

MRSPTU SKILL CERTIFICATE IN COMPUTER PROFICIENCY 2018 BATCH ONWARDS

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	
CCOP1-101	Communication Skills	8	-	0.5	25	-	25	25	1	-	-	25	50
CCOP1-101P	Communication Skills Lab.	-	24	0.5	-	50	50	-	-	75	3	75	125
CCOP1-102	Computer Fundamentals	16	-	1	25	-	25	25	1	-	-	25	50
CCOP1-102P	Computer Fundamentals Lab.	-	48	2	-	50	50	-	-	75	3	75	125
CCOP1-103	PC Assembling, Disassembling and Networking	16	-	1	25	-	25	25	1	-	-	25	50
CCOP1-103P	PC Assembling, Disassembling and Networking Lab.	-	112	4	-	75	75	-	-	75	3	75	150
CCOP1-104	Installation and Working of Operating Systems	16	-	1	25	-	25	25	1	-	-	25	50
CCOP1-104P	Installation and Working of Operating Systems Lab.	-	80	3	-	50	50	-	-	100	3	100	150
CCOP1-105	Office Automation	16	-	1	25	-	25	25	1	-	-	25	50
CCOP1-105P	Office Automation Lab.	-	80	3	-	50	50	-	-	100	3	100	150
CCOP1-106	Fundamentals of Internet and Webpage Development	16	-	1	25	-	25	25	1	-	-	25	50
CCOP1-106P	Fundamentals of Internet and Webpage Development Lab.	-	80	3	-	50	50	-	-	100	3	100	150
CCOP1-107P	#Student Centred Activities (SCA)	-	48	2	-	25	25	-	-	-	-	-	25
CCOP1-108P	*4 Weeks Industrial Training (during vacation)	-	-	4	-	-	-	-	-	100	3	100	100
Total		88	472	27	150	350	500	150	-	625	-	775	1275

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 theory/labs examination, the students will go for training in a relevant industry/field organization for a minimum period of 4 weeks and will prepare a diary. Final Viva-Voce of the training will be conducted after the submission of student's dairy report of the training. Final evaluation will be done by concerned instructor in the presence of one industrial representative from the related programme/trade.

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Subject Code: CCOP1-101 - COMMUNICATION SKILLS			
LEARNING OUTCOMES:			
After undergoing this unit, the students will be able to:			
<ul style="list-style-type: none"> • 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	(24 Hours)	Theory	(08 Hours)
		Basics of Communication <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 	(1 hour)
<ul style="list-style-type: none"> • Looking up words in a dictionary (meaning and pronunciation) 	(2 hours)	Functional Grammar and Vocabulary <ul style="list-style-type: none"> • Parts of speech • Tenses • Correction of incorrect sentences 	(2 hours)
<ul style="list-style-type: none"> • Self and peer introduction • Greetings for different occasions 	(1 hour)	Listening <ul style="list-style-type: none"> • Meaning and process of listening • Importance of listening • Methods to improve listening skills Speaking <ul style="list-style-type: none"> • Importance • Methods to improve speaking • Manners and etiquettes 	(2 hours)
<ul style="list-style-type: none"> • Newspaper reading 	(1 hour)	Reading <ul style="list-style-type: none"> • Meaning • Techniques of reading: skimming, scanning, intensive and extensive reading 	(1 hour)

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<ul style="list-style-type: none">• Vocabulary enrichment and grammar exercises• Exercises on sentence framing accurately (6 hours)	Functional Vocabulary <ul style="list-style-type: none">- One word substitution- Commonly used words which are often misspelt- Punctuation- Idioms and phrases <p style="text-align: right;">(2 hours)</p>
<ul style="list-style-type: none">• Reading aloud articles and essays on current and social issues• Comprehension of short paragraph (5 hours)	
<ul style="list-style-type: none">• Write a short technical report• Letter writing (3 hours)	
<ul style="list-style-type: none">• Participate in oral discussion• Respond to telephonic calls effectively• Mock interview (6 hours)	

Means of Assessment

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

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Subject Code: CCOP1-102 - COMPUTER FUNDAMENTALS	
LEARNING OUTCOMES: After undergoing this unit, the students will be able to:	
<ul style="list-style-type: none"> • Operate computer system and various peripherals. • Work on Windows control panel. • Work on search engines • Communicate through emails, send and receive files through emails. 	
Practical	Theory
(48 Hours)	(16 Hours)
<ul style="list-style-type: none"> • Identify various peripherals of a computer system such as Printers, keyboard, mouse, scanners, MODEM, speakers, microphone, projectors, monitors and other display devices. • identify various cables and connectors used. • Draw and explain block diagram of a computer system with peripherals. <p align="right">(10 hours)</p>	<ul style="list-style-type: none"> • Introduction to various input & output devices. <p align="right">(3 hours)</p>
<ul style="list-style-type: none"> • Identifying Motherboard, various cards, memory slots, microprocessor and other important chips. <p align="right">(5 hours)</p>	<ul style="list-style-type: none"> • Define hardware and software. Define memory and its types: primary & secondary memory. Measurements of memory: bit, byte, MB, GB, TB, etc) • Introduction to RAM and ROM. <p align="right">(5 hours)</p>
<ul style="list-style-type: none"> • Identify various ports, HDD, CD drive, DVD drives and their connectors. <p align="right">(3 hours)</p>	<ul style="list-style-type: none"> • Differentiate between HDD, CD, DVD and other drives(ZIP) <p align="right">(2 hours)</p>
<ul style="list-style-type: none"> • Start and shutdown a PC. • Use various icons and buttons. • Working with windows. <p align="right">(4 hours)</p>	
<ul style="list-style-type: none"> • Making Files and folders in Windows. • Coping folders to auxiliary memory. • Setting up parental controls in Windows. <p align="right">(6 Hours)</p>	
<ul style="list-style-type: none"> • Work on various options of control panel. <p align="right">(10 hours)</p>	

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<ul style="list-style-type: none">• Identify various browser on internet• Create an email id. Receive and send mails with attachments-Zip and Unzip files. <p style="text-align: right;">(6 hours)</p>	<ul style="list-style-type: none">• Explain internet. Discuss various applications of internet.• Introduction of various browsers. <p style="text-align: right;">(4 hours)</p>
<ul style="list-style-type: none">• Working on search engines.• Search relevant topics and making an assignment of the same. <p style="text-align: right;">(4 hours)</p>	<ul style="list-style-type: none">• Introduction to search engines <p style="text-align: right;">(2 hours)</p>

Means of Assessment

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

Subject Code: CCOPI-103 - PC ASSEMBLING, DISSEMBLING AND NETWORKING

LEARNING OUTCOMES:

After undergoing this unit student shall be able to:

- Demonstrate the assembling and dissembling of a PC.
- Install and configure of network elements on a network.
- Setup basic steps to ensure network security.
- Protect the system from virus and removing virus.

PRACTICAL	(112 Hours)	THEORY	(16 Hours)
<p>Assemble and Disassemble a PC (28 hrs)</p> <ul style="list-style-type: none"> • Steps for assembling a PC and commonly used devices such as installing a SMPS in a cabinet, fixing a processor in a mother board, installing RAM in a motherboard, pinning a cooling fan in a mother board. Demonstrate all electrical and other safety precautions. • Fix a Hard drive and DVD and connect the data and power cables. • Connect the cables from the SMPS to motherboard, hard disc, drives etc. Establishing data connection to motherboard, hard disc, drives. • Disassemble a PC with proper safety precautions. 		<ul style="list-style-type: none"> • Punching practice in IO Box and patch panel. 	
<p>Components of the Computer Network, Crimping, punching and cabling (24 hrs)</p> <ul style="list-style-type: none"> • Familiarization with various network devices, connectors and cables. • Make a layout of network. • Crimping practice with straight and cross CAT 6 cables. 			

- Introduction to computers, classification, generations, applications. Basic blocks of a digital computer. b) Hand Tools Basics and Specifications. a) Types of cabinets,
- Precautions to be taken while removing and reconnecting cables
(2 hrs)

- Introduction to Computer Network - Advantages of Network , peer-to-peer and Client/server Network.
- Network Topologies - Star, Ring ,Bus, Tree ,Mesh , Hybird.
- Type of networks – Local area network (LAN), Metropolitan area Networks (MAN), Wide Area Networks (WAN) and Internet , Ethernet, Wi-Fi, Bluetooth, Mobile Networking, Wire

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<ul style="list-style-type: none"> Practice on cabling in a lab with HUB/Switch and IO Boxes and patch panel. Fitting Switch Rack. 	<p>and wireless Networking.</p> <ul style="list-style-type: none"> Difference between Intranet and Internet. Communication media & connectors - unshielded twisted-pair (UTP), shielded twisted-pair (STP), fiber optics and coaxial cable: RJ-11, RJ-45, understanding color coding of CAT6 cable 568A and 568B convention. Introduction to data communication - analogue and digital signal <p align="right">(4 hrs)</p>
<p align="center">Install and Configure a Network (20 hrs)</p> <ul style="list-style-type: none"> Install and Configure a Peer-to-Peer Network using Windows Software. Making cables by crimping. Connect computers using Bluetooth. Connect computers using configuration of routers and switches. Practice on Basic Programmable switch Configuration. 	<ul style="list-style-type: none"> Theory of different OSI Model - the functions of different layers in OSI model Introduction to Network Components - Modems, Firewall, Hubs, Bridges, Routers, Gateways, Repeaters, Transceivers, Switches, Access point, etc - their functions, advantages and applications. <p align="right">(2 hrs)</p>
<p align="center">IP Addressing and TCP/IP (12 hrs)</p> <ul style="list-style-type: none"> Practice on IP Addressing technique (IPV4/IPV6) subnetting and supernetting the network. 	<ul style="list-style-type: none"> Protocols, TCP/IP, FTP, Telnet etc. Classes of IP Addressing Introduction to setting IP Address (IPV4/IPV6) and Subnet Mask and Supernet Mask. <p align="right">(2 hrs)</p>
<p align="center">Sharing Resource and Internet Connection (12 hrs)</p> <ul style="list-style-type: none"> Sharing Resource and Advance sharing settings. Configuring Internet Connection on a PC using Broadband or Dongle. Use Internet for setting E-mail accounts. 	<ul style="list-style-type: none"> Concept of Internet Architecture of Internet DNS server Internet Access Techniques ISPs example - Broadband/Dialup/Wifi (2 hrs)

<p>Network Protection and troubleshooting (8 hrs)</p> <ul style="list-style-type: none">• Setting up basic Protection using public keys and MAC address filter.• Integrate wired with wireless network.• Power over Ethernet(PoE).• Troubleshooting wired and wireless network.	<ul style="list-style-type: none">• Understanding the use of wired and wireless networks• Protecting a Network• Network performance study and enhancement• Use of wi-fi hot spot with Mobile and laptop. <p style="text-align: right;">(2 hrs)</p>
<p>Network Security (8 hrs)</p> <ul style="list-style-type: none">• Practice on firewall technologies to secure the network perimeter.• Practice LAN security considerations and implement endpoint and layer 2 security features .• Wi-Fi configuration to implement security considerations.	<ul style="list-style-type: none">• Modern Network Security Threats and the basic of securing a network.• Secure Administrative Access, security considerations. Cryptography.• Wi-Fi security considerations. <p style="text-align: right;">(2 hrs)</p>

Means of Assessment

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

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ONWARDS**

Subject Code: CCOPI-104 - INSTALLATION AND WORKING OF OPERATING SYSTEMS

LEARNING OUTCOMES:

After undergoing this unit student will be able to:

- Install Windows OS, drivers and other software.
- Manage disks, files and folders, User Accounts.
- Use and troubleshoot issues using Task Manager.
- Take backup and perform recovery of data.
- Use essential accessories

PRACTICAL	(80 Hours)	THEORY	(16 Hours)
			(4 hrs)
<ul style="list-style-type: none"> • Access and change Setup of BIOS- identifying the different options in BIOS and their purpose, changing the Boot sequence (4 hrs) • Practice on Windows Installation - Install Windows 7/8 or latest version of OS, Mac, Linux and Unix. Installation of drivers to use various components and peripherals. (10 hrs) • Installation of various Application and System software (10 hrs) • Practice on installation of various software such as MS Office, Libre Office, Open Source and utilities, chat, voice and video etc.) (4 hrs) • Checking the proper installation of various softwares. (4 hrs) • Uninstalling the software (4 hrs) • Executing application programs. (4 hrs) • User Management: Add, remove, enable, disable, delete User Accounts) - Setting properties and access rights of different users. 			

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- Introduction to operating system.
Functions and types of an
operating system
(2 hrs)
- Disk operating system, Concept of GUI.
(1 hr)
- Use of Desktop , My computer,
network neighbourhood / network
places, Recycle bin, task bar, start
menu, tool bar, and menus.
(1 hr)
- Properties of files and folders.
(1 hr)
- Executing application programs.
(2 hrs)
- Properties of connected devices.
(2 hrs)
- Applications under windows accessories.
(2 hrs)
- Windows Help.
(1 hr)
- Control panel, Installed devices and
properties, Utilities for recovering
data from defective/bad hard disks.
(2 hrs)
- Introduction to removable storage
devices, Bulk data storage devices-
magnetic, optical, magneto optical drives,
WORM drives. CD ROM drives, DVD
ROM drive and CD WRITER and

<ul style="list-style-type: none">• Use and apply various windows power options. Put the system in sleep or hibernate mode. (4 hrs) • Practice on Windows Help. (2 hrs) • Disk Management (Create, delete and format partitions)- Opening disk management tool, identifying primary and secondary partitions. Understanding purpose of various partitions. Accessing files in various format options. Accessing external disks and pen drives, Using Disk management tools- check disk, Disk cleanup, Disk Defragmentation. (10 hrs) • File Management (working with Files and Folders using File Explorer)- Identifying the type of file from extension. Changing properties of a file, Sharing of file. Exploring different options of Windows file explorer. Making file hidden and visible, Recognizing difference between system and user files. Scanning a file using anti-virus. Opening and copying a file from external device to system hard disk, Writing data on CD/DVD. Erasing files from CD/ DVD (10 hrs) • Task Management: use and troubleshoot issues with task manager) - Using various options of task manager. Data Backup and recovery. (2 hrs) • Using essential accessories-notepad, word pad, paint brush, calculators, calendar, character map, system tools, entertainment, Using Multimedia and windows media player and sounds. (4 hrs) • Data Backup and recovery. Creation of Recovery CD – Using the recovery CD, Booting the system in safe mode, booting the system from pen drive, CD Drive, external hard drive.	
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use different modes of writing on a CD
and Latest trends in backup
devices/media.

(2 hrs)

Means of Assessment

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

Subject Code: CCOP1-105 - OFFICE AUTOMATION

LEARNING OUTCOMES:

After undergoing this unit student will be able to:

- Use word processing software to create and save document files.
- Apply basic formula on data using spreadsheet software.
- Create presentation and insert different multimedia objects in presentation file using presentation software.
- Create simple table to store data in MS Access software.

PRACTICAL	(80 Hours)	THEORY	(16 Hours)
<p>Word Processing Software: MS Office/ Libre Office</p> <ul style="list-style-type: none"> • Familiarization with the Word window components. • Create, save and Edit documents using Word. • Insert headers, footer, watermarks, Bookmarks, Hyperlinks and other objects. • Page setup and Printing Documents using word. • Insert bullets, numbering, border etc. • Inserting and formatting tables and other objects. • Use templates, autocorrect tools, macros and the mail merge tool. • Check spelling and synonyms and antonyms. • Work with Page layout, margin settings and printing documents. • Typing practice using open source typing tutor tools. Speed of typing is 20 w.p.m. • Practice of using shortcut keys. <p align="right">(20 hrs)</p>		<p>Word Processing</p> <ul style="list-style-type: none"> • Introduction to the various applications in office. • Introduction to Word features, Office button, toolbars. • Creating, saving and formatting and printing documents using Word. <p align="right">(4 hrs)</p>	

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<p>Spread Sheet Application: MS Excel</p> <ul style="list-style-type: none"> • Create, Save and Format Excel Spreadsheets. • Use Absolute, Relative and mixed referencing, linking sheets, Conditional formatting etc. • Use Excel functions and formulas of all major categories. • Use various data types in Excel, Sorting, filtering, goal seek and validating data. • Create and format charts. • Import and Export Excel Data. • Perform data analysis using “what if” tools. • Modify Excel Page setup, page break and printing. • Analysing data using charts, data tables, goal seek and scenarios. • Apply and use of Excel and Word in any project. (20 hrs) 	<p>Spread Sheet Application</p> <ul style="list-style-type: none"> • Introduction to Excel features and Data Types. • Cell referencing. Use of functions of various categories, linking Sheets. • Introduction to various functions in all categories of Excel. • Concepts of Sorting, Filtering and Validating Data. • Introduction to Reporting. (4 hrs) <p align="right">(20 hrs)</p>
<p>Working with presentations Using Libre Office/MS Power point</p> <ul style="list-style-type: none"> • Create Slides, Inserting Objects and displaying slide shows in MS Power point/Open Office. • Use different slide layouts. • Animate Slide transitions and Objects. • Insert images, audio, video, chart, tables etc in slides. • Grouping and ungrouping of various objects. • Insert page number, bullets and header/footer etc. • Creating Slide Shows. • Create a simple presentation project using Libre Office. • Take printout in handout format. • Working with Libre Office for word processing and worksheet application. 	

Working with presentations Using
Libre Office/MS Power point

- Introduction to Power Point and its advantages.
- Introduction to the properties and editing of images.
- Fine tuning the presentation and good presentation techniques.

(4 hrs)

<p>Application of MS ACCESS</p> <ul style="list-style-type: none">• Create database and design a simple table in Access.• Enforce Integrity Constraints and modify the properties of tables and fields. <p style="text-align: right;">(20 hrs)</p>	<p>Application of MS ACCESS</p> <ul style="list-style-type: none">• Concepts of Data, Information and Databases.• Rules for designing good tables. Integrity rules and constraints in a table. <p style="text-align: right;">(4 hrs)</p>
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Means of Assessment

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

Subject Code: CCOP1-106 -FUNDAMENTALS OF INTERNET AND WEB DEVELOPMENT

LEARNING OUTCOMES:

After undergoing this unit student will be able to:

- Browse web sites using popular browsers and access their history.
- Communicate with other on Internet using e-mail and social networking sites.
- Access various services provided on cloud by different service providers and will be able to upload and download files securely
- Create web pages by inserting different multimedia elements and hyperlinks using HTML and CSS.

PRACTICAL	(80 Hours)	THEORY	(16 Hours)
Internet Concepts	(60 hrs)		
<ul style="list-style-type: none">• Demonstrate use of various types of internet like Broadband, Wireless, 2G, 3G, 4G, LAN Wi-Fi. etc• Explore different types of browsers like Mozilla Firefox, Google Chrome, Safari and their various functionalities like viewing history and downloads, working cookies, allowing pop-up etc.• Accessing various search engine on web browsers and search content on it.• Demonstrate the use and significance of various types of Domain name space and protocol like SSL, HTTP, HTTPS by using any browser.• Use ftp protocol to transfer any file by using software like FileZilla etc. or use various types of other protocol like telnet, SMTP, POP etc.• Live communication practice using text, audio and video by using various tools like GTALK, SKYPE etc.• Create an ID in Social networking site like Facebook, Twitter etc. and explore it various functions.• Explore various free cloud services like Google drive and drop-box etc. by creating id on it.			

Internet Concepts (12 hrs)

- Introduction of concept of world wide web (www), internet, web browsers, various types of servers and search engines.
- Concepts of Domain name space.
- Introduction to video chatting tools, VOIP and Social Networking concepts.
- Concept of cloud storage and open source web server.
- Introduction to Internet Security, various threats and attacks,
- Introduction and salient features of cybercrime and copyright law.

<ul style="list-style-type: none">• Implement security aspects by using firewall.• Identify viruses in the systems and removing them by using anti-viruses.• Configure Outlook mail service in PC/Mobile phones etc.•	
<p>Introduction to HTML (20 hrs)</p> <ul style="list-style-type: none">• Create Simple HTML page by using heading tag, body tag, title tag, paragraph tag etc.• Format HTML by using table tag and list tags etc.• Design and develop web page with forms and form controls like radio button, check box, field box, button and other controls.• Create web page using basic features of CSS.• Design and edit webpages by using WYSIWYG web design tool.• Insert image, audio, video, links and marquees text in a web page.	<p>Introduction to HTML (4 hrs)</p> <ul style="list-style-type: none">• Concept and introduction of Static and Dynamic Web pages.• Introduction to HTML and various tags in HTML.• Introduction to HTML structure, tags, features and uses.

Means of Assessment

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

Subject Code: CCOP1-108 - 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 first hand 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:

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|-------------------------------|-----|
| a) Punctuality and regularity | 20% |
| b) Industrial training report | 50% |