

Senior Secondary Course

Computer Science (330)



NATIONAL INSTITUTE OF OPEN SCHOOLING

(An autonomous organisation under MHRD, Govt. of India)
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A Word With You

Dear Learner,

I congratulate and welcome you for choosing this subject. You will be introduced to the interesting world of information technology.

In this subject we explain basic computing skills, office productivity tools, C++ programming, database management concepts, web page design and professional skills.

The SLM in your hand has five modules. The first module explains some basic computing skills. The second module describes office productivity tools which help you in creating documents, worksheets and presentations. The third module is C++ programming in which you will learn to write simple C++ programs and learn Object Oriented Programming concepts. The fourth module contains database management concepts. The fifth module explains the professional skills required in the IT industry.

This subject is specially designed keeping your needs and prior experience in mind. We have ensured that the course contents are presented in a simple, clear and logical manner.

We are confident that you will enjoy studying this subject through our 'Open and Distance Learning System'. I hope you will find this SLM informative, interesting and useful. We wish you all the very best for a bright and successful future.

NIOS Course Team

How to use the Study Material

Congratulation! You have accepted the challenge to be a self-learner. NIOS is with you at every step and has developed in the material with the help of a team of experts, keeping you in mind. A format supporting independent learning has been followed. If you follow the instructions given, then you will be able to get the best out of this material. The relevant icons used in the material will guide you. These icons have been explained below for your convenience.

Title: will give a clear indication of the contents within. Do read it.

Introduction: This will introduce you to the lesson linking it to the previous one.



Objectives: These are statements that explain what you are expected to learn from the lesson. The objectives will also help you to check what you have learnt after you have gone through the lesson. Do read them.



Notes: Each page carries empty space in the side margins, for you to write important points or make notes.



Intext Questions: Very short answer self check questions are asked after every section, the answers to which are given at the end of the lesson. These will help you to check your progress. Do solve them. Successful completion will allow you to decide whether to proceed further or go back and learn again.



What You Have Learnt: This is the summary of the main points of the lesson. It will help in recapitulation and revision. You are welcome to add your own points to it also.



Terminal Exercises: These are long and short questions that provide an opportunity to practice for a clear understanding of the whole topic.



Answers : These will help you to know how correctly you have answered the questions.

www

Web site: These websites provide extended learning. Necessary information has been included in the content and you may refer to these for more information.

SENIOR SECONDARY COMPUTER SCIENCE COURSE OVERVIEW OF LEARNING MATERIAL

Module	Lesson No	Lesson Name	Mode of Assessment TMA/PE
Module-1: Basic Computing	1	Computer Fundamentals	TMA
	2	Binary Logic	TMA
	3	Computer Software	TMA
	4	Operating Systems	TMA
	5	Data Communication and Networking	TMA
	6	Communications on Internet	TMA
	7	Emailing	TMA
Module-2: Office Automation	8	Digital Documentation	TMA
	9	Spreadsheets	TMA
	10	Digital Presentation	TMA
	11	Open Source Resources	TMA
Module-3: Programminig in C++	12	Introduction to C++	PE
	13	Basic Concepts of OOP	PE
	14	Control Statements	PE
	15	Functions	PE
	16	Array	PE
	17	Structure, Type def & Enumerated Data Type	PE
	18	Classes and Objects with Constructors/ Destructors	PE
	19	Inheritance Extending Classes	PE
	20	Pointer	PE
	21	Files	PE
Module-4: Database Concepts, Web designing	22	Fundamentals of Data Structure	PE
	23	Database Management Systems	PE
	24	Web Designing using HTML	PE
	25	Inserting Images and Lists in a Web Page	PE
	26	New Trends in Computing	PE
Module-5: Professional Skills	27	Project Management Skills	TMA
	28	Entrepreneurship Skills	TMA
	29	Professional Communication Skills	TMA

Total Lessons = 29
 Lessons for Tutor Marked Assignment (TMA) = 14
 Lessons for Public Examination (PE) = 15

Contents

	Page No.	Mode of Assessment TMA/PE
Module-1: Basic Computing		
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2. Binary Logic	25	TMA
3. Computer Software	38	TMA
4. Operating Systems	48	TMA
5. Data Communication and Networking	61	TMA
6. Communications on Internet	78	TMA
7. Emailing	96	TMA
Module-2: Office Automation		
8. Digital Documentation	113	TMA
9. Spreadsheets	155	TMA
10. Digital Presentation	197	TMA
11. Open Source Resources	235	TMA
Module-3: Programminig in C++		
12. Introduction to C++	247	PE
13. Basic Concepts of OOP	270	PE
14. Control Statements	278	PE
15. Functions	307	PE
16. Array	330	PE
17. Structure, Typedef & Enumerated Data Type	346	PE
18. Classes and Objects with Constructors/Destructors	355	PE
19. Inheritance Extending Classes	369	PE
20. Pointer	383	PE
21. Files	391	PE
Module-4: Database Concepts, Web designing		
22. Fundamentals of Data Structure	405	PE
23. Database Management Systems	418	PE
24. Web Designing using HTML	439	PE
25. Inserting Images and Lists in a Web Page	457	PE
26. New Trends in Computing	472	PE
Module-5: Professional Skills		
27. Project Management Skills	493	TMA
28. Entrepreneurship Skills	504	TMA
29. Professional Communication Skills	512	TMA

MODULE – 1: BASIC COMPUTING

- 1. Computer Fundamentals**
- 2. Binary Logic**
- 3. Computer Software**
- 4. Operating Systems**
- 5. Data Communication and Networking**
- 6. Communications on Internet**
- 7. E-mailing**