Ramgarhia Polytechnic College, Phagwara

Computer Science and Engineering Department

Head of Department:Er. Poonam Rana

Name of the Faculty:Er. Pankaj Soni

Discipline:Computer Science and Engineering Department

Semester:1st

Subject:Computers fundamentals and information technology

Lesson Plan Duration:16 Weeks

RATIONALE

The diploma holder in Computer Engineering needs to understand computer fundamentals and information technology. They should be able to operate basic software related to computer. Hence this subject is introduced in the curriculum

Course Outcomes

After undergoing the subject, students will be able to:

CO1: Describe various component of computer system

CO2: Draw the block diagram of computer system showing various units

CO3: Outline various application of IT

CO4: Differentiate between assembly and high level language

CO5: List the features of the MS Word, MS-Excel & MS-PowerPoint

CO6: Demonstrate the use of PowerPoint for seminar presentation

CO7: Identify various web browser

CO8: Use internet and create mail ID, send and receive Email

CO9: Explain advantage of E-commerce

PO ⟹ CO ⬇	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	✓						
CO2	✓						
CO3		✓					
CO4			✓	✓			
CO5			✓				
CO6					✓		
CO7					✓		
CO8					✓		
CO9						✓	

Syllabus

Units	Details	Hours
1.	**Introduction to computer and information technology** 1.1 Introduction to computer: classification, type of computer. Block diagram of the computer system, introduction to various units. 1.2 Hardware: CPU, memory, input and output devices, auxiliary storage devices SSP. Port introduction: USB, serial, parallel and ps2 basic concept of it, data processing: data and information. 1.3 Software: system and application software, utility packages, applications of information technology.	(08 hrs)
2.	**Overview computer language & OS** 2.1 Concept machine level language, assembly level language, high level language. 2.2 Assembler, compiler and interpreter operating system 2.3 history and evolution, introduction to ms-dos/windows /Linux/ Unix 2.4 office automation tool: ms-office, word, PowerPoint, excel, access, libre office. 2.5 Introduction to internet and its application world wide web, web browser FTP, electronic mail, introduction to e-commerce. Introduction to I.T. Act, Cyber Law and Forensics (only terminology).	(06 hrs)
3.	**MS-Word/Open Office Writer** 3.1 File Management: Operation, creating and saving a document, location files, copying contents in some different file(s), protection files, giving password protection for a file. 3.2 Page Setup: • Setting margin, tab setting, ruler, indenting • Editing a document: • Entering text, cut, copy, paste using toolbars 3.3 Formatting a Document: • Using different font, changing font size and color, changing the appearance through bold/italic/underline, highlighting a text, changing case, using subscript and superscript, editing different underline methods aligning	(10 hrs)

		of text in a document, justification of the document, interesting bullets and numbering • Formatting paragraph, inserting page breaks and column break, line spacing use of headers, footer: inserting footnote, end note, use of comments inserting date, time, special symbols, importing graphic images, drawing tool 3.4 Tables and border: • Creating table, formatting cells, use of different border styles, shading in tables, merging of cells, and partition of cells, inserting and deleting a row in a table. • Print preview, zoom, page set up, printing options • Using find, replace option using tool like: spell checker, help, use of macros, mail merge, thesaurus word content and statistics, printing envelops and labels using shapes and drawing toolbar, macro.	
4.		**MS-Excel/Open Office Calc** 4.1 Starting excel/calc, open worksheet, enter, edit, data formulae to calculate values, format data, create chart, printing chart, save worksheet, switching between different spread sheets 4.2 Menu commands: Create format charts, organize, manage data, solving problem by analyzing data, exchange with other application. Programming with MS-Excel/Calc, getting information while working. 4.3 Work Books: Managing workbooks (create, open, close, save), working in worl book, selection the cells, choosing command, data entry techniques, formula creation and links, controlling calculation, working with arrays Editing a worksheet, coping, moving cells, pasting, inserting, deletion cells, rows, columns, find and replace text, numbers of cells, formatting worksheet. 4.4 Creating a Chart: Working with chart types, changing data in chart, formatting a chart, use chart to analyze ate using a list to organize data, sorting and filtering data in list retrieve data with query: create a pivot table, customizing a pivot table. Statically analysis of	(10 hrs)

	data exchange data with other application: embedding objects, linking to other application, import, export document.	
5.	Ms-PowerPoint/Open Office Impress • Introduction to PowerPoint/Impress • How to start PowerPoint/Impress, working environment: concept of toolbars, slide layout, templates etc. • Opening a new/existing presentation • Different views for viewing slides in Presentation: normal, slides sorter etc Addition, deletion and saving of slides Insertion of multimedia elements • Adding text boxes • Adding/importing pictures • Adding movie and sound • Adding tables and chart etc • Adding organizational chart • Formatting slides • formatting slides • Using slides master • Text formatting • Changing slide layout • Changing slide color scheme • Changing background • Applying design template • How to view the slide show? • Viewing the presentation using slide navigator • Slide transition • Animation effects etc	(8 hrs)

Reference Books:

1 Fundamentals of Computer by E Balagurusamy,Tata McGraw Hill Education Pvt. Ltd, New Delhi
2 Fundamentals of Computer by V Rajaraman; Prentice Hall of India Pvt. Ltd., New Delhi
3 Computer Fundamentals by RS Salaria; Khanna Book Publishing Co. (P) Ltd., New Delhi
4 Information Technology for Management by Henery Lucas, 7th edition, Tata McGraw Hill Education Pvt Ltd , New Delhi
5 Computers Fundamentals Architecture and Organisation by B Ram, revised Edition, New Age International Publishers, New Delhi
6 Computers Today by SK Basandara, Galgotia publication Pvt ltd. Daryaganj, New Delhi.
7 Internet for Every One by Alexis Leon and Mathews Leon; Vikas Publishing House Pvt. Ltd., Jungpura, New Delhi
8 A First Course in Computer by Sanjay Saxena; Vikas Publishing House Pvt. Ltd., Jungpura, New Delhi
9 Computer Fundamentals and Programming in C by Reema Thareja; Oxford University Press, New Delhi
10 Computer Fundamentals by PK Sinha; BPB Publication, New Delhi
11 Fundamentals of Information Technology by Leon and Leon;Vikas Publishing House Pvt. Ltd., Jungpura, New Delhi
12 On Your Marks - Net…Set…Go… Surviving in an e-world by Anushka Wirasinha, Prentice Hall of India Pvt. Ltd., New Delhi
13 Fundamentals of Information Technology by Vipin Arora, Eagle Parkashan, Jalandhar.

Delivery/Instructional Methodologies

Sr.No.	Description
1.	Chalk and Talk
2.	PowerPoint Presentation

Assessment Methodologies

Sr. No.	Description	Type
1.	Student Assignment	Direct
2.	Test	Direct
3.	Board Examination	Direct
4.	Student Feedback	Direct

Gaps in the syllabus - to meet industry/profession requirements

S.NO.	DESCRIPTION	PROPOSED ACTIONS	PO MAPPING
	N/A	N/A	N/A

Topics beyond syllabus/advanced topics

Units	Details	Hours
N/A	N/A	N/A

Web Source References

Sr. No.	URL
1.	https://nptel.ac.in/

Lesson Plan

Week	Theory		Practical	
	Lecture		Practic	

	Day		al Day	
1st	1	Introductionto computer: classification,type of computer	1	Given a PC, name its various components and peripherals. List their functions .
	2	Block diagram of thecomputer system,introduction to various units		
	3	Hardware: CPU, memory, input and output devices, auxiliary storage devices SSP.		
2nd	4	Port introduction: USB, serial, parallel and ps2 basic concept of it, data processing: data and information	2	Installing various components of computer system and installing system software and application software
	5	Software: system and application software, utility packages,		
	6	Applications of information technology.		
3rd	7	Concept machine level language, assembly level language, high level language.	3	Installation of I/O devices, printers and installation of operating system viz. Windows/BOSS/ LINUX
	8	Assembler, compiler and interpreter operating system		
	9	History and evolution, introduction to ms-dos/windows /Linux/ Unix		
4th	10	Office automation tool: ms-office, word, PowerPoint, excel, access, libre office	4	• Features of Windows as an operating system ☐ Start ☐ • Shut down and restore ☐ Creating and operating on the icons ☐ • Opening, closing and sizing the windows and working with windows interfacing elements (option buttons, checkbox, scroll etc.)
	11	Introduction to internet and its application world wide web, web browser FTP,		
	12	Electronic mail, introduction to e-commerce. Introduction to I.T. Act, Cyber Law and Forensics (only terminology).		
5th	13	**MS-Word/Open Office Writer** File Management: Operation, creating and saving	5	Features of Windows as an operating system ☐

		a document, location files, copying contents in some different file(s), protection files, giving password protection for a file.		● Start □
	14	**Page Setup:** Setting margin, tab setting, ruler, indenting Editing a document: Entering text, cut, copy, paste using toolbars		● Shut down and restore Creating and operating on the icons □ ● Opening, closing and sizing the windows and working with windows interfacing elements (option buttons, checkbox, scroll etc.)
	15	**Formatting a Document:** Using different font, changing font size and color, changing the appearance through bold/italic/underline, highlighting a text, changing case, using subscript and superscript, editing different underline methods aligning of text in a document, justification of the document, interesting bullets and numbering		
6th	16	**Formatting** paragraph, inserting page breaks and column break, line spacing use of headers, footer: inserting footnote, end note, use of comments inserting date, time, special symbols, importing graphic images, drawing tool	6	● Using elementary job commands likecreating, saving,modifying, renaming, finding and deleting a file and folders □ ● Changing settings like, date, time, colour (back ground and fore ground etc.) □ ● Using short cuts □ ● Using on line help
	17	**Tables and border:** Creating table, formatting cells, use of different border styles, shading in tables, merging of cells, and partition of cells, inserting and deleting a row in a table.		
	18	Print preview, zoom, page set up, printing options Using find, replace option using tool like: spell checker, help, use of macros, mail		

		merge, thesaurus word content and statistics, printing envelops and labels using shapes and drawing toolbar, macro.		
7th	19		7	1stHouse Test
	20	1stHouse Test		
	21	PTM		
8th	22	**MS-Excel/Open Office Calc** Starting excel/calc, open worksheet, enter, edit, data formulae to calculate values, format data, create chart, printing chart, save worksheet, switching between different spread sheets	8	● Word Processing (MS Office/Open Office) ● File Management: ● Page set up: ● Formatting a document: ● Tables and Borders:
	23	**Menu commands**: Create format charts, organize, manage data, solving problem by analyzing data, exchange with other application. Programming with MS-Excel/Calc, getting information while working.		
	24	**Work Books:** Managing workbooks (create, open, close, save), working in worl book, selection the cells, choosing command, data entry techniques, formula creation and links, controlling calculation		
9th	25	working with arrays Editing a worksheet, coping, moving cells, pasting, inserting, deletion cells, rows, columns, find and replace text, numbers of cells, formatting worksheet.	9	Spread Sheet Processing (MS Office/Open Office) Starting excel, open worksheet, enter, edit, data, formulae to calculate values, format data, save worksheet, switching between different spread sheets
	26	**Creating a Chart:** Working with chart types, changing data in chart, formatting a chart, use chart to analyze ate using a list to organize data, sorting and filtering data in list retrieve data with query:		

	27	**create a pivot table**, customizing a pivot table. Statically analysis of data exchange data with other application: embedding objects, linking to other application, import, export document		
10th	28	Revison	10	PowerPoint Presentation (MS Office/Open Office) Introductionto PowerPoint Addition, deletion and saving of slides Insertion of multimedia elements
	29	Ms-PowerPoint/Open Office Impress Introduction to PowerPoint/Impress How to start PowerPoint/Impress, working environment: concept of toolbars, slide layout, templates etc.		
	30	Opening a new/existing presentation Different views for viewing slides in Presentation: normal, slides sorter etc Addition, deletion and saving of slides Insertion of multimedia elements		
11th	31	Adding text boxes Adding/importing pictures Adding movie and sound	11	Formatting slides How to view the slide show? Use of Pack and Go Options.
	32	Adding tables and chart etc Adding organizational chart Formatting slides		
	33	Using slides master Text formatting Changing slide layout		
12th	34	Revison	12	2nd House Test
	35	2nd House Test		
	36	PTM		
13th	37	Revison	13	Internet and its Applications Establishing an internet connection. Browsing and down loading of information from internet
	38	Changing slide color scheme Changing background		
	39	Applying design template		

14th	40	How to view the slide show?	14	Sending and receiving email Creating a message Creating an address book Attaching a file with e-mail messag
	41	Viewing the presentation		
	42	using slide navigator		Receiving a message - Deleting a message Assigning IP Addresses to computers and use of domain names.
15th	43	Slide transition	15	Functioning of Antivirus ● Installation and updation of an antivirus. ● How to scan and remove the virus
	44	Animation effects etc		
	45	Revison		
16th	46	Revison	16	3rd House Test
	47	3rd House Test		
	48	PTM		

NBA has defined the following seven POs for an Engineering diploma graduate:

i) **Basic and Discipline specific knowledge**: Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.

ii) **Problem analysis:** Identify and analyze well-defined engineering problems using codified standard methods.

iii**) Design/ development of solutions**: Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

iv)**Engineering Tools, Experimentation and Testing**: Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

v) **Engineering practices for society, sustainability and environment**: Apply appropriate technology in context of society, sustainability, environment and ethical practices.

vi) **Project Management**: Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.

vii) **Life-long learning**: Ability to analyze individual needs and engage in updating in the context of technological changes.

Program Specific Outcomes (PSOs)

PSOs are a statement that describes what students are expected to know and be able to do in a specialized area of discipline upon graduation from a program. Program may specify 2-4 program specific outcomes, if required.

These are the statements, which are specific to the particular 11 program. They are beyond POs. Program Curriculum and other activities during the program must help in the achievement of PSOs along with POs.