

VAC-4

Session: 2023-24	
Part A – Introduction	
Subject	MATHEMATICS
Semester	IV
Name of the Course	MATHEMATICS IN EVERYDAY LIFE
Course Code	B23-VAC-418
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	VAC
Level of the course	100-199
Pre-requisite for the course (if any)	NA
Course Learning Outcomes(CLOs):	After completing this course, the learner will be able to: 1. Gain knowledge of facts, concepts and rules to calculate simple and compound interests. Understand the technical terms related to income tax and Equated monthly installment (EMI) and then to apply their enhanced technical and analytical skills to calculate income tax for different level of income tax payee and aware about how much they have to pay each month on a loan. They will be able to compare the results and discuss the impact of compounding on long term savings. 2. Have deeper knowledge of profit, loss, work, time and distance, coding and decoding inculcate technical and cognitive skill in solving problems related to these. Attain procedural skill to solve real life problems related to ratios

	and proportions. Gain procedural and technical knowledge to solve the practical problems of height and distances using concepts of trigonometry. 3. Attain technical and cognitive skills to analyze and solve numerical based on the concept of sequence and series, Arithmetic Progression, Geometric Progression, permutation and combination. 4. Develop cognitive skill to analyze the results of a sample using measures of central tendency and graphical representation (pie charts, frequency polygons, ogive). To design and conduct a survey on a relevant topic of their choice (e.g., favorite leisure activities, dietary habits, etc.). Have procedural knowledge to solve linear programming problems used in everyday life.		
Credits	Theory	Practical	Total
	2	-	2
Contact Hours	2	-	2
Internal Assessment Marks	15	-	15
End Term Exam Marks	35	-	35
Examination time	3 Hours		3 Hours
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u> Note: The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will contain 7 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question.			

Unit	Topics	Contact Hours
I	Simple interest, Compound interest, Equated monthly installment (EMI), Direct tax calculation.	8
II	Profit and loss, Work, time and distance, Coding and Decoding, Ratio and proportion, Trigonometry and its applications, Mensuration for practical purposes.	8
III	Sequence and series, Arithmetic progression, Geometric progression, Permutation and combinations (simple problems).	8
IV	Mean, Mode, Median, Standard deviation, Variance. Bar graphs, Pie charts, Frequency polygons, Ogive. Linear equation in two variables. Linear programming problems (LPP): Graphical solution.	8
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory 15 - Class Participation: 4 - Seminar/presentation/assignment/quiz/class test etc.: 4 - Mid-Term Exam: 7		End Term Examination: Theory 35 Written examination
Part C-Learning Resources		
Recommended Books: 1. R. S. Aggarwal (2022). <i>Quantitative Aptitude</i>. S Chand & Company Limited, New Delhi. 2. Jaikishan & Premkishan (2022). <i>How to Crack Test of Reasoning in All Competitive Exams</i>. Arihant Publications. 3. A. Guha (2020). <i>Quantitative Aptitude</i> (7th Edition). Mc Graw Hill Publications. 4. R. V. Praveen (2016). <i>Quantitative Aptitude and Reasoning</i> (3rd Edition). PHI publications. 5. R.S. Aggarwal (2018). <i>A Modern Approach to Logical Reasoning</i> . S. Chand. 6. Richa Agarwal (2019). <i>How to Crack Test of Arithmetic</i>. Arihant Publications.		