Course Title	**BASIC COMPUTER SKILLS LAB**	Course Code	: **15EE13P**
Semester	: **I**	Course Group	: **Core**
Teaching Scheme in Hrs (L:T:P) : **0:2:4**		Credits	: **3 Credits**
Type of course	: **Tutorial + Practical**	Total Contact Hours : **78**	
CIE	: **25 Marks**	SEE	: **50 Marks**

Pre-requisites	: Knowledge of English comprehension
Course Objectives	: To provide practical knowledge about the Basics of Computers hardware and software, internet, email, and to solve exercises using the application tools like Word processor, Spread sheet and Presentation.

Course Outcomes:

After completion of the Course the student will be able to,

1. Identify Computer hardware parts and connect peripherals.

2. Install Operating Systems and Utility software.

3. Install and configure Printer and LAN card.

4. Use internet to search, download, and access email account.

5. Create documents on Word processor, Spread sheet, and Presentation applications.

LIST OF GRADED EXERCISES:

Computer hardware and software:-

1. Understand and identify Computer front panel switches and back panel connections and physical components of a Computer.
2. Create Icons, Folders, Creating/ Opening of file, Editing and saving the document, Copy, Cut and Paste operations on Operating System.
3. Install and Use the Utilities like pdf Reader, Zip tool, Audio/ Video players, etc.
4. Install any one Operating System.
5. Install and configure Printer and LAN card.
6. Create E-Mail account, Send & Check email, Search, Download and Upload an attachment.

Using Word Processor (select page A4, portrait, with margins)

7. Create a Business or Personal Letter using Italics, Bold, Fonts, Indent, Paragraph, etc.
8. Create a Company Letterhead using Tables, Text Box, Picture and Background.

9. Create a Simple Newsletter using 2 columns, Drop Cap, Pictures, etc.
10. Create a Resume or Curriculum Vitae using Bullets, Lines, Tables, etc.
11. Create an Invitation/ Greeting card.
12. Create the Cover page of a Project Report using Word Art, insert Picture Image.

Using Spread sheet

13. Create a worksheet with ten columns, each column for Sl. No., Register No., Student Name, and one column for each Course, enter ten student records and find the sum of all columns and rows using sum feature.
14. Create a worksheet containing the pay details of employees (containing Basic pay, DA, HRA, Medical allowance, with Deductions- PF, PT, Insurance) and find Gross and Net salary using different formulas.
15. Create a results sheet containing Candidate's Register No., Name, Marks for all Courses, Total Marks, Percentage and Result. Result must be calculated as below:
Distinction if Total Percentage >= 70 %
First Class if Total Percentage > = 60 % and < 70 %
Second Class if Total Percentage >= 50 % and < 60 %
Pass if Total Percentage >= 35 % and < 50 % provided the candidate has secured at least 35 marks in each Course or Fail otherwise.
16. Create a Simple Bar Chart and Pie Chart to highlight the sales of a company for three different periods, also give different colours and legends.

Using Presentation Tool,
17. Create a Presentation consisting of 6 slides about Computer hardware, Software, Peripheral devices (including Input and Output devices).
18. Create automated/ slide transition Presentation of six slides with timings & animation about Sources of Electrical Energy, Advantages and Applications.

Resources:

1. Computer Fundamentals Concepts, Systems, Application by D. P. Nagapal, S. Chand Publications, RP-2014, ISBN: 81-219-2388-3.
2. Fundamentals of Computers by V. Rajaraman and Neeharika Adabala, PHI Publications, 2015 Edition.
3. http://www.tutorialsforopenoffice.org/
4. http://www.libreoffice.org/get-help/documentation/

Software Tools: Any open source tool or equivalent proprietary tools

Composition of Educational Components:

Questions for CIE and SEE will be designed to evaluate the various educational components (Bloom's taxonomy) such as:

Sl. No.	Educational Component	Weightage (%)
1	Remembering	20
2	Understanding	20
3	Application/ Analysis	60
Total		**100**

Mapping Course Outcomes with Program Outcomes:
(Course Outcome linkage to Cognitive Level)

	Course Outcome	Experiment linked	PO Mapped	Cognitive Level	Lab Sessions
CO1	Identify Computer hardware parts and connect peripherals.	1	2, 3, 8, 9, 10	R/U/A	6
CO2	Install Operating Systems and Utility software.	3,4	2, 3, 8, 9, 10	U/A	12
CO3	Install and configure Printer and LAN card.	5	2, 3, 8, 9, 10	U/A	6
CO4	Use internet to search, download, and access email account.	6	2, 3, 8, 9, 10	R/U/A	6
CO5	Create documents on Word processor, Spread sheet, and Presentation applications.	7,8,9,10, 11,12,13,14, 15,16,17,18	2, 3, 8, 9, 10	U/A	58

R- Remember, U-Understanding, A-Application

Course-PO Attainment Matrix

Course	Programme Outcomes									
	1	2	3	4	5	6	7	8	9	10
Basic Computer Skills Lab	3	3	3	-	-	-	-	3	3	3

LEVEL 3- HIGHLY ADDRESSED, LEVEL 2-MODERATELY ADDRESSED, LEVEL 1-LOW ADDRESSED.
METHOD IS TO RELATE THE LEVEL OF PO WITH THE NUMBER OF HOURS DEVOTED TO THE COS WHICH ADDRESS THE GIVEN PO.
IF ≥40% OF CLASSROOM SESSIONS ADDRESSING A PARTICULAR PO, IT IS CONSIDERED THAT PO IS ADDRESSED AT LEVEL 3
IF 25 TO 40% OF CLASSROOM SESSIONS ADDRESSING A PARTICULAR PO, IT IS CONSIDERED THAT PO IS ADDRESSED AT LEVEL 2
IF 5 TO 25% OF CLASSROOM SESSIONS ADDRESSING A PARTICULAR PO, IT IS CONSIDERED THAT PO IS ADDRESSED AT LEVEL 1
If < 5% of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.

Course Delivery:

The course will be delivered through tutorials (1 Hour) and hands on practice (2 Hours).

Tutorial - 1Hr:

 Staff-in-charge will

1. Demonstrate the Computer hardware, software and give inputs for exercise solution.
2. Ask students to write down the steps for solution on above exercises.

Conduction/ Execution - 2 Hr:

Execute and solve/ create the exercise on Computer.

Course Assessment and Evaluation

		What	To Whom	Frequency	Practical	Evidence Collected	Course Outcomes
Direct Assessment	**CIE (Continous Internal Evaluation)**	**I A Tests**	**Students**	**Two IA tests for Practical (Average marks of both the tests will be computed)**	**10**	**Blue Books**	**1 to 5**
		Record Writing		**Record Writing (Average of Marks allotted for each expt.)**	**10**	**Lab Record**	**1 to 5**
				Assignments	**05**	**Log of Activity**	**1 to 5**
				TOTAL	**25**		
	SEE (Semester End Examination)	**End Exam**	**Students**	**End Of the Course**	**50**	**Answer Scripts**	**ALL COs**
Indirect Assessment		**Student Feedback on course**	**Students**	**Middle of The Course**	**Feed Back Forms**		**All Cos**
		End Of Course Survey		**End of The Course**	**Questionnaire**		**All COs**

Note: I.A. test shall be conducted as per SEE scheme of valuation. However the obtained marks shall be reduced to 10 marks. (Any decimals shall be rounded off to next higher digit).

Suggested Student Activity (any one to be submitted with 3 pages report):

1. Mini project on Computer hardware and Software.
2. Identify the faulty part in the PC and replace the same for its working.
3. Mini project on Super Computer and Server System.
4. Mini project on Computer configurations with different makes/ Manufacturer
5. Mini project on DTP using Computers.
6. Mini project on Computers available in the Institute with complete configurations.
7. Applications of Computers in Engineering field.

MODEL OF RUBRICS / CRITERIA FOR ASSESSING STUDENT ACTIVITY (Course Coordinator)

Dimen sion	Scale					Students score (Group of five students)				
	1 Unsatisfactory	2 Developing	3 Satisfactory	4 Good	5 Exemplary	1	2	3	4	5
1	Descriptor	Descriptor	Descriptor	Descriptor	Descriptor	3				
2	Descriptor	Descriptor	Descriptor	Descriptor	Descriptor	2				
3	Descriptor	Descriptor	Descriptor	Descriptor	Descriptor	5				
4	Descriptor	Descriptor	Descriptor	Descriptor	Descriptor	4				
Note: Concerned faculty (Course coordinator) must devise appropriate rubrics/criteria for assessing Student activity for 5 marks **One activity on any one CO (course outcome) may be given to a group of FIVE students** **Grand Average/Total**						14/4 =3.5 ≈4				

Example only: MODEL OF RUBRICS / CRITERIA FOR ASSESSING STUDENT ACTIVITY- Task given- Industrial visit and report writing

Dimensi on	Scale					Students score (Five students)				
	1 Unsatisfactory	2 Developing	3 Satisfactory	4 Good	5 Exemplary	1	2	3	4	5
1.Organi sation	Has not included relevant info	Has included few relev ant info	Has included some relev ant info	Has included many relev ant info	Has included all relevant info needed	3				
2. Fulfill team's roles & duties	Does not perform any duties assigned	Performs very little duties	Performs partial duties	Performs nearly all duties	Performs all duties of assigned team roles	2				
3.Conclu sion	Poor	Less Effective	Partially effective	Summarise s but not exact.	Most Effective	5				
4.Conve nsions	Frequent Error	More Error	Some Error	Occasional Error	No Error	4				
					Total marks	14/4=3.5 ≈4				

Scheme of Valuation for SEE (Semester End Examination):

Scheme of Valuation for SEE

Sl. No.	Particulars	Marks
1.	Exercise on Computer Hardware or Software	10
2.	Exercise on Word / presentation	15
3.	Exercise on spreadsheet	15
4.	Viva-voce	10
	Total	**50**

Note: Question Paper will have ONE question on Graded exercises

MODEL QUESTION BANK

Computer hardware and software
1. For the given Personal Computer (PC), Identify and List out front panel switches, back panel connections, and internal & external physical components. Mention the functions of each component.
2. For the given Personal Computer, Create System Application Shortcut Icons on desktop, Folders and Sub-folders in D Drive for one Semester and the Courses demonstrating Copy, Paste, Rename, etc. operations.
3. Install and Use the Utilities like pdf Reader, Zip tool, Audio/ Video players, etc.
4. For the given PC, Install any one Operating System.
5. For the given PC, Install and configure Printer and LAN card.
6. Create E-Mail account, download, attach a document demonstrate to Send & Check e-mail.

Using Word Processor Application (select page A4, portrait, with 1" L-R-B-T margins),
7. Create a Business letter enquiring for Computer quotation demonstrating Italics, Bold, Fonts, Indent, Paragraph, etc.
8. Create a Personal Letter to your Polytechnic HOD/ Principal using Italics, Bold, Fonts, Indent, Paragraph, etc.
9. Create a Company Letterhead demonstrating Tables, Text Box, Picture and Background.
10. Create a Simple Newsletter using 2 columns, Drop Cap, Pictures, Tables, etc.
11. Create a Resume/ Curriculum Vitae using Bullets, Lines, Tables, etc.
12. Create an Invitation/ Greeting card using insert picture, text box, map, etc.

13. Create the Cover page of a Project Report using Word Art, insert Picture Image.

Using Spread sheet Application,

14. Create a worksheet with ten columns, each column for Sl. No., Register No., Student Name, and one column for each Course, enter ten student records and find the sum of all columns and rows using sum feature.
15. Create a worksheet containing the pay details of Ten employees (containing Basic pay, DA, HRA, Medical allowance, with Deductions- PF, PT, Insurance) and find Gross and Net salary using different formulas.
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    Distinction if Total Percentage >= 70 %
    First Class if Total Percentage > = 60 % and < 70 %
    Second Class if Total Percentage >= 50 % and < 60 %
    Pass if Total Percentage >= 35 % and < 50 % provided the candidate has secured at least 35 marks in each Course or Fail otherwise.
17. Create a Simple Bar Chart to highlight the sales of Anchor Switch Company for three different periods, also give different colours and legends.
18. Create a Pie Chart to highlight the sales of a Finolex Cable/ Wire Company for three different periods, also give different colours and legends.

Using Presentation Application Tool,

19. Create a Presentation with minimum 6 slides about Computer hardware, Software, Peripheral devices (including Input and Output devices).
20. Create an automated/ slide transition Presentation of six slides with timings & animation to present Sources of Electrical Energy, Advantages and Applications.

COMPUTER LAB REQUIREMENT

Students Intake : 60   **Students per Batch : 20**

Sl. No.	Equipment Details	Specifications	Required Quantity
1	Personal Computers	Intel Core i5- 4th Generation- Processor, 3 GHZ, 4GB DDR3 RAM 1 TB Hard Disk DVD R/W Drive ATX Cabinet 19.5'' LED Monitor Multimedia Keyboard 104 keys, Optical Mouse, Multimedia Speakers	20
2	Anti-Virus Software with Internet Security	20 Users	20
3	Laser Jet Printers	Multi-function All in-One Printer (Including Scanner)	05
4	Laser Jet Printers	Printer	05
5	LAN Switch for Networking	LAN Switch for Networking – 20 Computers	5
6	UPS with Batteries	5 KVA UPS with Batteries 140 A-Hr,4 Hrs Backup	2
7	Software's	[Open Office/ Libre-Office] Office Package (Word Processing, Spread sheet, Database, and Power Point) PDF Reader, Zip tool, Audio/ Video Players	20
8	Air Conditioning System	1 Tonne	2
9	LCD Projectors with Screen	With Illumination Bulb capacity 1000 W	5