figures in given situation.
- Interpret, transform and make appropriate use of mathematical statements expressed in words or symbols.
- Analyze a problem, select a suitable strategy and apply appropriate technique to obtain its solution.
- Study and draw graphs and infer results.

C. Syllabus:

Questions in the entry test shall be concept based, appropriate for class 7 students.

1. Arithmetic:

- Number and operation
- Fraction and simplification
- Ratio and proportion
- Percentage
- Profit, loss, tax and discount etc.
- Variations – direct and inverse
- Time distance and speed
- Conversion and units.

2. Sets:

- Types of sets
- Forms of sets, descriptive, tabular and set builder and their usage in problem solving.
- Operation and properties of set – union, intersection, difference and complement.
- Laws of union, intersection and complement.
- Venn diagram

3. Algebra:

- Expressions, equations and exponents.
- Forming expression and equations from daily problems.

- Substitution of values and manipulation of the subject in equation.
- Algebraic fractions and operations between them.
- Graph of linear equation.

4. **Mensuration:**
    - Area, perimeter and volume of different figures/ objects
    - Similar figures and their areas.
    - Pythagoras theorem.
    - Polygons.
5. **Geometric properties and practical geometry:**
    - Construction of plane figures.
    - Tangent, sector and chord etc.
    - Alternate and corresponding angles.
6. **Information Handling:**
    - Frequency distribution.
    - Study and drawing to line graph, Bar graph and Pi graph.
    - Mean, Median and Mode of ungroup data.

Note: Use of calculator, set square and protractor is not allowed.