

ASSIGNMENT BOOKLET

AMT-01

**Bachelor Degree Programme
&
Certificate Programme in Teaching of Primary School Mathematics**

Teaching of Primary School Mathematics

(Valid from 1st July, 2022 to 30th June, 2023)

It is compulsory to submit the assignment before filling in the exam form.



**School of Sciences
Indira Gandhi National Open University
Maidan Garhi, New Delhi-110068
(For July, 2022-2023 Session)**

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 30 per cent, 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 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 30th June, 2023. If you have failed in this assignment or fail to submit it by 30th June, 2023, then you need to get the assignment for the next cycle (For July 2024) 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/2022-23
Maximum Marks: 100

Note:

- 1) In any question, whenever we ask you to suggest an activity, we expect you to give one other than those covered in the units.
 - 2) For any question worth 5 marks, the word limit is about 200 words, for a 10 mark question it is 350 words, and for a 15 mark question it is 500 words.
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1. a) Explain how each of the pre-number concepts support the actual process of counting. Your explanation should include an example. (5)
 - b) Explain three different ways in which children often regroup the two numbers while undertaking operations on them, using the example of 57 and 38, while solving 57-38. (6)
 - c) Give an example each of a situation/word problem related to rivers, for the categories below:
 - i) Cartesian product.
 - ii) Augmentation
 - iii) Complementary addition
 - iv) Ratio

Which of these four problems would be the earliest for a child of Class 4 to solve, and why? (9)
2. a) Give two activities, each requiring different ability levels of the learners, to help them understand the concept of 'negative number'. Justify your choice of activities, also explaining how the second activity requires a higher ability level of the learner than the first activity. (7)
 - b) How would you generalise to any base the concept of place value base 10 and the process of writing any number using this? How are you using algebra to do this? (6)
 - c) *After an earthquake, 70 people of the affected community are required to be housed in several tents. Each tent is conical in shape, and must be large enough to allow a family of four to live in it and sleep in it. The radius of the floor space it takes up should be 3 metres, and the tallest human in each family would be around 2 metres. How much material is required to make up the tent?*

Solve the problem above, giving the stages involved while doing so. (7)

3. a) Give two distinct word problems (pertaining to the town you stay in) represented by the expression $2\frac{3}{4} \div \frac{1}{5}$. Also find the solution to them. (5)
- b) Is every natural number a fraction? Is every decimal number a fraction? Give reasons for your answers. (3)
- c) Give three errors children commonly make regarding decimal numbers. Further, for any one these errors, give a **series** of three activities to help a group of children correct the misconception underlying the error. Also explain how each activity would meet the objective, and how the three activities are connected as a series. (12)
4. a) Explain the five Van Hiele levels of development of spatial understanding in the context of measuring shape and size of 2D figures. (15)
- b) Is there a relationship between the perimeter and area of quadrilaterals? Give reasons for your answer. (3)
- c) Give two misconceptions children often have about the measurement of time. (2)
5. a) Give an appropriate example each in support of the statements below. Also justify your choice of example. (10)
- i) Classroom relationships become a resource for developing the mathematical abilities of children.
 - ii) Each child needs time to reflect on the mathematical concept or process being taught.
 - iii) Learning experiences should be designed so as to build on existing proficiencies, interests and experiences, for effective mathematics teaching.
 - iv) The ability to make connections between apparently separate mathematical ideas is crucial for conceptual understanding.
 - v) Mathematical problems can have diverse solutions.
- b) Through an example pertaining to ‘time’, explain what the diagram below is saying. (10)

