## **Semester Lecture Plan**

Name of the college: Government College of Arts, Science and Commerce, Sanquelim Goa.							
Name of Faculty: Pooja Bhanudas Naik	Subject: Computer Science						
Paper code and Paper name: CSA100-Problem Solving and Programming	Program/Course: FYBSc	Division:					
Academic year: 2024 - 2025	Semester: II	Total Lectures: 30					

## **Course Objectives:**

- 1. To understand the concepts and techniques of problems solving.
- 2. To analyses, understand and build logic to solve basic problems.
- 3. To design Algorithms and flowcharts for better understanding and documentation for accurate implementation of the problem.
- 4. To code and implement a well-structured, robust programming logic using a suitable programming language.

## **Course Learning Outcome:**

- Understand the ways and stages of Problem Solving.
- Understand basic computing concepts, algorithm design, flowchart design, programming constructs and debugging.
- Apply the problem solving and programming concepts in designing solution to simpler problems.
- Code and implement a well-structured programming logic using a suitable programming language.

Month	Lectures From: To:		No. of lectures allotted	Topic, Subtopic to be covered	Exercise/Assignment	ICT Tools	Reference books
December	16/12/2024	21/12/2024		Write a set of numbered, step-by- step instructions (a solution) to complete tasks so complete that another person could perform the task without asking questions.  Define the knowledge base of this person by listing what you expect the person to know in order to follow your directions.		Smart Board LCD Projector	Maureen Sprankle and Jim Hubbard, Problem Solving and Programming Concepts, Pearson Education India 9 <sup>th</sup> edition.
December	1 16/12/2024	21/12/2024	1 2				

		[		Write a set of numbered, step-by-			
				step instructions (a solution) to			
				complete tasks so complete that			
				another person could perform the			
				task without asking questions.			
				Define the knowledge base of this			
				person by listing what you expect			
				the person to know in order to			
January	02/01/2025	04/01/2025	2	follow your directions.			
				At-least 10 basic programming			
				problems related to Unit III to be			
				completed during the practical		Smart Board	
				sessions.		2LCD Projector	
				<ul> <li>More programs may be given to the learners to complete and</li> </ul>		ZLCD Projector	Maureen Sprankle and Jim Hubbard,
				practice as part of their Practice	Practice problems at home and during		Problem Solving and Programming Concepts, Pearson Education India 9 <sup>th</sup>
January	06/01/2025	11/01/2025	2	Work.	practicals.		edition.
ourrain's	00/01/2025	11/01/2028		At-least 10 basic programming			edition.
				problems related to Unit III to be			
				completed during the practical			Maureen Sprankle and Jim Hubbard,
				sessions.		Smart Board	Problem Solving and Programming
				More programs may be given to		LCD Projector	Concepts, Pearson Education India 9 <sup>th</sup>
				the learners to complete and			edition.
				practice as part of their Practice	Practice problems at home and during		
January	13/01/2025	18/01/2025	2	Work.	practicals.		
				At-least 08 programming problems			
				related to Unit IV to be completed		Smart Board	
				during the practical sessions.		LCD Projector	Maureen Sprankle and Jim Hubbard,
				More programs may be given to			Problem Solving and Programming
				the learners to complete and			Concepts, Pearson Education India 9 <sup>th</sup> edition.
				practice as part of their Practice			edition.
				Work.	Practice problems at home and during		
January	20/01/2025	25/01/2025	2	Work	practicals.		
				At-least 08 programming problems			
				related to Unit IV to be completed		Smart Poard	
				during the practical sessions.		Smart Board LCD Projector	Maureen Sprankle and Jim Hubbard,
						LCD FTOJECTOI	Problem Solving and Programming
				More programs may be given to	Practice problems at home and during		Concepts, Pearson Education India 9 <sup>th</sup>
January	27/01/2025	01/02/2025	2	the learners to complete and	practicals.		edition.

				practice as part of their Practice Work.			
				At-least 08 programming problems related to Unit V to be completed during the practical sessions.	Practice problems at home and during practicals.	Smart Board LCD Projector	Maureen Sprankle and Jim Hubbard, Problem Solving and Programming Concepts, Pearson Education India 9 <sup>th</sup> edition.
			2	<ul> <li>More programs may be given to the learners to complete and practice as part of their Practice Work</li> </ul>			
February	03/02/2025	08/02/2025					
				At-least 08 programming problems	Practice problems at home and during	Smart Board	
				related to Unit V to be completed during the practical sessions.	practicals.	LCD Projector	
				More programs may be given to			
				the learners to complete and			Maureen Sprankle and Jim Hubbard,
				practice as part of their Practice			Problem Solving and Programming
Esh masama	10/02/2025	15/02/2025	2	Work			Concepts, Pearson Education India 9th
February	10/02/2025	15/02/2025	2	At-least 06 programming problems	Practice problems at home and during	Smart Board	edition.
				related to Unit VI to be completed during the practical sessions.	practicals.	LCD Projector	Maureen Sprankle and Jim Hubbard,
				More programs may be given to the			Problem Solving and Programming Concepts, Pearson Education India 9 <sup>th</sup>
				learners to complete and practice			edition.
February	17/02/2025	22/02/2025	2	as part of their Practice Work.			
				At-least 06 programming problems	Practice problems at home and during	Smart Board	
				related to Unit VI to be completed	practicals.	Siliait boald	Maureen Sprankle and Jim Hubbard,
				during the practical sessions. •		LCD Projector	Problem Solving and Programming
				More programs may be given to the			Concepts, Pearson Education India 9 <sup>th</sup>
				learners to complete and practice			edition.
February	24/02/2025	01/03/2025	2	as part of their Practice Work.			
				At-least 08 programming problems	Practice problems at home and during	Smart Board	Maureen Sprankle and Jim Hubbard,
				related to Unit VII to be completed	practicals.	LCD Projector	Problem Solving and Programming
				during the practical sessions. •		202 : 10,000	Concepts, Pearson Education India 9 <sup>th</sup> edition.
March	03/03/2025	08/03/2025	2	More programs may be given to the			Cultion.

				learners to complete and practice as part of their Practice Work			
March	10/03/2025	15/03/2025	2	At-least 08 programming problems related to Unit VII to be completed during the practical sessions.  • More programs may be given to the learners to complete and practice as part of their Practice Work	Practice problems at home and during practicals.	Smart Board LCD Projector	Maureen Sprankle and Jim Hubbard, Problem Solving and Programming Concepts, Pearson Education India 9 <sup>th</sup> edition.
March	17/03/2025	22/03/2025	2	At-least 06 programming problems related to Unit VIII to be completed during the practical sessions.  • More programs may be given to the learners to complete and practice as part of their Practice Work.	Practice problems at home and during practicals.	Smart Board LCD Projector	Maureen Sprankle and Jim Hubbard, Problem Solving and Programming Concepts, Pearson Education India 9 <sup>th</sup> edition.
March	24/03/2025	29/03/2025	2	At-least 06 programming problems related to Unit VIII to be completed during the practical sessions.  • More programs may be given to the learners to complete and practice as part of their Practice Work.	Practice problems at home and during practicals.	Smart Board LCD Projector	Maureen Sprankle and Jim Hubbard, Problem Solving and Programming Concepts, Pearson Education India 9 <sup>th</sup> edition.
March	31/03/2025	05/04/2025	2	Debug & Document at-least 06 problems which you have programmed from week 07 onwards.  • More programs may be given to the learners to complete and practice as part of their Practice Work.	Practice problems at home and during practicals.	Smart Board LCD Projector	Maureen Sprankle and Jim Hubbard, Problem Solving and Programming Concepts, Pearson Education India 9 <sup>th</sup> edition.