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	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 follow your directions.	Practice problems at home and during practicals.	Smart Board LCD Projector	Maureen Sprankle and Jim Hubbard, Problem Solving and Programming Concepts, Pearson Education India 9th edition.

January	02/01/2025	04/01/2025	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 follow your directions.			
January	06/01/2025	11/01/2025	2	At-least 10 basic programming problems related to Unit III 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 2LCD Projector	Maureen Sprankle and Jim Hubbard, Problem Solving and Programming Concepts, Pearson Education India 9th edition.
January	13/01/2025	18/01/2025	2	At-least 10 basic programming problems related to Unit III 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 9th edition.
January	20/01/2025	25/01/2025	2	At-least 08 programming problems related to Unit IV 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 9th edition.
January	27/01/2025	01/02/2025	2	At-least 08 programming problems related to Unit IV to be completed during the practical sessions. ● More programs may be given to the learners to complete and	Practice problems at home and during practicals.	Smart Board LCD Projector	Maureen Sprankle and Jim Hubbard, Problem Solving and Programming Concepts, Pearson Education India 9th edition.

Month	Start Date	End Date	Periods	Practical/Assignment Work	Self Study	Teaching Aids	Reference Book
				practice as part of their Practice Work.			
February	03/02/2025	08/02/2025	2	At-least 08 programming problems related to Unit V 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 9th edition.
February	10/02/2025	15/02/2025	2	At-least 08 programming problems related to Unit V 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 9th edition.
February	17/02/2025	22/02/2025	2	At-least 06 programming problems related to Unit VI 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 9th edition.
February	24/02/2025	01/03/2025	2	At-least 06 programming problems related to Unit VI 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 9th edition.
March	03/03/2025	08/03/2025	2	At-least 08 programming problems related to Unit VII to be completed during the practical sessions. ● More programs may be given to the	Practice problems at home and during practicals.	Smart Board LCD Projector	Maureen Sprankle and Jim Hubbard, Problem Solving and Programming Concepts, Pearson Education India 9th edition.

				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 9th 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 9th 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 9th 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 9th edition.