

4. STUDY AND EVALUATION SCHEME FOR CERTIFICATE PROGRAMME IN HARDWARE & NETWORKING

FIRST SEMESTER

CODE	UNITS	STUDY SCHEME Total Hours		CREDITS	MARKS IN EVALUATION SCHEME								Total Marks
		Th	Pr		INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT					
					Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot	
CECE2-101	Basic Sciences	32	-	2	25	-	25	25	1	-	-	25	50
CECE2-102	Basic Electrical & Electronics	32	-	2	25	-	25	25	2	-	-	25	50
CECE2-102P	Basic Electrical & Electronics Lab.	-	128	4	-	100	100	-	-	100	3	100	200
CECE2-103	Computer Hardware - I	32	-	2	25	-	25	25	2	-	-	25	50
CECE2-103P	Computer Hardware – I Lab.	-	128	4	-	100	100	-	-	100	3	100	200
CECE2-104	Computer Software	48	-	3	50	-	50	50	2	-	-	50	100
CECE2-104P	Computer Software Lab.	-	160	5	-	125	125	-	-	125	3	125	250
CECE2-105P	#Student Centred Activities (SCA)	-	48	2	-	25	25	-	-	-	-	-	25
CECE2-106P	+4 Weeks Industrial Training (during vacation)	-	-	4	-	-	-	-	-	100	3	100	100
Total		144	464	28	125	350	475	125	-	425	-	550	1025

SCA will comprise of co-curricular activities like extension lectures on entrepreneurship, environment and energy conservation, sports, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities etc.

+ **Industrial Training**
After examination of 1st Semester, the students will go for training during vacation in a relevant industry/field organization for a minimum period of 4 weeks and will prepare a diary. The students will prepare a report at the end of training and will present it in a seminar. This evaluation will be done by concerned instructor in the presence of one industrial representative from the related programme/trade.

Total weeks per Semester = 16 Total working days per week = 5 Total hours per day = 7

Total hours in a Semester = 16 x 5 x 7 = 560

One credit is defined as one hour of lecture per week or two hours of practicals per week for one semester. Fractions in credits have been rounded to nearest integer.

SECOND SEMESTER

CODE	UNITS	STUDY SCHEME Total Hours		CREDITS	MARKS IN EVALUATION SCHEME							Total Marks	
		Th	Pr		INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT					
					Th	Pr	Tot	Th	Hrs	Pr	Hrs		Tot
CECE2-207	Communication Skills	32	-	1	25	-	25	25	2	-	-	25	50
CECE2-207P	Communication Skills Lab.	-	32	1	-	25	25	-	-	25	3	25	50
CECE2-208	Computer Networking	64	-	4	75	-	75	75	1	-	-	75	150
CECE2-208P	Computer Networking Lab.	-	256	8	-	150	150	-	-	150	3	150	300
CECE2-209	Computer Hardware - II	64	-	4	75	-	75	75	1	-	-	75	150
CECE2-209P	Computer Hardware – II Lab.	-	128	4	-	100	100	-	-	100	3	100	200
CECE2-210P	Project Work	-	64	2	-	50	50	-	-	75	2	75	125
CECE2-211P	#Student Centred Activities (SCA)	-	48	2	-	25	25	-	-	-	-	-	25
CECE2-212P	+4 Weeks Industrial Training	-	-	4	-	-	-	-	-	100	3	100	100
Total		160	528	30	175	350	525	175	-	450	-	625	1150

SCA will comprise of co-curricular activities like extension lectures on entrepreneurship, environment and energy conservation, sports, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities etc.

+ **Industrial Training**

After examination of 2nd Semester, the students will go for training during vacation in a relevant industry/field organization for a minimum period of 4 weeks and will prepare a diary. The students will prepare a report at the end of training and will present it in a seminar. This evaluation will be done by concerned instructor in the presence of one industrial representative from the related programme/trade.

GUIDELINES FOR ASSESSMENT OF STUDENT CENTRED ACTIVITIES (SCA)

The maximum marks for SCA should be 25. The marks may be distributed as follows:

- i) 5 marks for general behaviour and discipline
(by Principal or HOD in consultation with the instructor(s)/trainers)
- ii) 5 marks for attendance as per following
(by the instructors/ trainers of the department)
 - a) Up to 75% Nil
 - b) 75% to 80% 02 marks
 - c) 80% to 85% 03 marks
 - d) Above 85% 05 marks
- iii) 15 marks maximum for sports/ NCC/ NSS/ Cultural/ Co-curricular activities as per following:
(by In-charge of Sports/ Cultural/ NCC/ NSS/ Co-curricular activities)
15 marks - for National level participation or inter-university competition
10 marks - participation any two of the activities
05 marks - participation at the internal sports of the institute/college/university
Note: There should be no marks for attendance in the internal sessional of different subjects.

UNIT-1.1
SUBJECT CODE: CECE2-101
BASIC SCIENCES

Learning Outcomes:

After undergoing this unit, the students will be able to:

- Apply the basic principles of Mathematics in solving the basic problems of the trade.
- Apply the basic principles of physics in solving the basic problems of the trade.

Practical	Theory (32Hours)
	<p>Mathematics</p> <ul style="list-style-type: none"> • Basic algebra – algebra formula. Simultaneous equation – quadratic equations. • Simultaneous linear equation in two variables. • Arithmetic and geometric progression, sum of n-terms, simple calculations. • Mensuration – Find the area of regular objects like triangle, rectangle, square, and circle; volumes of cube, cuboid, sphere cylinder. • Trigonometry – concept of angle, measurement of angle in degrees, grades and radians and their conversions, T-Ratios of Allied angles. • Co-ordinate Geometry – Cartesian and polar coordinates, conversion from Cartesian to polar coordinates. • Concept of differentiation and integration. <p style="text-align: center;">(16 Hours)</p>
	<p>Physics</p> <ul style="list-style-type: none"> • FPS, CGS, SI units, dimensions and conversions. • Force, speed, velocity and acceleration – Definition, units and simple problems. • Stress and strain, modulus of elasticity. • Heat and temperature, its units and specific heat of solids, liquids and gases. • Electricity and its uses, basic electricity terms and their units, D.C. and A.C., positive and negative terminals, use of switches and fuses, conductors and insulators. • Work, power and energy – Definition, units and simple problems. • Concept of force, Inertia, Newton’s First law of motion; momentum and newton’s

	second law of motion; Impulse; Newton's third law of motion. <ul style="list-style-type: none">• Friction and Lubrication.• Law of conservation of energy. (16 Hours)
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Means of Assessment

- Assignments and quiz/class tests
- Mid-term and end-term written tests
- Model/prototype making

UNIT-1.2
SUBJECT CODE: CECE2-102
BASIC ELECTRICAL & ELECTRONICS

Learning Outcomes:

After undergoing this unit, the students will be able to:

- Understand basic knowledge of basic electricity.
- Understand basic knowledge analog electronics.
- Understand basic knowledge digital electronics.
- Understand various processors and generations of computers.

Practical (128 Hours)	Theory (32 Hours)
<ul style="list-style-type: none"> • Use of AC and DC signals • To verify KVL and KCL • VI Characteristics of Diode • Design of small circuits comprising of resistors, capacitors, switches, battery etc. <p style="text-align: center;">(24 Hours)</p>	<p>Basic Electricity</p> <ul style="list-style-type: none"> • Electricity: types of signal, AC, DC • Circuits • Resistances • Series vs parallel • Basic components • Resistors, capacitors, Diodes, transistors, LED's, switches, Batteries, Bread boards, Wire • Simple Circuits (using Resistances, Battery, switch, LED etc.) • Circuits using (using Resistances, Capacitor, Transistor, Battery, switch, LED etc.) • Circuits using IC's. <p style="text-align: center;">(08 Hours)</p>
<ul style="list-style-type: none"> • Soldering of resistors on PCB. • De-soldering practice. • Verification of ohm's law. • Use of Multimeter. • Use of CRO and function generator. • Identify types of transistors based on physical appearance. • Quick test given transistors using multimeter. Identify open, shorted junctions. <p style="text-align: center;">(64 Hours)</p>	<p>Analog Electronics</p> <ul style="list-style-type: none"> • Soldering: Soldering tools, Components of solder, how to solder and desolder etc • Ohm's Law and concept of basic analog circuit, concept of Power. • Diode: Semiconductor basics, PN junction theory, PN junction Diode, Diode as half wave & full wave rectifiers, Zener diode and its applications. • Transformer and DC power Supply • Transistor • Use of Multimeter • Use of CRO and function generator • IC 741 <p style="text-align: center;">(08 Hours)</p>
<ul style="list-style-type: none"> • IC pin identification and testing • Identify the specifications of given digital IC's referring to data books. • To study and verify various logic gates. • Use and testing of various flip-flops, Registers and counters. <p style="text-align: center;">(24 Hours)</p>	<p>Digital Electronics</p> <ul style="list-style-type: none"> • Binary, Hexa, Octal number system • Logic families • Classification of Integrated Circuits • Digital Logic States • TTL Input & Output Voltage Levels • TTL and CMOS Logic Levels

	<ul style="list-style-type: none"> • Ideal TTL Digital Logic Gate Voltage Levels • Basic Logic Gates and universal gates • The “74” Sub-families of Integrated Circuits • D and RS flip flop • Shift Registers • Counters • IC 555 <p style="text-align: right;">(08 Hours)</p>
<ul style="list-style-type: none"> ❖ Basic Maintenance issues related with CPU. <p style="text-align: right;">(16 Hours)</p>	<p>Processors</p> <ul style="list-style-type: none"> • Processors and CPU: Introduction • Types of Processor • Generations in Computer <p style="text-align: right;">(08 Hours)</p>

Means of Assessment

- Assignments and quiz/class tests
- Mid-term and end-term written tests
- Laboratory and practical work
- Viva-voce

UNIT-1.3
SUBJECT CODE: CECE2-103
COMPUTER HARDWARE - I

Learning Outcomes:

After undergoing this unit, the students will be able to:

- Understand the various types of computer generations
- Study, Identification & testing of Parts & cards, RAM
- Assemble a PC, CMOS Setup and FDD & CDROM
- Install & Configure HDD, Key Board & Mouse

Practical (128 Hours)	Theory (32 Hours)
<ul style="list-style-type: none"> • Implement PC repair safety basics. • How to protect a PC from lightning strikes and power outages. (18 Hours) 	<p>Computer Generation</p> <ul style="list-style-type: none"> • Types of generation • Advantages & Disadvantages • Examples (02 Hours)
<ul style="list-style-type: none"> • Identification & testing of Parts & cards • Identification of different Processor Sockets • Identification of I/O Slots, BIOS, I/O Ports & IDE Channels • Identification of Display Cards and I/O cards (20 Hours) 	<p>Study & Identification & Testing of Parts & cards</p> <p>(A) Processors</p> <ul style="list-style-type: none"> • Definitions of processor, Bus speed, • Brief Study & Identifications of Processors <p>(B) Mother Board</p> <ul style="list-style-type: none"> • Study & Identification of I/O Slots, Ports • Study & Identification of BIOS • Study & Identification of IDE Channels <p>(C) Study of various sections of Motherboard</p> <ul style="list-style-type: none"> • Display, I/O, IDE, INTERNAL MODEM, Sound, Multimedia (06 Hours)
<ul style="list-style-type: none"> • Identification and testing of different slots of RAM (14 Hours) 	<p>Study & Identification & Testing of RAM</p> <ul style="list-style-type: none"> • Different types of RAM • SDRAM, RDRAM • Study & Identification of different slots of RAM (04 Hours)
<ul style="list-style-type: none"> • Mounting of the Motherboard • Connecting the different Ports & Connectors of IDE and SATA. • Inserting the different I/O cards on the Motherboard • Connecting the SMPS to the Motherboard (20 Hours) 	<p>Assembling of a PC</p> <ul style="list-style-type: none"> • Safety Precautions while Mounting of the Motherboard, Processors etc. • Issues related to compatibilities of different parts of the PC • Specification of different parts of PC (04 Hours)
<ul style="list-style-type: none"> • Configuring of different devices through CMOS • Changing of BIOS setup. (18 Hours) 	<p>CMOS Setup</p> <ul style="list-style-type: none"> • Study of Different types of BIOS • Flash BIOS • Study of Functioning of BIOS • Configuring of different devices through CMOS (04 Hours)

<ul style="list-style-type: none"> • Identification of the different parts of CDROM • CDROM Installation (14 Hours) 	<p>CDROM</p> <ul style="list-style-type: none"> • Identification of the different parts of CDROM • CDROM Installation (04 Hours)
<ul style="list-style-type: none"> • Parts Identification of HDD • Master-Slave Configuration of HDD • Partitioning of HDD • Data Recover Utility of HDD (12 Hours) 	<p>Installation & Configuration of HDD</p> <ul style="list-style-type: none"> • Logical Section of HDD • Physical Sections of HDD • Parts Identification of HDD • Master-Slave Configuration of HDD • Partitioning of HDD • Data Recover Utility of HDD (04 Hours)
<ul style="list-style-type: none"> • Testing of Different types of Keyboard • Testing of different types of Mouses (12 Hours) 	<p>Key Board & Mouse</p> <ul style="list-style-type: none"> • Study & Identification of Different types of Keyboard • Study of Different types of Mouses (04 Hours)

Means of Assessment

- Assignments and quiz/class tests
- Mid-term and end-term written tests
- Laboratory and practical work
- Viva-voce

UNIT-1.4
SUBJECT CODE: CECE2-104
COMPUTER SOFTWARE

Learning Outcomes:

After undergoing this unit, the students will be able to:

- Install: DOS and Windows 7,8,10 (32 bit, 64 bit)
- Use of MS Word, MS Excel and MS Power Point
- Install & Configure: Internet, Multimedia, Operating System and Application Software on PC

Practical (160 Hours)	Theory (48 Hours)
<ul style="list-style-type: none"> • Installation of DOS • Booting, making boot disk. • Formatting (16 Hours) 	<p>DOS</p> <ul style="list-style-type: none"> • Installation • Internal Commands • External Commands • Bootable CD or Removal Disc • Formatting (04 Hours)
<ul style="list-style-type: none"> • Practice on Windows 7,8,10 (32 bit, 64 bit) • Installation of different operating systems. (16 Hours) 	<p>Windows 7,8,10 (32 bit, 64 bit)</p> <ul style="list-style-type: none"> • Desk Top Management • Windows explorer • Control Panel • Task / Menu bar • Add/remove programs • Wall Papers and Screen Saver settings • Add new hardware • System configuration (08 Hours)
<ul style="list-style-type: none"> • To perform various operation/tasks using MS word (16 Hours) 	<p>MS Word</p> <ul style="list-style-type: none"> • Text entering, editing, formatting using word tools. • Creating hyperlink. (04 Hours)
<ul style="list-style-type: none"> • To perform various operation/tasks using MS Excel (16 Hours) 	<p>MS Excel</p> <ul style="list-style-type: none"> • Creating work sheet, editing, formatting using excel tools & formulas. (04 Hours)
<ul style="list-style-type: none"> • To perform various operation/tasks using MS Power Point (16 Hours) 	<p>MS Power Point</p> <ul style="list-style-type: none"> • Creating Presentation, editing, formatting using power point tools. • Inserting Audio and Video (04 Hours)
<ul style="list-style-type: none"> • Installation, Configuration on Internet • Crimping the RJ-45 Connector • MODEM • Net connectors • Derivers • Configuring the net • Properties (32 Hours) 	<p>Installation, Configuration on Internet</p> <ul style="list-style-type: none"> • Naming & Internet addressing, subneting, DNS layers • installation and connecting of Computer with Modem and Tel. lines • Internet browsing • E-Mail sending and Receiving • Computer Sharing (08 Hours)

<ul style="list-style-type: none"> • Installation and Configuration of Sound card, Audio and Video CDs along with utilities like WinAmp, Sonic, <i>etc.</i> (16 Hours) 	<p>Installation, Configuration of Multimedia</p> <ul style="list-style-type: none"> • Installation and Configuration of Sound card • Configuring the computer for Audio and Video CDs • Installation of various Audio and Video Utilities like WinAmp, Sonic, <i>etc.</i> (06 Hours)
<ul style="list-style-type: none"> • Installation configuration and activation of windows 7,8 , 10 (16 Hours) 	<p>Installation of Operating System</p> <ul style="list-style-type: none"> • Installation configuration and activation of windows 7, 8, 10. (04 Hours)
<ul style="list-style-type: none"> • Installation of Application Software (16 Hours) 	<p>Installation of Application Software</p> <ul style="list-style-type: none"> • Installation of MS- Office • Removal of virus, thread & Malware • Disc Management • Disc Defragmentation (06 Hours)

Means of Assessment

- Assignments and quiz/class tests
- Mid-term and end-term written tests
- Laboratory and practical work
- Viva-voce

SUBJECT CODE: CECE2-106P
INDUSTRIAL TRAINING – I (4 Weeks)

The purpose of industrial training is to:

- Develop understanding regarding the size and scale of operations and nature of industrial/field work in which students are going to play their role after completing the courses of study.
- Develop confidence amongst the students through firsthand experience to enable them to use and apply institute based knowledge and skills to perform field activities.
- Develop special skills and abilities like interpersonal skills, communication skills, attitudes and values.

It is needless to emphasize further the importance of Industrial Training of students during their one-year certificate programme. It is industrial training, which provides an opportunity to students to experience the environment and culture of world of work. It prepares students for their future role as skilled person in the world of work and enables them to integrate theory with practice.

An external assessment of 100 marks have been provided in the study and evaluation scheme of 1st Semester. Evaluation of professional industrial training report through viva-voce/presentation aims at assessing students understanding of materials, industrial process, practices in industry/field organization and their ability to engage in activities related to problem solving in industrial setup as well as understanding of application of knowledge and skills learnt in real life situations.

The instructor along with one industrial representative from the concerned trade will conduct performance assessment of students. The components of evaluation will include the following:

- | | | |
|----|----------------------------|-----|
| a) | Punctuality and regularity | 20% |
| b) | Industrial training report | 50% |
| c) | Presentation and viva-voce | 30% |

UNIT-2.1
SUBJECT CODE: CECE2-207
COMMUNICATION SKILLS

Learning Outcomes:

After undergoing this unit, the students will be able to:

- Speak confidently.
- Overcome communication barriers.
- Write legibly and effectively.
- Listen in proper prospective.
- Read various genres adopting different reading techniques.
- Respond to telephone calls effectively.

Practical (32 Hours)	Theory (32 Hours)
	<p>Basics of Communication</p> <ul style="list-style-type: none"> • Process of communication • Types of communication – formal and informal, oral and written, verbal and non-verbal. • Objectives of communication • Essentials of communication • Barriers to communication <p style="text-align: center;">(08 Hours)</p>
<ul style="list-style-type: none"> • Looking up words in a dictionary (meaning and pronunciation) <p style="text-align: center;">(04 Hours)</p>	<p>Functional Grammar and Vocabulary</p> <ul style="list-style-type: none"> • Parts of speech • Tenses • Correction of incorrect sentences <p style="text-align: center;">(06 Hours)</p>
<ul style="list-style-type: none"> • Self and peer introduction • Greetings for different occasions <p style="text-align: center;">(04 Hours)</p>	<p>Listening</p> <ul style="list-style-type: none"> • Meaning and process of listening • Important of listening • Methods to improve listening skills speaking • Importance • Methods to improve speaking • Manners and etiquettes <p style="text-align: center;">(06 Hours)</p>
<ul style="list-style-type: none"> • Newspaper reading <p style="text-align: center;">(06 Hours)</p>	<p>Reading</p> <ul style="list-style-type: none"> • Meaning • Techniques of reading: skimming, scanning, intensive and extensive reading <p style="text-align: center;">(06 Hours)</p>
<ul style="list-style-type: none"> • Vocabulary enrichment and grammar exercise • Exercise on sentence framing accurately <p style="text-align: center;">(06 Hours)</p>	<p>Functional Vocabulary</p> <ul style="list-style-type: none"> • One-word substitution • Commonly used words which are often misspelt • Punctuation • Idioms and phrases <p style="text-align: center;">(06 Hours)</p>
<ul style="list-style-type: none"> • Reading aloud articles and essays on current and social issues • Comprehension of short paragraph 	

<ul style="list-style-type: none">• Write a short technical report• Letter writing (06 Hours)	
<ul style="list-style-type: none">• Participate in oral discussion• Respond to telephonic calls effectively• Mock interview (06 Hours)	

Means of Assessment

- Assignments and quiz/class tests
- Mid-term and end-term written tests
- Laboratory and practical work
- Viva-voce

UNIT-2.2
SUBJECT CODE: CECE2-208
COMPUTER NETWORKING

Learning Outcomes:

After undergoing this unit, the students will be able to:

- Understand the Networking Fundamentals and Network Components
- Utilize the Window Server 2008
- Understand the installation of Linux

Practical (256 Hours)	Theory (64 Hours)
<ul style="list-style-type: none"> • Practical demonstration - Client, Server, Topology, Technology • Hierarchical Central Computer, Peer to Peer Network, Client Server Network • Network Topologies (64 Hours) 	<p>Networking Fundamentals</p> <ul style="list-style-type: none"> • Terminologies Client, Server, Topology, Technology etc. • Types of Network • Hierarchical Central Computer, Peer to Peer Network, Client Server Network • Types of Network Topologies • Types of Network Technologies • Types of Data passing Schemes (16 Hours)
<ul style="list-style-type: none"> • Coaxial, UTP, STP, FOC • Types of Connectors • RJ-45, Terminator, T-Connector, BNC • Use of HUB, Switch, Router • Crimping Tool kit, punching tool kit, cable tester (64 Hours) 	<p>Network Components</p> <ul style="list-style-type: none"> • Types of Cablings • Coaxial, UTP, STP, FOC • Types of Connectors • RJ-45, Terminator, T-Connector, BNC • Define HUB, Switch, Router (16 Hours)
<ul style="list-style-type: none"> • Active directory installation & configuration • Connectivity between server & client • User creation & Administration • Network printing (64 Hours) 	<p>Window Server 2008</p> <ul style="list-style-type: none"> • Active directory installation & configuration • Configure the server • DHCP server • DNS server • FTP server • SQL server • Connectivity between server & client • User creation & Administration • Directory Rights • Log in script • Network printing (16 Hours)
<ul style="list-style-type: none"> • Installation of Linux with windows User Creation & Administration in Linux • Configuration of TCP/IP in Linux • Connectivity of Linux with Windows • Connecting to the Internet in Linux (64 Hours) 	<p>Linux</p> <ul style="list-style-type: none"> • Installation of Red Hat Linux 7.0 • Installation of Linux with windows • User Creation & Administration in Linux • Accessing CDROM & HDD in Linux • Configuration of TCP/IP in Linux • Connectivity of Linux with Windows • Installation & Configuration of NFS Server

	<ul style="list-style-type: none">• Installation of software packages in Linux• Installation & Configuration of DHCP Server• Connecting to the Internet in Linux• Linux Security• Installation of DOS Emulator & Windows Emulator in Linux <p>(16 Hours)</p>
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Means of Assessment

- Assignments and quiz/class tests
- Mid-term and end-term written tests
- Laboratory and practical work
- Viva-voce

UNIT-2.3
SUBJECT CODE: CECE2-209
COMPUTER HARDWARE - II

Learning Outcomes:

After undergoing this unit, the students will be able to:

- Understand working and installation of Printers - DM & Inkjet, Laser jet
- Troubleshoot of Monitors – Mono & Colour
- Understand the working and troubleshooting of SMPS
- PC Trouble Shooting & Maintenance

Practical (128 Hours)	Theory (64 Hours)
<ul style="list-style-type: none"> • Installation of Dot-Matrix Printer in Windows-9X • Identification of Different parts of Dot-Matrix Printer • Identification of Different of Ink-jet Printer • Laser Printer (32 Hours) 	<p>Printers - DM & Inkjet, Laser jet</p> <ul style="list-style-type: none"> • Types of Printers • Impact & Non-Impact Printers • Working of Dot-Matrix Printer • Installation of Laser Printer • Identification of Different parts of Dot-Matrix Printer • Working of Ink-jet printer • Identification of Different of Ink-jet Printer (16 Hours)
<ul style="list-style-type: none"> • Voltage Measurement of Monitor • Troubleshooting of Monitor • LCD & LED (32 Hours) 	<p>Monitors</p> <ul style="list-style-type: none"> • LCD & LED Monitors • Resolution • Troubleshooting of Monitors (16 Hours)
<ul style="list-style-type: none"> • Parts Identification of SMPS • Voltage Measurements of SMPS • Troubleshooting of SMPS (16 Hours) 	<p>SMPS</p> <ul style="list-style-type: none"> • Study of Linear Power Supply • Study of Switch Mode Power Supply • Parts Identification of SMPS • Tracing of SMPS • Voltage Measurements of SMPS • Troubleshooting of SMPS (16 Hours)
<ul style="list-style-type: none"> • Problems in PC due to the Display Cards • Creating Data backup disc & system recovery disc. • Removing unused program • Running the disc cleanup program • Disc Defragmentation Program • Checking the hard disc drive & understanding hard disc drive space • Hardware installation, power, keyboard, mouse, internet access & performance (48 Hours) 	<p>PC Trouble Shooting & Maintenance</p> <ul style="list-style-type: none"> • Different Error signals generated by BIOS • Problems in PC due to the Display Cards • Problems in PC due to the cables & connectors • Data backup & system recovery. • Removing unused program • The disc clean up • Disc Defragmentation • Checking the hard disc drive & understanding hard disc drive space • Troubleshooting PC problems (Audio, video, CD & DVD drive, Display, HDD) • Hardware installation, power, keyboard,

	mouse, internet access & performance • Repairing software problems • Restarting PC, updating drivers, system restore, application & driver Recovery (16 Hours)
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Means of Assessment

- Assignments and quiz/class tests
- Mid-term and end-term written tests
- Laboratory and practical work
- Viva-voce

SUBJECT CODE: CECE2-212P
INDUSTRIAL TRAINING – I (4 Weeks)

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