# SIDO KANHU MURMU UNIVERSITY, DUMKA

(A State University recognized under Section 2(f) & 12(B) of the UGC Act, 1956)

**FOUR-YEAR UNDER GRADUATE PROGRAMME (FYUGP)**
**SYLLABUS**
**OF**

## MULTIDISCIPLINARY (MDC) COURSE

**ON**

## INDIAN VEDIC MATHEMATICS

**FOR SEMESTER-III**

**In accordance with the**

**Implementation of FYUGP in State Universities of Jharkhand Regulations, 2024**

***Implemented from***
***Academic Session 2025-2029 Onwards***

# Syllabus Committee Meeting Proceedings

A meeting of the Syllabus Committee for the revision and finalization of the INDIAN VEDIC MATHEMATICS (MULTIDISCIPLINARY COURSE) syllabus for the Four-Year Undergraduate Programme (FYUGP), in accordance with the Implementation of FYUGP in State Universities of Jharkhand Regulations, 2024, was convened on 16/10/2025 at 11:00 AM.

The following members of the Syllabus Committee were present in this meeting. The committee unanimously accepted and recommended the syllabus, incorporating major modifications.

Members of the Syllabus Committee:

| S. NO. | MEMBERS | SIGNATURE |
|---|---|---|
| 1. | **Dr. S.N. Adhikary (Chairperson)**<br>HOD, University Department of Mathematics, SKMU, Dumka | Sreadhikary 16.10.2025 |
| 2. | **Dr. Arvind Kumar Sah (External Expert)**<br>H.O.D. Univ. Dept. of Mathematics TMBU, Bhagalpur | 16/10/2025 |
| 3. | **Dr. Ziaul Haque (Member)**<br>Assistant Professor, Department of Mathematics,<br>S.P. College, Dumka, SKMU, Dumka | Haque 16/10/25 |
| 4. | **Dr. Indrajeet Kumar (Member)**<br>Assistant Professor, Department of Physics,<br>S.P. College, Dumka, SKMU, Dumka | 16/10/25 |
| 5. | **Dr. Snehlata Murmu (Member)**<br>Assistant Professor, University Department of History, SKMU, Dumka | 16.10.25 |
| 6. | **Anil Kumar (Member)**<br>Assistant professor, Department of Chemistry,<br>A.S. College, Deoghar, SKMU, Dumka | Anil Kumar 16/10/25 |
| 7. | **Dr. Anjula Murmu (Member)**<br>Assistant Professor, University Department of English, SKMU, Dumka | 16/10/25 |
| 8. | **Dr. Uttam Shukla (Member)**<br>NBAP, Department of Mathematics, Madhupur College, SKMU, Dumka | Uttam Kumar Shukla 16/10/2025 |
| 9. | **Dipak Kumar Das (Invitee Member)**<br>Coordinator, NEP, SKMU, Dumka | 16/10/25 |

Sreadhikary
16-10-2025

**Dr. S.N. Adhikary**
**(Chairperson)**

## INSTRUCTIONS FOR QUESTION SETTER

1. **End Semester Examination (75 Marks)**

The **End Semester Examination (ESE)** will be of **75 marks** and will also have **two groups**.

**Group A** is compulsory and will have:

- **Question 1:** Five very short answer questions (1 mark each, total 5 marks)
- **Questions 2 and 3:** Two short answer questions (5 marks each, total 10 marks)

**Group B** will have **six descriptive questions**, each carrying **15 marks**. Students need to answer **any four** (total 60 marks).

Note: Some questions may be divided into smaller parts if needed.

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**QUESTION PATTERN:**

| **F.M.=75** | **Subject/Code**<br>**Time= 3 Hrs.** | **Exam Year** |
|---|---|---|

i. **Group A** carries very short answer type **compulsory** questions.
ii. **Answer 4 out of 6** subjective/ descriptive questions given in **Group B**.
iii. Answer in your own words as far as practicable.
iv. Answer all sub parts of a question at one place.
v. Numbers in right indicate full marks of the question.

**Group A** [5x1=5]

1.
   i. .....
   ii. .....
   iii. .....
   iv. .....
   v. ..... [5]
2. ..... [5]
3. ..... [5]

**Group B**

4. ..... [15]
5. ..... [15]
6. ..... [15]
7. ..... [15]
8. ..... [15]
9. ..... [15]

**Note:** There may be subdivisions in each question asked in Theory Examination.

## SEMESTER – III

**COURSE:** MULTIDISCIPLINARY (MDC-III) **TOTAL CREDITS:** THEORY-03

**PAPER NAME:** INDIAN VEDIC MATHEMATICS **TEACHING HOURS:** THEORY-45

| EVALUATION (Only the End Semester University Examination will be conducted) | |
|---|---|
| **Full Marks** | 75 Marks |
| **Duration of Exam** | 3 Hours |
| **Pass Marks** | 30 Marks |

**COURSE OBJECTIVES:**

- Develop the understanding of objectives and features of Vedic Arithmetic.
- Enhance computation skills in students through Vedic Mathematics.
- Develop logical and analytical thinking.
- Cultivate an interest for numbers and the Eliminates the math-phobia present in the students.
- Sharpen students mind, increase mental ability and intelligence.
- Help students appreciate ancient Indian Mathematics and its contribution to the world.

**COURSE OUTCOMES:**

After successful completion of this course, students will be able to:

- Understand the various techniques in Vedic mathematics.
- Recognize the meaning of mathematical sutras is Sanskrit.
- Develop the understanding of objectives and features of Vedic math.
- Analyze the different methods available for effective calculation.

**COURSE CONTENTS:**

**Unit-I: Historical and Philosophical Background:**

History and salient features of Vedic Mathematics, Relevance of Vedic Math in Indian Knowledge System, Distinction between conventional and Vedic approaches to mathematics, Vedic math Formulae 16 Sutras and 13 Sub-Sutras, Classification of Sutras for Arithmetic, Algebra, and Geometry, Contribution of Indian Mathematicians in light of Arithmetic- Aryabhata, Brahmagupta.

**Unit-II: Addition and Subtraction:**

Addition- Completing the whole, Addition from left to right, Addition using complements, Column addition tricks, Addition of a list of numbers- Shudh method, Subtraction- Base method, Left-to-right subtraction, Complement method, Equal additions technique, Applications in accounting, time calculations, and numeric puzzles. Subtraction- Completing the whole.

**Unit-III: Multiplication and Division**:

Base Method, Sub Base Method, Multiplication of complementary numbers, Multiplication by numbers consisting of all 9s, Multiplication by 11, Multiplication by two-digit numbers from right to left, Straight Division, Split Division Method, Division by 9, 99, 999 using Vedic digit patterns and complements, Remainder Finding Techniques using Sutras and digital sums, Word problems and real-life use cases of multiplication/division, Games and Puzzles based on Vedic methods.

**SUGGESTED READINGS:**


1. Sri Bharati Krisna Tirthaji, "Vedic Mathematics", published by Motilal Banarsidass, 1965. ISBN 81-208-0163.
2. Rajesh Kumar Thakur. "The Essential of Vedic Mathematics" Rupa Publication, New Delhi.
3. Dhaval Bathia, "Vedic Mathematics Made Easy" Jaico Publishing, New Delhi 2011.
4. T S Bhanumurthy, "A Modern Introduction to Ancient Indian Mathematics" Wiley Eastern Limited, New Delhi
5. V G Unkalkar, "Magical World of Mathematics" Vandana publishers, Bangalore.


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