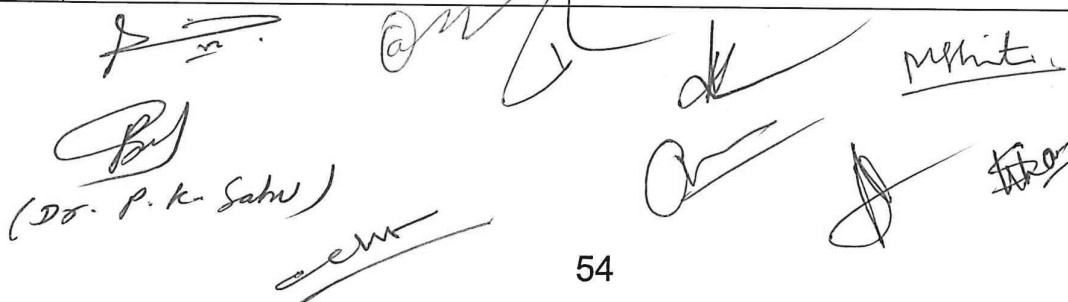# FOUR YEAR UNDER GRADUATE PROGRAM(2024-28)
DEPARTMENT OF MATHEMATICS
COURSE CURRICULUM

Part A: Introduction

Program: Bachelor in Science (Certificate/Diploma/Degree/Honors)		Class: B.Sc. I/III/V Sem	Session:2024-2025
1	Course Code	MAVAC-1	
2	Course Title	Basic Mathematics and Logic	
3	Course Type	Value Addition Course	
4	Course Learning Outcome (CLO)	This Course will enable the students- ➤ To orient them towards life-long learning, to develop power of concentration and to overcome the fear of mathematics from their mind. ➤ To cultivate scientific temper through systematic, critical and lateral thinking. ➤ To enhance their logical, analytical and reasoning skills useful for competitive exams. ➤ To make understand the relevance and need of quantitative methods for making business decisions.	
5	Credit Value	2 Credits	*Credit = 15 Hours - learning & Observation*
6	Total Marks	Max. Marks: 50	Min Passing Marks: 20

PART -B: Content of the Course

Total No. of Teaching–learning Periods (01 Hr. per period) - 30 Periods (30 Hours)

Unit	Topics (Course contents)	No. of Period
	Basic Mathematics	
I	Brief history of Vedic Mathematics (In Indian Knowledge Tradition), Sanskrit terminology involved in 16 Sutras and 13 Sub-Sutras and their meaning, Addition, Subtraction, Multiplication & Division using different techniques of Vedic Mathematics, Squaring numbers, Square roots of perfect squares, Cube roots of perfect cubes, Methods of quick verification of answers through Digit Sum Method	8
II	Problem based on Numbers, Decimal Fractions, Average, Simple Interest, Percentage, Clocks	8
III	Problems on Profit & Loss, Discount, Ages, Speed, Time & Distance, Train, Ratio & Proportion, Mixture	8

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| IV | **Logical Ability:**
Problems on Series Completion , Coding- Decoding , Inserting the Missing Character , Problems on Mirror Image & Water Image
Problems on Blood relations , Direction Sense Tests , Cubes & Dice , Logical Deductions based on Universal, Particular, Affirmative & Negative Premises. | 6 |

Part C - Learning Resource

Text Books, Reference Books, Other Resources

Text Books Recommended-

1. Dr. R.S. Aggarwal, Quantitative Aptitude, S. Chand and Company Ltd., New Delhi.
2. AbhijitGuha, Quantitative Aptitude, Tata McGraw Hill Publishing Company Limited.,New Delhi.
3. Dr. R.S. Aggarwal , Verbal & Non –Verbal Reasoning , S. Chand and Company Ltd., New Delhi

Reference Books Recommended-

4. Rajesh Kumar Singh , Tricky Mathematics , Success Mantra Publications , Patna
5. Govind Prasad Singh &Rakesh Kumar , Text Book of Quickest Mathematics (For all Competitive Examinations)
6.Vedic Mathematics Made Easy Published by Dhaval Bhatia

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks:	50 Marks
Continuous Internal Assessment (CIA):	15 Marks
End Semester Exam (ESE):	35 Marks

| Continuous Internal Assessment (CIA): (By Course Teacher) | Internal Test / Quiz-(2): 10 & 10
Assignment/Seminar +Attendance - 05
Total Marks - 15 | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks |
| End Semester Exam (ESE): | Two section – A & B
Section A: Q1. Objective – 05 x1= 05 Mark; Q2. Short answer type- 5x2 =10 Marks
Section B: Descriptive answer type qts.,1out of 2 from each unit- 4x05 =20 Marks | |

Name and signature of convener & members of CBOS-

(Dr. S. Das hpzel)   Dr. Omkash La Shivastava   BRNsy   Mhita
                                                                Dr. Madhu Shrivastav.

(Dr. P. K. Sahu)

Dr. S.Khan   Dr. Aradhana Shama

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