7G601	**FUNDAMENTALS OF COMPUTER AND INFORMATION TECHNOLOGY**

Programme Name	**Civil Engineering/Mechanical Engineering/Electrical Engineering/Electronics and Telecommunication /Computer Engineering/Information Technology /Artificial Intelligence and Machine Learning/Automobile Engineering/Dress Designing and Garment manufacturing**
Programme Code	**CE/ME/EE/ET/CO/IT/AIML/AE/DDGM**

Course Code	Course Title	Course Abbr.	Semester
7G601	**Fundamentals of Computer and Information Technology**	**ICT**	**FIRST**

I. RATIONALE

In any typical business setup in order to carry out routine tasks related to create business documents, perform data analysis and its graphical representations and making electronic slide show presentations, the student need to learn various software as office automation tools like word processing applications, spreadsheets and presentation tools. They also need to use these tools for making their project reports and presentations. The objective of this course is to develop the basic competency in students for using these office automation tools to accomplish the job. This course also presents an overview of emerging technologies so that students of different discipline can appraise the applications of these technologies in their respective domain.

II. INDUSTRY/EMPLOYEREXPECTEDOUTCOME

The aim of this course is to help the student to attain the following industry identified outcomes through various teaching learning experiences:**Use computers for Internet services, Electronics Documentation, Data Analysis and Slide Presentation and application of ICT based Emerging Technologies in different domain**.

III. COURSELEVELLEARNINGOUTCOMES(COs)

Studentswillbeabletoachieve&demonstratethefollowingCOsoncompletionofcoursebasedlearning

CO1- Use computer system and its peripherals for given purpose
CO2- Prepare Business document using Word Processing Tool
CO3- Analyze Data and represent it graphically using Spreadsheet
CO4- Prepare professional Slide Show presentations
CO5- Identify different types of Web Browsers and application of Emerging Technologies

IV. TEACHING-LEARNING&ASSESSMENTSCHEME

CourseCode	CourseTitle	Abbr	CourseCategory/s	ActualContact Hrs./Week			SLH	NLH	Credits	PaperDuration	Theory				Based on LL &TSL Practical				Based onSL		TotalMarks
				CL	TL	LL					FA-TH Max	SA-TH Max	Total Max	Min	FA-PR Max	Min	SA-PR Max	Min	SLA Max	Min	
7G601	Fundamentals of Computer and Information Technology	ICT	SEC	1	-	2	1	4	2	-	-	-	-	-	25	10	25@	10	25	10	75

TotalIKSHrsfor Sem.:0Hrs

Abbreviations:CL-ClassRoomLearning,TL-TutorialLearning,LL-LaboratoryLearning,SLH-SelfLearningHours,NLH-NotionalLearningHours,FA-FormativeAssessment,SA-Summativeassessment,IKS-IndianKnowledgeSystem,SLA-SelfLearningAssessment

Legends:@InternalAssessment,#ExternalAssessment,*#OnLineExamination,@$InternalOnlineExamination

Note:

1. FA-THrepresentsaverageoftwoProgressivetestsof30markseachconductedduringthesemester.
2. IfcandidateisnotsecuringminimumpassingmarksinFA-PRofanycoursethenthecandidateshallbedeclaredas"Detained"inthatcourse.
3. IfcandidateisnotsecuringminimumpassingmarksinSLAofanycoursethenthecandidateshallbedeclaredasfailandwillhavetorepeatandresubmitSLAwork.
4. NotionalLearninghoursforthesemesterare(CL+LL+TL+SL)hrs.*15Weeks
5. 1creditisequivalentto30Notionalhrs.
6. *SelflearninghoursshallnotbereflectedintheTimeTable.
7. *Selflearningincludesmicroproject/assignment/otheractivities.

V. THEORYLEARNINGOUTCOMESANDALIGNEDCOURSECONTENT

Sr.No	TheoryLearningOutcomes(TLO's) alignedtoCO's.	LearningcontentmappedwithTheoryLearningOutcomes(TLO's)andCO's.	SuggestedLearningPedagogies.
1	**TLO 1.1** Explain the functions of components in the block diagram of computer system. **TLO 1.2**Explain Internal components of ComputerSystem **TLO 1.3**Describe different types of External Devices **TLO 1.4**Classify the given type of software **TLO 1.5** Explain characteristics of the given type of network **TLO1.6**Describe procedure to manage a file /folder in the given way.	**Unit-I Introductionto ComputerSystem** **1.1** Basics of Computer System: Overview of Hardware andSoftware: block diagram of Computer System, Input/Output unitCPU, Control Unit,Arithmetic logic Unit (ALU), Memory Unit, **1.2** Internal components: processor, motherboards, random accessmemory (RAM), read-only memory (ROM), video cards, sound cardsand internal hard disk drives) **1.3** External Devices: Types of input/output devices, types ofmonitors, keyboards, mouse, printers: Dot matrix, Inkjet andLaserJet,plotterandscanner,externalstoragedevicesCD/DVD,Hard disk and pen drive **1.4** Application Software: word processing, spreadsheet, databasemanagement systems, control software, measuring software, photo-editing software, video-editing software, graphics manipulationsoftware System Software compilers, linkers, device drivers etc. **1.5** Network environments: network interface cards, hubs, switches,routers and modems, concept of LAN, MAN, WAN, WLAN, Wi-Fiand Bluetooth **1.6** Handling File/Folder: Create and manage file andfolders, Copy a file, renaming and deleting of files and folders,Searching files and folders, application installation, creating shortcutof application on the desktop	Chalk Board/ White Board/ Hands-onDemonstration/Presentations
2	**TLO 2.1** Create the given text document. **TLO 2.2** Explain the given feature for document editing. **TLO 2.3** Explain the given page setup features of a document. **TLO 2.4** Use ofInsertingElementstoWordDocuments **TLO 2.5**Describe the given table formatting feature. **TLO 2.6** Explain document layout	**Unit-IIWordProcessing** **2.1** Word Processing: Overview of Word processor Basics of Fonttype, size, colour, Effects like Bold, italic, underline, Subscript andsuperscript, Case changing options, Find and Replace word, Previewing a document, Saving adocument in doc and pdf format, Closing a document and exiting application. **2.2** Editing a Document: Navigate through a document, Scrollthrough text, Insert and delete text, Select text, Undo and redocommands,Usedraganddroptomovetext,Copy,cutandpaste,Usethe clipboard, Clear formatting, Format and align text, Formatting **2.3** Changing the Layout of a Document: Adjust page margins,Change page orientation, Create headers and footers, Set and changeindentations, Insert and clear tabs **2.4** InsertingElementstoWordDocuments:Insertanddeleteapagebreak, Insert page numbers, Insert the date and time, Insert specialcharacters (symbols), Insert a picture from a file, Resize andreposition a picture, Insert Clip Art and Shapes. **2.5** Working with Tables: Insert a table, Convert a table to text,Navigateandselecttextinatable,Resizetablecells,Aligntextinatable, Format a table, Insert and delete columns and rows, Bordersand shading, Repeat table headings on subsequent page **2.6** WorkingwithColumnedLayoutsandSectionBreaks:aColumns, Section breaks, Creating columns, Newsletter style columns,Changing part of a document layout or formatting, Remove sectionbreak, Add columns to remainder of a document, Column widths,Adjust	Chalk Board/ White Board/ Hands-onDemonstration/Presentations

3	**TLO 3.1** Create, Open, edit spreadsheet. **TLO 3.2** Apply different formatting feature to worksheet. **TLO 3.3** Use of formula and functions in the given worksheet **TLO 3.4** creates different type of charts for the given data set. **TLO 3.5** Use data filter, sort and validation operations on the given data set. **TLO 3.6** Apply Print setup and print a spreadsheet.	**Unit-IIISpreadsheets** **3.1** Working with Spreadsheets: Overview of workbook andworksheet,CreateWorksheetEnteringsampledata,Save,CopyWorksheet, save worksheet with password protect, DeleteWorksheet,CloseandopenWorkbook. **3.2** Editing Worksheet: Insert and select data, adjust row height andcolumn width, delete, move data, insert rows and columns, Copy andPaste, Find and Replace, Spell Check, Zoom In-Out, SpecialSymbols,InsertComments,AddTextBox,UndoChanges,-Freeze **3.3** FormattingCellsandsheet:SettingCellType,SettingFonts,Textoptions, Rotate Cells, Setting Colors, Text Alignments, Merge andWrap, apply Borders and Shades, Sheet Options, Adjust Margins,PageOrientation, Headerand Footer, InsertPage Breaks **3.4** WorkingwithFormula:CreatingFormulas,CopyingFormulas,Common spreadsheet Functions such as sum, average, min, max,date, In, And, or, mathematical functions such as sqrt, power,applyingconditions using IF. **3.5** WorkingwithCharts:Introductiontocharts,overviewofdifferenttypes of charts, Bar, Pie, Line charts, creating and editing charts.Using chart options: chart title, axis title, legend, data labels, Axes,grid lines, moving chart in a separate sheet. **3.6** Advanced Operations: Conditional Formatting, Data Filtering,Data Sorting, Using Ranges, Data Validation, Adding Graphics,Printing Worksheets, print area, margins, header, footer and otherpage setup options, Use Google sheet and other online tool for creating spreadsheet.	Chalk Board/ White Board/ Hands-onDemonstration/Presentations
4	**TLO 4.1** Crete, Open and edit basic slide presentation. **TLO 4.2** Insert Graphics, shapes and different media in the given presentation **TLO 4.3** apply table features in the given presentation **TLO 4.4** Insert and modify charts in the given presentation	**Unit-IVPresentationTool** **4.1** Creating a Presentation: Outline of an effective presentation,Identify the elements of the User Interface, Starting a NewPresentation Files, Creating a Basic Presentation, Working withtextboxes, Apply Character Formats, Format Paragraphs, View aPresentations **4.2** Inserting Media elements: Adding and Modifying GraphicalObjects to a Presentation - Insert Images into a Presentation, insertaudio clips,video/animation,AddShapes,AddVisual Styles toTextin a Presentation, Edit Graphical Objects on a Slide, Format **4.3** WorkingwithTables:InsertaTableinaSlide,FormatTables,andImportTables fromOther OfficeApplications. **4.4** WorkingwithCharts:InsertChartsinaSlide;ModifyaChart,ImportCharts from Other OfficeApplications. Use Google Slide and other online tool for creating slide presentation	Chalk Board/ White Board/ Hands-onDemonstration/Presentations
5	**TLO 5.1** Explain use of the given setting option in browsers and Role of ISP **TLO 5.2** Explain features of the given web service. **TLO 5.3** Explain concepts and applications of emerging technologies **TLO 5.4** Use various elementary cloud-based tools.	**Unit-VBasicsofInternetandEmergingTechnologies** **5.1** World Wide Web: Introduction, Internet, Intranet, Cloud, WebSites, web pages, URL, web servers, basic settings of web browsers-history, extension, default page, default search engine, creating andretrievingbookmarks, use of search engine. ISP ,need of ISP, types of ISP **5.2** WebServices:e-Mail, Creation of e-mail ID, Sending & Receiving email with attachment, Chat,VideoConferencing tools,e-learning,e-shopping, e-Reservation, e-Groups, Social Networking **5.3** Emerging Technologies: IOT, AI and ML, DroneTechnologies,3DPrinting. **5.4** Tools:Docs,Drive,forms,quiz,Translate and other Apps	Chalk Board/ White Board/ Hands-onDemonstration/Presentations

VI. LABORATORYLEARNINGOUTCOMEANDALIGNEDPRACTICAL/TUTORIALEXPERIENCES.

Practical/Tutorial/LaboratoryLearningOutcome(LLO)	Sr No	LaboratoryExperiment/PracticalTitles/TutorialTitles	Number ofhrs.	Relevant COs
LLO 1.1 Identify various Input/output devices,connections and peripherals of computer system **LLO 1.2** Work with Computer System,Input/output devices, and peripherals for managesfiles and folders for data storage.	1	a) Work with Computer System, Input/outputdevices,andperipherals.b)Workwithfilesandfolders	2	CO1
LLO 2.1 Create and manage word document. **LLO2.2**Applyformattingfeaturesontextatline,paragraph and page level.	2	Work with document files: a) Create, edit andsavedocumentin .doc, .PDFformat.b)Text,linesand paragraph level formatting	2	CO2
LLO 3.1 Insert and edit images, shapes in adocument file	3*	WorkwithImagesandShapesinWordProcessing.	2	CO2
LLO 4.1 Insert table and apply various tableformatting features on it.	4*	WorkwithtablesinWordProcessing.	2	CO2
LLO5.1 Applypagelayoutfeaturesinwordprocessing. **LLO 5.2** Print a document by applying variousprint options **LLO5.3** Usemail mergein wordprocessing	5*	Workingwithlayoutandprintinga)Documentpage layout, Themes, and printing. b) Use ofmailmerge with options.	2	CO2
LLO 6.1 Enter and format data in a worksheet. **LLO 6.2** Insert and delete cells, rows and columns**LLO 6.3**Apply alignment feature on cell	6	Create,openandeditWorksheet.	2	CO3
LLO 7.1 Create formula and "If" condition on celldata **LLO7.2**Applyvariousfunctionsandnamedranges in worksheet.	7*	Apply different FormulasandfunctionsinWorksheet.	2	CO3
LLO 8.1 Implement data Sorting, Filtering andData validation features in a worksheet.	8*	Apply Sort, Filter and validate data in Spreadsheet.	2	CO3
LLO 9.1 Create charts using various chart optionsin spreadsheet.	9	Create Charts in different formatsforVisualPresentationinSpreadsheet.	2	CO3
LLO 10.1 Print the worksheet by applying variousprint options for worksheet	10	Print Worksheetby applying different page setup	2	CO3
LLO 11.1 Apply design themes to the givenpresentation **LLO11.2**Insertpicturestext/images/shapesinslide **LLO11.3**Usepicturestext/images/shapeseditingoptions.	11	Create basic Slide Show Presentation.	2	CO4
LLO 12.1 Add tables and charts in the slides. **LLO 12.2** Run slide presentation in different modes **LLO12.3**Printslidepresentationashandouts/notes	12*	Insert and apply different features to TablesandChartsinSlide	2	CO4
LLO13.1 Applyanimationeffectstothetextandslides **LLO13.2**Add/setaudioandvideofilesinthepresentation.	13*	a) Insert Animation effects to Text and Slides. b)InsertAudioandVideofilesinpresentation	2	CO4

LLO 14.1 Configure internet connection on acomputer system **LLO14.2** Usedifferent webservices oninternet	14	a) Internet connection configuration b) UseInternetandWeb Services.	1	CO5
LLO 15.1 Configure different browser settings **LLO 15.2** Use browsers for the given purpose	15*	a)WorkingwithBrowsers b)create email account, send email with attachment.	1	CO5
LLO 16.1 Create web forms for survey usingdifferentoptions. **LLO 16.2** Create web forms for Quiz usingdifferentoptions	16	PrepareWebFormsforSurvey and Quiz.	1	CO5
LLO 17.1 Use of Mobile apps on WebServices	17	Use of Mobile apps for various online transactions on e-commerce sites.	1	CO5
		Total Hours	30	

Note: * sign indicates mandatory practical. Complete mandatory plus any six practicals (Total 14 practicals)

VII. SUGGESTEDMICROPROJECT/ASSIGNMENT/ACTIVITIESFORSPECIFICLEARNING/SKILLSDEVELOPMENT(SELFLEARNING)

Microproject
Themicroprojecthastobeindustryapplicationbased,internet-based,workshop-based,laboratory-basedorfield-basedassuggestedbyTeacher
1. Perform a survey on various input and output devices available in market and make its report.
2. Prepare Time Table using word application.
3. Prepare Notes on any one Technical Topics.
4. Prepare Resume with covering letter (Subject teacher shall assign a document to be prepared by each student).
5. Prepare slides with all Presentation features such as: classroom presentation, presentation about department.
6. Prepare presentation on Any one Technical Topics. (Subject teacher shall assign a presentation to be prepared by each student).
7. Prepare Student Marksheet using spreadsheet.
8. Prepare electricity Pay bills using spreadsheet.
9. Prepare tax statement using spreadsheet.
10. Prepare student's assessment record using spreadsheet. (Teacher shall assign a spreadsheet to be prepared by each student).
11. Carry-out Survey on different web browsers.
12. Generate resume, Spreadsheet, Presentation for different job profile, survey report of any industry using ChatGPT/any other AI tool.

Any new topic (other than mentioned list) related to the curriculum can be given for micro project.

Assignment
1. Describe Device and Windows Specification of your PC's.
2. Write down the steps to change the date and Time of your PC's.
3. Write the steps to Zip and Unzip large File/Folder using any software.
4. Explain uses of different mathematical functions available in worksheet.
5. Describe different type of printers with their features.
6. Write down the steps to install Any MS Office Software on windows.
7. Describe the different web browsers along with features available in the markets.
8. Describe any one social networking site and create own account.
9. Enlist different web site/apps available for e-shopping/commercial, e-Learning, e-job portals.
10. Write down the steps to create Google form.
11. Describe any three recent Emerging Technologies.
12. Explain how to share big file to multiple person through Google drive.
13. Write all hardware parts used in your Desktop/PC with configuration and company name.

Activities for specific learning:
Followingaresomesuggestiveself-learningtopics:
1. Use ChatGPT/any other AI tool to explore information.
2. Use Calender to Schedule and edit activities.

3. Use Translate app to translate given content from one language to another.
4. Create innovative Invitation/Greeting card for any event.
5. To generate own QR code for money transaction.
6. Use of the Digital Locker and will be able to store documents in Digital Locker.
7. Use online Reservation System for Flight Booking, Train Booking.
8. Use online Reservation System for e-Bus and Hotel Booking.
9. Use Google Meet for Video Conferencing.
10. Use NEFT transaction mode for online money transfer.
11. Register for any self-learning MOOCS course.
12. Use PDF,word,image online Converter.

Note for Teacher: The marks distribution for self-learning activities should be decided by the teacher based on the nature and quality of Micro-projects, Assignments, and/or other self-learning tasks.

VIII.　LABORATORYEQUIPMENT/INSTRUMENTS/TOOLS/SOFTWAREREQUIRED

Sr.No	EquipmentNamewithBroadSpecifications	RelevantLLONumber
1	ComputerSystemwithallnecessaryPeripheralsandInternetconnectivity.	1.1 to 17.1
2	Any MS Office Software	2.1 to 13.2
3	Any Browser	14.1to 17.1

IX.　SUGGESTEDFORWEIGHTAGETOLEARNINGEFFORTS&ASSESSMENTPURPOSE(SpecificationTable)

Sr.No	Unit	UnitTitle	AlignedCOs	LearningHours	R-Level	U-Level	A-Level	TotalMarks
1	I	Introduction to Computer System	CO1	2				
2	II	Word Processing	CO2	3				
3	III	Spreadsheets	CO3	3		Not Applicable		
4	IV	Presentation Tool	CO4	4				
5	V	Basics of Internet and Emerging Technologies	CO5	3				
		GrandTotal		**15**	**0**	**0**	**0**	**0**

Legends: R – Remember Level, U – Understand Level, A – Application Level

X.　ASSESSMENTMETHODOLOGIES/TOOLS

Formative assessment (Assessment for Learning)

➢ Lab performance, Self-Learning, Term Work, Micro-project

SummativeAssessment(AssessmentofLearning)

➢ Lab.Performance,vivavoce

XI.　SUGGESTEDCOS-POSMATRIXFORM

	ProgrammeOutcomes(POs)	Programme Specific Outcomes (PSOs)

CourseOutcomes(COs)	PO-1Basicand DisciplineSpecificKnowledge	PO-2 Problem Analysis	PO-3 Design/Developmentof Solutions	PO-4 Engineering Tools	PO-5 EngineeringPracticesforSociety,Sustainabilityand Environment	PO-6ProjectManagement	PO-7LifeLong Learning	PSO-1	PSO-2
CO1	1	-	-	-	-	-	2	-	-
CO2	-	-	-	3	-	-	3	-	-
CO3	-	2	2	3	-	-	3	-	-
CO4	-	-	-	3	-	-	3	-	-
CO5	1	-	-	1	-	-	1	-	-

XII.   SUGGESTEDLEARNINGMATERIALS/BOOKS

Sr.No	Author	Title	Publisher
1	Goel,Anita	Computer Fundamentals	Pearson Education, New Delhi, 2014, ISBN-13:978-8131733097
2	Miller,Michael	Computer Basics Absolute Beginner'sGuide,Windows 10	QUEPublishing;8theditionAugust2015,ISBN:978-0789754516
3	Johnson, Steve	MicrosoftOffice2010:On Demand	Pearson Education, New Delhi India, 2010. ISBN :9788131770641
4	Schwartz, Steve	MicrosoftOffice2010forWindows:VisualQuick Start	Pearson Education, New Delhi India, 2012, ISBN :9788131766613
5	Leete,Gurdy,FinkelsteinEllen, Mary Leete	OpenOffice.orgforDummies	WileyPublishing,NewDelhi,2003ISBN:978-0764542220
6	Priti Sinha, Pradeep K., Sinha	Computer Fundamentals	BPB Publications; 6th edition,ISBN-10:8176567523ISBN-13:978-8176567527

XIII.LEARNINGWEBSITES&PORTALS

Sr.No	Link/Portal	Description
1	https://www.microsoft.com/en-in/learning/office-training.aspx	Office
2	http://www.tutorialsforopenoffice.org/	OpenOffice
3	https://s3-ap-southeast-1.amazonaws.com/r4ltue295xy0d/Special_Edition_Using_StarOffice_6_0.pdf	OpenOffice
4	https://ashishmodi.weebly.com/uploads/1/8/9/7/18970467/computer_fundamental.pdf	ComputerFundamental
5	http://www.tutorialsforopenoffice.org/	OpenOffice
6	https://www.tutorialspoint.com/computer_fundamentals/index.htm	ComputerFundamental
7	https://www.tutorialspoint.com/word/	WordProcessing
8	https://www.javatpoint.com/ms-word-tutorial	WordProcessing
9	https://support.microsoft.com/en-au/office/word-for-windows-training-7bcd85e6-2c3d-4c3c-a2a5-5ed8847	WordProcessing
10	https://www.javatpoint.com/excel-tutorial	Spreadsheet
11	https://support.microsoft.com/en-au/office/excel-video-training-9bc05390-e94c-46af-a5b3-d7c22f6990bb	Spreadsheet
12	https://www.javatpoint.com/powerpoint-tutorial	PowerpointPresentation
13	https://support.microsoft.com/en-au/office/powerpoint-for-windows-training-40e8c930-cb0b-40d8-82c4-b	PowerpointPresentation

14	https://www.techtarget.com/iotagenda/definition/Internet-of-Things-IoT	IoT
15	https://www.geeksforgeeks.org/introduction-to-internet-of-things-iot-set-1/	IoT
16	https://www.javatpoint.com/machine-learning	AI & MachineLearning
17	https://www.skillrary.com/blogs/read/introduction-to-drone-technology	DroneTechnology
18	https://www.cnet.com/tech/computing/what-is-3d-printing/	3D Printing
19	https://support.google.com/a/users/answer/9389764?hl=en	Apps
20	https://www.geeksforgeeks.org/ms-dos-operating-system/	Operating System
21	https://www.javatpoint.com/windows	Windows OperatingSystem

Sr. No.	NEP-2020 Curriculum (7th Revision subjects consider for exemption)			Equivalent Online Course Name	Available platform for online course	Exemption in different assessment head of concerned subject (ALL/FA-PR/SA-PR/SLA)
	Sub-Code	Sub-Name	Semester			
1	7G601	Fundamentals of Computer and information technology	First	MSCIT	MKCL	ALL
				Introduction to computer	Spoken Tutorial	
				BLI-224: ICT Fundamentals	SWAYAM	
				Computer Fundamentals	SWAYAM	
				Computer Fundamental 101	Infosys Springboard	

Any other course approved by program head can be considered for Equivalent course.

XIV.   COURSE CURRICULUM DEVELOPMENT COMMITTEE

Sr. No.	Name of the Faculty	Designation	Sign
1	S. S. Jaiswal [Lect in CO]	Chairman	
2	P. V. Sontakke [Lect in CO]	Member	
3	S. M. Rudsamudra [Lect in IT]	Member	

XV.   COURSE CURRICULUM REVIEW COMMITTEE

Sr. No.	Name of the Faculty	Designation	Sign
1	R. N.Khadase [Lect in ME]	Reviewer 1	
2	V. B. Kundlikar [Lect in IT]	Reviewer 2	
3	A. A. Dabhade[Lect in ET]	Reviewer 3	