

MATHEMATICS
WORKSHEET_301225
CHAPTER 03 THE STORY OF NUMBERS (Ganita Prakashan)

SUBJECT: MATHEMATICS

MAX. MARKS : 40

CLASS : VIII

DURATION : 1½ hr

General Instructions:

- (i). All questions are compulsory.
- (ii). This question paper contains 20 questions divided into five Sections A, B, C, D and E.
- (iii). **Section A** comprises of 10 MCQs of 1 mark each. **Section B** comprises of 4 questions of 2 marks each. **Section C** comprises of 3 questions of 3 marks each. **Section D** comprises of 1 question of 5 marks each and **Section E** comprises of 2 Case Study Based Questions of 4 marks each.
- (iv). There is no overall choice.
- (v). Use of Calculators is not permitted

SECTION – A

Questions 1 to 10 carry 1 mark each.

- 1. The landmark numbers in the Hindu number system are powers of which number?
(a) 2 (b) 5 (c) 10 (d) 60
- 2. Which of the following is the major challenge of a simple tally system when counting large numbers?
(a) It uses too many different symbols. (b) It is very time-consuming and inefficient.
(c) It can only be used for even numbers. (d) It is not based on a base-n system.
- 3. Which ancient civilization used a number system based on the base of 60 (sexagesimal)?
(a) Roman (b) Egyptian
(c) Mesopotamian (Babylonian) (d) Indian
- 4. What is the symbol for 50 in Roman numerals?
(a) V (b) C (c) L (d) X
- 5. The value of a symbol in a number being determined by its position is the defining feature of a:
(a) Non-positional system (b) Additive system
(c) Place value system (d) Tally system
- 6. The symbols used to write numbers in a written number system are called:
(a) Notches (b) Digits (c) Numerals (d) Markers
- 7. What is the primary function of the digit zero (0) in the Hindu number system?
(a) To signify the end of a calculation. (b) To act as a placeholder.
(c) To represent the value of one hundred. (d) To make the system a base-2 system.
- 8. In a base-5 system, the number 25 is an example of a:
(a) Tally mark (b) Subtractive principle (c) Landmark number (d) Placeholder

In the following questions 9 and 10, a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but R is not the correct explanation of A.
- (c) A is true but R is false.
- (d) A is false but R is true.

- 9. **Assertion (A):** The Hindu number system is a decimal number system.
Reason (R): The Hindu number system uses 10 distinct digits (0 to 9).

10. Assertion (A): The Egyptian number system is an additive system.

Reason (R): Numbers are represented by repeating the symbols for landmark numbers and summing their values.

SECTION – B

Questions 11 to 14 carry 2 marks each.

11. Convert the Roman numeral LXX to its equivalent in the Hindu number system.
12. What are the first three landmark numbers in a base-7 number system?
13. Give the value of 10^4 in the Hindu number system and write it in words.
14. What is the result when you add the Roman numerals V and V? Write the answer in Roman numerals and explain the rule used.

SECTION – C

Questions 15 to 17 carry 3 marks each.

15. Explain the method of one-to-one mapping and provide a simple example of how it would have been used by Stone Age people.
16. Convert the Roman numeral DLX to the Hindu number system. Explain the logic for each component.
17. How does the use of the symbol V (5) and L (50) make the Roman number system more efficient than a simple tally system?

SECTION – D

Questions 18 carry 5 marks each.

18. A tailor has C meters of fabric. He sells LXX meters. How many meters of fabric does he have left? Write your final answer in both Roman and Hindu numerals,

SECTION – E (Case Study Based Question)

Question 19 to 20 carry 4 mark

19. Case Study-1: The Tally Counter

An ancient shepherd uses a tally system to count his flock of 15 goats. He makes a single mark on a stick for each goat. To make counting easier, he uses a simple five-grouping method.



- (i) How many total marks (symbols) will the shepherd use to count his 15 goats? (1)
- (ii) Draw or describe how the marks would look using the shepherd's five-grouping method. (1)

- (iii) If the shepherd saw 5 more goats, how many total marks would he have? (1)
 (iv) The shepherd's method demonstrates which fundamental counting principle? (1)

20. Case Study-2: The Egyptian Accountant

An Egyptian scribe, using the additive base-10 system, needs to add the values of two piles of symbols.

Pile A: 4 symbols for 100, and 7 symbols for 10.

Pile B: 3 symbols for 100, and 5 symbols for 10.



- (i) What is the value of Pile A in the Hindu number system? (1)
 (ii) What is the value of Pile B in the Hindu number system? (1)
 (iii) What is the total sum of the two piles in the Hindu number system? (1)
 (iv) How many 100 symbols and how many 10 symbols would the final sum have in the Egyptian system? (1)