

Common Aptitude Test

Syllabus : Mathematics (Grade : 5) (2012-13)

Objectives:-

1. To ensure a complete understanding of the basic concepts of each topic taught in the class.
2. To lead the pupils to arrive at conclusion and generalisation through concrete exercises and activities.
3. To improve the power to think and work in an organised way.
4. To develop an attitude of intellectual honesty among the students.

Grade 5 : Level Description

The proficiency strands : Understanding, fluency, problem solving and reasoning are an integral part of mathematics content across the three content strands:

- i) Number and Algebra
- ii) Measurement and Geometry
- iii) Statistics.

Content Description

1. Number and place value
 - a) Investigate the conditions required for a number to be odd or even and identify odd and even numbers.
 - b) Recognise, represent and order numbers upto at least 10 crores and 100 million place.
 - Write number in words & figures.
 - Put numbers in order.
 - Comparing numbers
 - Recognise the place value and face value of the given digits in a number upto 9 digits.
 - c) Apply place value to partition, rearrange & regroup number
 - Extend the numeric pattern (Expanded form) and convert in standard form.
 - Formation of the greatest and smallest numbers.
 - d) Recognise the relationship between Indian and International place value system.
2. Recognise, describe and represent Roman Numerals.
 - Rules to write Roman Numerals.
 - Recognise and represent numbers upto 100 using Roman Numerals.
3. Operations on numbers
 - a) Recall addition facts for single-digit numbers to develop increasingly efficient mental strategies for computation.
 - Understanding the properties of addition
 - Addition of numbers upto 7-digits without and with carryover.
 - Solving simple word problems useful in our day to day life

- b) Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies.
- Multiplication – skill builders
(Multiplication of 4 digit Numbers by 2 digits
(Multiplication of 2 and 3 digit Numbers by 2 digit numbers)
 - Multiply numbers ending in zeroes.
 - Solving simple word problems useful in our day to day life.
- c) Recall subtraction facts for single digit numbers to develop increasingly efficient mental strategies for computation.
- Understanding the properties of subtraction
 - Subtraction of numbers upto 7 digit without and with borrowing.
 - Solving simple word problems useful in our day to day life.
- d) Represent and solve problems involving division.
- Understanding division by repeated subtraction.
 - Simple division
 - Solve problems involving division by a 1 digit or 2 digit number including those that result in a remainder with the rule of verification
 - Use efficient mental and written strategies and apply appropriate digital technologies to solve problems with integrated operations. (addition and subtraction only)

4. Fractions

- Model and represent unit fractions including $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$ and with mixed numerals and their multiples to complete a whole.
- Investigate “Types of Fractions” and “Equivalent Fractions” used in context.
- Compare and order common unit fractions, locate and represent them. (only like fractions)

5. Money and financial mathematics

- Recognition of coins, currency notes of different denominations.
- Represent money values in multiple ways and count the change required for simple transactions.
- Money : Count coins and notes
- Money : Purchases – Do you have enough money?
- Money : Conversion – i) Rupees to paise
ii) Paise to Rupees
- Solve problems involving purchases and the calculation of change to the nearest rupee and paise with and without digital technologies.
- Create simple financial plans. (Bills)

6. Measurement and Geometry

- Identification of standard units. (highest / standard / lowest units)
 - Measure, order and compare objects using familiar metric units of length, mass and capacity.
 - Addition and subtraction of length, weight and capacity.
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- Calculate the perimeter of irregular and regular figures (square and rectangle) using familiar metric units.

b) **Geometry**

- Understanding different 2-D and 3-D shapes (simple recognition type shapes)
- Open and closed figures.
- Differentiating line, line segment and ray and learn their constructions.

7. Measurement of Time

- Investigate the relation between days in weeks, months and year.
- Read and write time
- Identify and use of a.m. and p.m. to represent time.
- Compare 12 hour and 24 hour time system and convert appropriately them
- Use a.m and p.m notation and solve simple time duration.
- Read and explore the calendar and investigate the basic facts related to years, months, weeks & days.

8. Patterns and data handling

- Representing information through pictographs.
- Interpreting pictograph.
- Missing number series.