

DELHI PUBLIC SCHOOL GHAZIABAD
CLASS –XI
COMPUTER SCIENCE LESSON PLAN
UNIT 2: PROGRAMMING METHODOLOGY

Unit 2	PROGRAMMING METHODOLOGY
Class Transaction	Total: 5 periods (approx. 50 min each)
Pre-requisite for the course	This lesson requires 1. Unit 1 of Computer Science
Assessment of qualifying knowledge	1. Written test 2. Lab activity 3. HW notebook
Objective	The objective of this unit is to provide smooth software development according to the project requirements. Software development methodology is a framework that is used to structure, plan, and control the process of developing an information system.
Learning Outcomes	<u>KNOWLEDGE</u> - <i>Students will know and understand</i> 1. <u>Different types of programming</u> 2. <u>How to write good code</u> 3. <u>Use of Algorithm and flow chart in problem solving</u> 4. <u>SKILLS</u> - <i>Students would be able to</i> 1. Understand the meaning of coding 2. Learn problem solving techniques 3. Think Logically
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- <i>Brain Storming</i> -The class would start with a discussion on what the students have already learnt in the previous classes and hence what is it that they would learn now. They would also be told the significance of the topic that they would be studying. <i>Introduction of the topic</i> - ppt and Digital Content would be shared <i>Guided practice followed by Independent Practice</i> - Spiral questions to be discussed in the classroom. Techniques to be used: Quiz Daily Practice Problem MCQ Peer Assessment

	• Encouragement for referring other resources <i>For Low scoring students:</i> • Spiral Level 1 to be completed • Buddy help to be provided • Provide grade-up classes <i>For differently abled students:</i> • Ignore silly mistakes and comments, if not written • Call parents at regular intervals • Provide grade-up classes • Encourage and motivate them at every level.
Marks	The weightage would be given by CBSE.

DAY PLAN PROGRAMMING METHODOLOGY

Anticipatory Set: Facilitator introduces the topic– **PROGRAMMING METHODOLOGY**

Objective: Given questions based on the topic. learners will be able to do learn the **PROGRAMMING METHODOLOGY** . To make students able to learn basic concepts programming and questions based on the topics to be discussed .

Techniques to be used:

- Peer Assessment
- Quiz
- Case Study
- PPT

DAY 1

TOPIC COVERED : General Concepts of programming

Transaction hours: 50 minutes period

- **Previous knowledge:** Unit 1 of class XI

Objectives: Students will learn about

- **General Concepts:** Modular Approach,
 - Clarity and Simplicity of Expressions,
 - Use of proper names for Identifiers,
 - Comments, Indentation;
 - Documentation and Program Maintenance;
 - Running and Debugging
 - programs, Syntax Errors, Run-Time Errors, Logical Errors
- Techniques to be used:**
- Lecture method **communication,**
 - Group discussion **collaboration,**
 - Peer assessment **character and citizenship**

- Quiz **creativity and innovation**,
- Case studies **creativity and innovation**,
- **Teaching aids used:** Black board, chalk, duster, NCERT Book, self- prepared modules, recorded videos

SUMMARIZE AND CHECK FOR UNDERSTANDING

Group discussion on various related topics, question-answer session. (Communication, collaboration). Some questions will be asked based on the day's teaching and doubts will be cleared.

GUIDED PRACTICE cases and application-based questions relating to the above topics (**critical thinking, Collaboration and creativity**)

DAY 2

TOPIC COVERED : Problem solving Methodologies and different types of errors in the program

- **Transaction hours:** 50 minutes period
- **Previous knowledge:** Unit 1 of class XI

Objectives: Students will learn about

- Different types of errors: Syntax Errors, Run-Time Errors, Logical Errors
- Understanding of the problem, solution for the problem,
- Identifying minimum number of inputs required for output, writing code to optimizing execution time and memory
- storage, step by step solution for the problem

Techniques to be used:

- Lecture method **communication**,
- Group discussion **collaboration**,
- Peer assessment **character and citizenship**
- Quiz **creativity and innovation**,
- Case studies **creativity and innovation**,
- **Teaching aids used:** Black board, chalk, duster, NCERT Book, self- prepared modules, recorded videos

SUMMARIZE AND CHECK FOR UNDERSTANDING

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DAY 3

TOPIC COVERED : Problem solving Methodologies Modular approach

- **Transaction hours:** 50 minutes period
- **Previous knowledge:** Unit 1 of class XI

Objectives: Students will learn

- To breaking down solution into simple steps (modular approach),

Techniques to be used:

- Lecture method **communication**,
- Group discussion **collaboration**,
- Peer assessment **character and citizenship**
- Quiz **creativity and innovation**,
- Case studies **creativity and innovation**,
- **Teaching aids used:** Black board, chalk, duster, NCERT Book, self- prepared modules, recorded videos

SUMMARIZE AND CHECK FOR UNDERSTANDING

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GUIDED PRACTICE cases and application-based questions relating to the above topics (critical thinking, Collaboration and creativity)

DAY 4

TOPIC COVERED : Control Structure conditional control and looping (finite and infinite).

- **Transaction hours:** 50 minutes period
- **Previous knowledge:** Unit 1 of class XI
- Objectives:** Students will learn about
 - Control Structure in a programming language
 - Conditional control and looping (finite and infinite).

Techniques to be used:

- Lecture method **communication**,
- Group discussion **collaboration**,
- Peer assessment **character and citizenship**
- Quiz **creativity and innovation**,
- Case studies **creativity and innovation**,
- **Teaching aids used:** Black board, chalk, duster, NCERT Book, self- prepared modules, recorded videos

SUMMARIZE AND CHECK FOR UNDERSTANDING

Group discussion on various related topics, question-answer session. (Communication, collaboration). Some questions will be asked based on the day's teaching and doubts will be cleared.

GUIDED PRACTICE cases and application-based questions relating to the above topics (critical thinking, Collaboration and creativity)

DAY 5

TOPIC COVERED : Algorithms and Flowcharts

Transaction hours: 50 minutes period

- **Previous knowledge:** Unit 1 of class XI
- Objectives:** Students will learn about
 - Learn to solve problems using Algorithms
 - Draw Flowcharts

- Understand different symbols used in Flow charts.

Techniques to be used:

- Lecture method **communication**,
- Group discussion **collaboration**,
- Peer assessment **character and citizenship**
- Quiz **creativity and innovation**,
- Case studies **creativity and innovation**,
- **Teaching aids used:** Black board, chalk, duster, NCERT Book, self- prepared modules, recorded videos

SUMMARIZE AND CHECK FOR UNDERSTANDING

Group discussion on various related topics, question-answer session. (Communication, collaboration). Some questions will be asked based on the day's teaching and doubts will be cleared.

GUIDED PRACTICE cases and application-based questions relating to the above topics
(critical thinking, Collaboration and creativity)