

AMT-01

ASSIGNMENT BOOKLET

**Bachelor Degree Programme
&
Certificate Programme in Teaching of Primary School Mathematics
Teaching of Primary School Mathematics
(Valid from 1st January, 2026 to 31st December, 2026)**



**School of Sciences
Indira Gandhi National Open University
Maidan Garhi, New Delhi
(For January 2026 cycle)**

Dear Student,

Please read the section on assignments in the Programme Guide for elective Courses that we sent you after your enrolment. A weightage of 20%, as you are aware, has been earmarked for continuous evaluation, **which would consist of one tutor-marked assignment** for this course. The assignment is in this booklet.

Instructions for Formatting Your Assignments

Before attempting the assignment please read the following instructions carefully.

- 1) On top of the first page of your answer sheet, please write the details exactly in the following format:

ROLL NO. :.....
NAME :.....
ADDRESS :.....
.....
.....

COURSE CODE :
COURSE TITLE :
STUDY CENTRE : DATE.....

PLEASE FOLLOW THE ABOVE FORMAT STRICTLY TO FACILITATE EVALUATION AND TO AVOID DELAY.

- 2) Use only foolscap size writing paper (but not of very thin variety) for writing your answers.
- 3) Leave a 4 cm margin on the left, top and bottom of your answer sheet.
- 4) Your answers should be precise.
- 5) While solving problems, clearly indicate which part of which question is being solved.
- 6) This assignment is valid only upto December 31, 2026. If you have failed in this assignment or fail to submit it by December 30, 2026, then you need to get the assignment for the next cycle (For 2027) and submit it as per the instructions given in that assignment.
- 7) It is compulsory to submit the assignment before filling in the exam form.

We strongly suggest that you retain a copy of your answer sheets.

We wish you good luck.

Assignment

Course Code: AMT-01
Assignment Code: AMT-01/TMA/2026
Maximum Marks: 100

- 1)
 - a) Write down three *hierarchical chains* in Mathematics. You can look for examples related to number operations, geometry and algebra. (3)
 - b) From your experience of mathematics, give at least one example each of the use of inductive and deductive logic to prove mathematical statements. (2)
 - c) Which of the following statements do you think are true about young children? (5)
Indicate with a "T" for True and "F" for False. Justify your answer.
 - i) Children know more than they can articulate.
 - ii) Children know no mathematics when they enter formal school.
 - iii) The ability to count means the ability to recite number names in a sequence.
 - iv) When children use the correct word to express a concept, they know the concept.
 - v) Pre-operational thinking is characteristic of the primary school child.
- 2)
 - a) Choose a topic in measurement, and design two activities in your context to help your pupils explore and learn the concept. Try these activities out on few children, and write down the ways in which they promote children's mathematical thinking. (5)
 - b) Do you agree with the necessity of the sequencing E-L-P-S for learning? If not, then what do you suggest as an alternative path for understanding and internalizing mathematical concept? (3)
 - c) A class-3 child was asked to add $\frac{1}{4}$ and $\frac{1}{5}$. She wrote $\frac{2}{9}$. Why do you feel this happened? How would you help her to sort out the error? (2)
- 3)
 - a) When do you think word problems should be introduced- before children master the formal algorithm, or after? What are reasons for your choice? (5)
 - b) Write down a game to teach children for : (5)
 - i) multiplication
 - ii) what a circle is,
 - iii) estimation skills.

Also tell what do you expect from the children to know before you try to teach them these concepts.
- 4)
 - a) Analyse the importance of games in reducing Mathematics anxiety at the Primary level. Discuss the teacher's role in planning, organising, and evaluating game based activities in mathematics teaching. (5)
 - b) Explain the concept of a teaching plan. Discuss the role of a teaching plan in making teaching-learning meaningful using an activity based at the primary level with suitable practical examples. Also, describe how evaluation and assessment can be planned in advance to assess students understanding of real-life mathematical situations. (5)

- 5) a) Define seriation. Describe how it helps children understand mathematical ideas such as order, comparison, sequencing, number concept, and measurement in real-life situations. (6)
- b) Write down an activity, each different from those given in the blocks, to help children understand that (4)
- i) multiplication by 1 does not change the number.
- ii) multiplication is repeated addition.
- iii) division is repeated subtraction.
- iv) division by 0 is not possible.
- 6) a) Illustrate the use of each of the following in learning the concept of "division" (4)
- i) a group activity
- ii) daily life situations.
- b) What activities or games would you plan to help students practice estimating differences of numbers. (3)
- c) How would you adopt an outdoor skip counting game for mixed ability learners. (3)
- 7) a) What is meant by an algorithm in mathematics? Explain its importance at the primary level. Why is it important to teach multiplication algorithms systematically to primary school students? Explain common errors made by children while using the multiplication algorithm and how a teacher can correct them. (5)
- b) Design an activity using situations of profit and loss to help students understand addition and subtraction of signed numbers. What mathematical concepts will students learn through this activity? Design a board game that uses forward and backward steps to represent positive and negative numbers. How will this game help students understand the rules of signed number operations? What properties of signed numbers can be learned through real-life activities? (5)
- 8) a) How would you help children arrive at the formula that relates (4)
- i) grams to kilograms
- ii) paise to rupees
- b) Explain how the expression $6 + 4 = 10$ can be represented through different verbal statements and situations familiar to children. Explain the statement : "Understanding the context of a problem is more important than identifying key words". Support your answer with examples. (4)
- c) Design an activity to help children understand the meaning of the numerator and denominator. (2)
- 9) a) Using a number line, demonstrate that $\frac{2}{4}$ and $\frac{1}{2}$ occupy the same position. Do students easily accept this idea? Explain their responses. Through a sharing activity using chocolates or fruits, show that $\frac{3}{6}$ and $\frac{1}{2}$ represent the same quantity. How do students react to this real-life example? (4)
- b) What challenges do students face when learning equivalence of fractions, and how can activity based teaching help overcome them. (2)

- c) Suggest a classroom game that helps students practice multiplication of whole numbers with fractions. Describe a teaching strategy to address the misconception that multiplication always makes numbers larger. (4)
- 10) a) How would you use a 100-grid or decimal square to explain the multiplication 0.2×0.3 ? Also, how would you introduce the multiplication 1.5×2 using real life situations? Explain multiplication of decimals using cooking or recipe-based activities. (4)
- b) Suggest at least two activities that you would like to take up in your class to teach the concept of symmetric figures. (3)
- c) What activity can you think about enabling a child to measure out 1 metre length without using a metre-scale. (3)