Competency Based Curriculum

National Vocational Education Qualification Programme

NVEQ Level 3

IT Service Desk Attendant

Sector: Information Technology/ Information Technology Enabled Services (IT/ITeS)

PSS Central Institute of Vocational Education, Bhopal

(a constituent unit of NCERT, an autonomous organization under Ministry of Human Resource Development, Government of India)

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Introduction

The National Vocational Education Qualification Framework (NVEQF) developed by the Ministry of Human Resource Development (MHRD), Government of India is a descriptive framework that provides a common reference for linking various qualifications. It is used for setting common principles and guidelines for a nationally recognized qualification system covering Schools, Vocational Education and Training Institutions, Technical Education Institutions, and Universities/Colleges.

The NVEQF organizes qualifications according to a series of levels of knowledge and skills. These levels are defined in terms of learning outcomes i.e., the competencies (knowledge, skills and attitude) which the learners must possess regardless of whether they were acquired through formal, non-formal or informal education and training system. Qualifications are made up of occupational standards for specific areas of learning units or unit of competency. Units of competency are the specification of knowledge and skill and the application of that knowledge and skill to the standard of performance expected in the workplace. The Unit of competency or National Occupation Standards comprising generic and technical competencies an employee should possess are laid down by the Sector Skill Council of the respective economic or social sector.

Competency is defined in terms of what a person is required to do (performance), under what conditions it is done (conditions) and how well it is to be done (standards). It can be broadly categorized into foundational, practical and reflexive competencies. Generic competencies are considered essential for a person to participate effectively in the workforce, whereas technical competencies are an individual's knowledge and expertise in the specific group task and

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its processes and its rules and regulations. An executive order F.No.1-4/2011-VE dated 3 Sept., 2012 on the various aspects of NVEQF has been issued by the MHRD. For more details on the NVEQF, please visit the website of MHRD at www: mhrd.gov.in.

The term "**curriculum"** (plural: *curricula or curriculums*) is derived from the Latin word for "*race course"*, referring to the course of deeds and experiences through which children grow to become mature adults. A competency based curriculum describes what learners must "know" and "be able to do" by the end of a program or study. It identifies the competencies and sub-competencies each learner is expected to master. It states clearly the criteria and conditions by which performance will be assessed. It also defines the learning activities that will lead to the learner to mastery of the targeted learning outcome.

The **competency based curriculum** is broken down into coherent parts known as **Units**. Each unit is further broken down into knowledge and skills on the basis of which evidence is to be provided by the learner and the evaluation is to be done by the teacher or trainer.

About the Sector

Information Technology (IT) and Information Technology-enabled Services (ITeS) are one of the most significant growth catalysts for the Indian economy. IT industry has not only influenced the employment prospects of the people but also affected the social lives of the people through networking and social websites. The major segments of the Industry are IT Services, Business Process Outsourcing (BPO), engineering services, research and development and products. IT Products being manufactured in India include personal computers, servers, workstations, supercomputers, data processing equipment, printers, digitizers, networking products, etc. Much of the IT related activities are centred on services in Banking, Financial Services, and Insurance (BFSI), Telecommunication, Manufacturing, and Retail.

Indian IT Industry has been contributing substantially to India's GDP, exports and employment. The sector is responsible for enabling employment to an additional 8.9 million people in various associated sectors – catering, security, transportation, housekeeping, etc – many of whom belong to rural areas/small towns in India. It has grown tremendously over the last 15 years. The industry had about 1,50,000 employees in 1993, and around 5,00,000 employees in 1999 but today, the industry employs around 2.2 million employees. The IT/ITES exports have grown to a staggering US$ 46.3 billion in 2008-09, the IT sector currently employing 2.2 million professionals directly and another 8 million people indirectly accounts for over 5% of GDP, a majority of the Fortune 500 and Global 2000 corporations are sourcing IT/ITES from India and it is the premier destination for the global sourcing of IT/ITES accounting for 55% of the global market in offshore IT services and garnering 35% of the ITES/BPO market.

It is expected that with the launch of the ultra low-cost Aakaash tablets exclusively for students, use of information technology will increase. Internet has made revolutionary changes with possibilities of e-filing Income Tax returns or applying for passports online or railway e-ticketing. With an internet user-base of over 125 million, which is likely to grow to about half-a-billion over the next few years, and an established mobile base of 950 million, coupled with a large and talented pool of human resources, India will be a key player in the cyber-world.

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Objectives of the Course

Upon completion of this course, you will be able to:

- Frame standard sentences in English for introducing yourself, greeting others, expressing about your family, telling time, asking questions, describing weather, expressing likes and dislikes, inviting people, etc.
- Describe the role and functions of various parts of computers.
- Demonstrate the use of various hardware and software in basic operations, such as creating and managing files and folder, changing display, and mouse properties, using Internet and world wide web, using digital media devices.
- Demonstrate the knowledge of preventing harm from natural and human threats.
- Demonstrate the ability to perform touch typing.
- Demonstrate the use of word processor in creating, editing, formatting and printing a document.
- Demonstrate the use of spreadsheet program in creating spreadsheet, entering and editing data, entering formulae for calculations, formatting cells, preparing stock register, inserting currency symbol, checking and correcting spelling errors, applying borders and different styles, and printing worksheets.
- Demonstrate the use of digital presentation software in creating, editing, formatting and printing slides and making presentations.
- Demonstrate the knowledge of opening and operating an email account for reading, composing, editing, sending, forwarding and managing email messages.

Competency Based Curriculum Level 3

Sector: Information Technology/Information Technology Enabled Services

Course Structure: This course (vocational qualification package) is a planned sequence of instructions consisting of the following 09 modules, called as Units.

Sn	Unit Code	Unit Title	Learning Hours	Pre-requisite
1	IT301	Functional English (Advanced)	15	
2	IT302	Digital Literacy	15	
3	IT303	Word Processor (Advanced)	15	
4	IT304	Spreadsheet (Advanced)	15	
5	IT305	Digital Presentation (Advanced)	15	
6	IT306	Email Messaging (Advanced)	15	
7	IT307	Computer Networks	20	
8	IT308	Web Designing Part 1	20	
9	IT308	Web Designing Part 2	20	
			150	

Successful completion of **150** hours of theory sessions and **150** hrs of practical activities and on-the-job learning is to be done for full qualification.

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Classroom Activities: Classroom activities are an integral part of this programme and interactive lecture sessions, followed by discussions should be conducted by trained teachers. Teachers should make effective use of a variety of instructional aids, such as Videos, Colour Slides, Charts, Diagrams, Models, Exhibits, Handouts, Recorded Compact Discs, etc. to transmit knowledge in projective and interactive mode.

Practical Activities: Activities that provide practical experience through case based problems, role play, games, etc. and practical exercises using props, tools and equipment should be regularly organized off-the-job and on-the-job. Equipment and supplies should be provided to enhance hands-on experiences to students in the chosen occupation. Trained personnel should teach specialized techniques such as dismantling and assembling of computer parts, servicing of computers, operating software programming, etc.

On-the-Job Training: On-the-job training (OJT) occurs whenever more experienced employee or supervisor teaches less experienced person on how to do one or more tasks of a job. The training utilizes actual equipment and materials. OJT should be undertaken in a structured manner with a training plan under the supervision of an experienced trainer or supervisor. A training plan that reflects tasks to be performed and competencies to be imparted should be prepared and signed by the student, teacher, and supervisor at the workplace for training of the students in the organization/industry. The trainer should break down all the steps of the job and train the students as per the training plan. In a structured OJT, the following steps should be followed:

Step 1: The Instructor or the trainer tell, show, demonstrate, and explain. The trainer gives an overview of the task while explaining the constructional details and use of the tools, equipment, materials, etc. in performing the tasks.

Step 2: The Instructor or the trainer demonstrates each step in detail, actually doing the steps of the task and explaining each step, one at a time, while the trainee watches. The steps may not necessarily be demonstrated in the sequence of actual operation, as sometimes it is better that simple tasks are demonstrated first to build confidence. Showing finished products at each appropriate step will help the leaner understand what is required as outcome. While demonstrating, the trainer explains why each step is done in the way it is done.

Step 3: It involves direct trainee participation. The trainer monitors the progress on a checklist of competencies and offers feedback and pointers where and when needed.

Step 4: The trainee practices with clearly defined targets for performance standards.

Certification: Upon successful completion of this course, the State Education Board and the IT-ITeS Sector Skill Council will provide a certificate to the student verifying the competencies acquired by the student. For more details about SSC visit the website of NASSCOM at http://www.nasscom.in/itites-sector-skill-council.

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Unit Code	Unit Title	Duration	Location	Teaching & Training Method
IT 301	**Functional English (Advanced)**	**15 Hours**	**Classroom and Computer Lab**	**Interactive Lecture & Practical Activity**

Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
1	Dress and Hygiene	Describe the reasons for maintaining/ following a good Hygiene Common terms used about Dress and Hygiene			
2	Preparing a Daily and Weekly Work Plan	Describe Work Plan Explain the need of Work Plan	Identify the key points to remember while planning your daily and weekly goals		
3	The Importance of Computers	Demonstrate the importance of computers in Today's World	Identify the use and importance of computers in various fields		
4	Identifying different types of Computers	Explain the types of Computers	Explain the advantages and disadvantages of different types of computers		
5	Computer Brands and Models	Categories of Computers Describes the issues/features which defends the brand Terms related to computer brands and models	Identify the brand ambassador of different computer brands Identify the features defending the brand		
6	Features, advantages and benefits	Define FAB of the product			

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	Locating Products	Describe the activities of Sales Representative	Identify the roles and responsibilities of a Sales Representative		
7	Complaint Handling	Define the nature of a complaint Describe the result a complaint has on business Demonstrate different ways of handling a complaint	Identify the importance of keeping a customer happy Identify the reasons why customers complain		
8	Categorizing Computer Issues	Define Categorizing Demonstrate how to categorize products and understand instructions related to it	Identify various computer related issues in different categories		
9	User Manual	Describe the purpose of User Manual	Identify the sections of User Manual		
10	Cross Selling	Describe Cross Selling Demonstrate methods for Cross Selling	Identify common terms and phrases used while cross selling a product		
11	Merchandizing Via Technology	Define Online and Tele-Merchandizing Describe the issues arises in Online and Tele-Merchandizing	Experience the advantages and disadvantages of online and tele-merchandizing		
12	Product Promotion	Describe Product Promotion Demonstrate different ways of promoting a product	Identify most common Product Promotion methods Explain the strategies for a product promotion by		

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			different ways		
13	Closing a Deal	Describe how to close a Deal Demonstrate the tactics used in closing a deal	Close the deal document by following appropriate procedures		
14	Stock Count	Describe the tasks involved in a Stock Count	Identify the benefits of Stock Count		
15	Writing a Customer Service report	Describing a Customer Service Report Purpose of Customer Service Report	Identify the important informations to be included in a Customer Service Report Demonstrate a Customer Service Report Chart		

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Unit Code	Unit Title	Duration	Location	Teaching and Training Method
IT 302	Digital Literacy	15 Hours	Classroom and Computer Lab	Interactive Lecture and Practical Activity

Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
1	Explore ethics in Digital world	Concept of Intellectual property, ownership and transfer rights	Explain the concept of Intellectual property, ownership and transfer rights by examples	Concept of ethics in digital word	Follow the ethics while working on the Internet
2	Follow copyright laws, Trademark and Patent	Copyright laws, rights, jurisdiction, validity and symbol, Trademark and Patents	Demonstrate about how to protect the document with copyright, Demonstrate how to use the copyright documents	Copyright laws, rights, jurisdiction, validity and symbol, Trademark and Patents.	Download the documents, pictures from the Internet, take the permissions from owner to use it for your purpose.
3	Explore the plagiarism	Concept of Plagiarism, Internet Plagiarism, Detecting Plagiarism	Demonstrate the process of detecting a plagiarism using appropriate websites	Concept of Plagiarism, Internet Plagiarism, Detecting Plagiarism	Upload the presentation on the Internet and detect whether it is been used by others
4	Avoiding Violations	Methods & licensing types for publication, Impact of violation of copyright laws	Demonstrate and follow the best practices to avoid copyright violations	Methods & licensing types for publication, copyright violation rules	Create a document and publish it with different license on the Internet
5	Cyberlaws	Cyber crime and cyber laws, places of cryber crime, how it occurs, who does it, effect of cyber crime on the digital world	Demonstrate the happenings of cyber crime and its treatment by cyber laws	Cyber crime and cyber laws, places of cryber crime, how it occurs, who does it, effect of cyber crime on the digital world	Visit the places occurring cyber crime, assign the cyber laws for the cyber crime.
6	Explore ethics in Digital world	Concept of Intellectual property, ownership and transfer rights	Explain the concept of Intellectual property, ownership and transfer rights by examples	Concept of ethics in digital word	Follow the ethics while working on the Internet

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Unit Code	Unit Title	Duration	Location	Teaching and Training Method
IT 303	Word Processing (Advanced)	15 Hours	Classroom and Computer Lab	Interactive Lecture and Practical Activity

Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
1	Sort, renumber and customize a list, Multilevel list	Process of sorting, sorting type and order, sorting function, list types, Renumbering process, Customizing	Demonstrate the sorting process in particular order, Demonstrate the process of numbering, renumbering, assigning bullets and numbers to single and multilevel list Demonstrate the various customizing options	Explain sorting, renumbering and customizing a list	Open a document and perform different types of sorting and renumbering operations on the existing list items, customize the options as per choice
2	Insert watermark in the document	What is watermark, Custom watermark, Adding watermark in a document	Demonstrate how to add watermark in the document	Explain watermark concept, custom watermark, adding watermark in document	Create a document and add watermark to appear on all the pages
3	Explore and work with different features of table manipulations	Tabulation concept in word processing, create, delete, select table, Manipulate table properties, select, add, delete rows/ columns in a table, Change height, width, style and format of table	Demonstrate how to insert table, rows, column, change the appearance, style and properties of table. Demonstrate table auto format, changing size, style, format of table	Tabulation concept in word processing, table properties and manipulations	Create a table in the document and apply various properties to it, change the height, width, of rows and column, change the style and formatting of table
4	Styling a document with styles	Importance of style, creating a style, assessing style, deleting and modifying a style	Demonstrate how to create, delete, modify and assess style in word processing	Importance of style, creating a style, assessing style, deleting and modifying a style	Create or assign a style to the text in the document and perform various style operations on it

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Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
5	Insert and work with themes in a document	Importance of themes, default theme, sources of collecting themes, assigning themes to the document, downloading themes from the Internet, customizing a theme	Demonstrate how to select and delete themes to the documents Demonstrate downloading themes from Internet Demonstrate customizing the themes	Importance of themes, default theme, sources of collecting themes, assigning themes to the document, downloading themes from the Internet, customizing a theme	Create a document and apply various themes to it, test the appearance of document as per the theme, download various themes from the Internet and apply it in the document
6	Insert and work with pictures in a document	Insert picture, modify picture and its appearance Compress a picture Resize a picture Crop a picture Picture tools and techniques Improve picture quality Apply special effects to picture	Demonstrate how to insert picture, compress and resize a picture, crop a picture, using the appropriate picture editing tools and techniques	Knowledge of picture tools and techniques, various operations performed on the picture, picture size and quality	Insert a picture in the document and preform the various operations such on it, use appropriate tools and techniques for picture editing and apply special effects to the picture, improve picture quality, reduce size
7	Insert and work with screen-shots in a document	What is screen-shot, What is active window Insert a screen-shot in a document Format a screen-shot	Demonstrate how to capture screen-shot and insert in the word document Demonstrate how to format a screen-shot	What is screen shot, What is active window, Insert a screen-shot in a document Format a screen-shot	Insert a picture in the document and preform the various operations such on it, use appropriate tools and techniques for picture editing and apply special effects to the picture, improve picture quality, reduce size
8	Create Text boxes and Pull Quotes	What are text boxes and pull quotes How to insert text box &	Demonstrate how to insert text boxes and pull quotes Demonstrate how to	What are text boxes and pull quotes How to insert text box &	Open a document and insert text box and pull quotes in it

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Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
		pull quotes Customize text box	customize the text boxes	pull quotes Customize text box	
9	Insert word art and other special effects in a document	What is word art Features of word art What is the importance of word art How to insert and remove word art in a document	Demonstrate how to assign word art and special effects to the text in a document Demonstrate how to insert and remove word art effect to the text	features and importance of word art and special effects	Open a document and insert word art and assign special features to the text
10	Create and use Smart Art in a document	What is Smart Art Smart Art categories Smart Art diagram Adding visual effects to Smart Art diagram Modifying Smart Art contents	Demonstrate how to create Smart Art diagram, add visual effects to it, modify the Smart Art contents	Smart Art categories Smart Art diagram Adding visual effects to Smart Art diagram Modifying Smart Art contents	create Smart Art diagram, add visual effects to it and modify the Smart Art contents
11	Control Text Flow in a document	What is text flow, where it is used, how to control a text flow in word processing	Demonstrate how to control the text flow in word document	What is text flow, where it is used, how to control a text flow in word processing	Create a document, write the text in two different text boxes and link the text boxes to control the text flow

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Unit Code	Unit Title	Duration	Location	Teaching and Training Method
IT 304	Spreadsheet (Advanced)	15 Hours	Classroom and Computer Lab	Interactive Lecture and Practical Activity

Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
1	Insert and modify pictures and clip art in a spreadsheet	Pictures and clipArts Procedure to insert picture and clipArt Apply effects to pictures and clipArt	Demonstrate how to insert picture and clipArt in a spreadsheet Demonstrate how to apply effects to picture & clipArt to improve appearance	Pictures and clipArts Procedure to insert picture and clipArt Apply effects to pictures and clipArt	Insert a clipArt and pictue in the spreadsheet and apply the effects to improve its appearance
2	Draw and modify shapes in a spreadsheet	Shapes in a spreadsheet Process to draw and modify shapes	Demonstrate the process of inserting and modifying shapes in the spreadsheet	Shapes in a spreadsheet Process to draw and modify shapes	Insert the shape in the spreadsheet and modify it as per the requirements
3	Illustrate workflow using SmartArt graphics in a spreadsheet	What is workflow process and SmartArt Graphics Procedure to create SmartArt graphics using workflow process Modify graphic illustration	Demonstrate how to create and modify graphical illustration using workflow process	What is workflow process and SmartArt Graphics Procedure to create and modify SmartArt graphics using workflow process	Create a graphical illustration using workflow process
4	Work with Layer and Group graphic objects	What is layer and group in graphic object Viewing and moving in between layers Grouping objects	Demonstrate viewing and moving in between layers Demonstrate grouping objects	What is layer and group in graphic object Viewing and moving in between layers Grouping objects	Create a spreadsheet with different objects in it, view and move in between layers, group and ungroup objects
5	Achieve Goal Seek in a spreadsheet	What is the purpose of Goal Seek How to achieve goal in spreadsheet data using Goal Seek	Demonstrate how to achieve goal in spreadsheet data using Goal Seek	What is the purpose of Goal Seek How to achieve goal in spreadsheet data using Goal Seek	Open a spreadsheet, enter the appropriate data in the cell, set a goal and achieve a goal using Goal Seek

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Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
6	Analyze data with Logical and Lookup functions	Introduce with syntax of logical and lookup functions Work with logical and lookup function	Demonstrate the use of various logical and lookup functions and test the result	syntax of logical and lookup functions	Open a spreadsheet and apply the various logical and lookup functions and test the result
7	Insert and manage themes in a spreadsheet	Explore the various themes to be used in the spredsheet Manage Themes in the spreadsheet Download and save themes	Demonstrate the use of Themes in the spreadsheet Demonstrate how to Manage Themes in the spreadsheet Downloading and saving themes	Themes in the spreadsheet, Various theme managing options	Open a spredsheet, apply various themes and test the result
8	Create and use templates in a spreadsheet	What is template How to use built-in template How to create and use template Downloading, saving and using the template	Demonstrate how to use built-in template Demonstrate how to create, download and use the template in the spreadsheet	What is template, built-in template, creating and downloading template Open a spreadsheet, use the built-in template, create your own template and apply it to spreadsheet	
9	Update workbook properties	Workbook properties How to update workbook properties	Demonstrate where the workbook properties exists and how to update it	Workbook properties	Open a spreadsheet and update workbook properties
10	Create and edit macros	What is macros How to create macros Editing macros	Demonstrate how to create, use and edit macros	What is macros, how to create, use and edit macros	Open a spreadsheet and update workbook properties

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Code	Unit Title	Duration	Location	Teaching and Training Method
IT 305	Digital Presentation (Advanced)	15 Hours	Classroom and Computer Lab	Interactive Lecture and Practical Activity

Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
1	Work with a design template	Templates, default templates, using default templates, customization of templates	Demonstrate how to view and use default templates Demonstrate how to Customize the template Demonstrate how to copy and use template from other presentation	What is template, viewing and using default template, customization of template	use the default template in the presentation, copy and use the template from other presentation, customize the template
2	Use the slide master	What is slide master, how to work with slide master Create a presentation template Preserving the Slide Master Using Multiple Design Themes	Demonstrate how to work with slide mater Demonstrate how to preserve the slide master and use multiple themes	Slide master, Working with the slide master, Creating a presentation template, Preserving the Slide Master, Themes	use the default template in the presentation, copy and use the template from other presentation, customize the template
3	Create headers and footers	What is headers and footers Header and footer dialog box	Demonstrate how to insert header and footers in the presentation Demonstrate how to use various options in header and footer dialog box	What is headers and footers, Options under Header and footer dialog box	Insert header and footer in the presentation and verify the output, Use various options in header and footer dialog box
4	Work with the handout master	What is handout master Creating handout master	Demonstrate how to use handout master Demonstrate how to create handout master	handout master, creating handout master Create handout master in the presentation	

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Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
5	Work with the notes master	What is notes master Creating notes master	Demonstrate how to use notes master Demonstrate how to create notes master	Notes master, using notes master	Insert header and footer in the presentation and verify the output, Use various options in header and footer dialog box
6	Save presentation in different format	Various options for saving presentation File formats and size in various formats	Demonstrate how to save the presentation in various formats Compare the file size in various formats of presentation	various options for saving presentation, image, pdf and web formats	Insert header and footer in the presentation and verify the output, Use various options in header and footer dialog box

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Unit Code	Unit Title	Duration	Location	Teaching and Training Method
IT 306	**E-mail Messaging (Advanced)**	**15 Hours**	**Classroom and Computer Lab**	**Interactive Lecture and Practical Activity**

Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
1	Change the message format	Explore the various message formats in email-messaging Procedures to change the formatting of email-messaging	Demonstrate how to change the formatting of email-messaging	Various message formats in email-messaging Procedures to change the formatting of email-messaging	Apply the various formatting options to email-messaging
2	Create a distribution list or a Contact Group	What is distribution list or contact groups in email-messaging	Demonstrate how to create distribution list or contact group in email-messaging	Distribution list or contact group	Create the contacts or distribution list of friends
3	Insert a hyperlink	What is hyperlink Inserting hyperlink in email-messaging	Demonstrate how to insert hyperlink to the particular text in email-messaging	What is hyperlink, Inserting hyperlink in email-messaging	Insert an hyperlink of website in email-messaging
4	Sort and filter messages using multiple criteria	What is sorting and filtering Sorting and filtering email-messaging using singel and multiple criteria	Demonstrate how to sort an filter email using singel or multiple criteria	What is sorting and filtering, Sorting and filtering, email-messaging using single and multiple criteria	Insert an hyperlink of website in email-messaging
5	Manage junk email	What is junk email How to manage junk emails	Demonstrate how to manage junk emails	What is junk email How to manage junk emails	Manage junk emails
6	Set workdays and time in a calendar	How to set workdays and time in a calender in email-messaging	Demonstrate how to set workdays and time in a calender	Setting time in a calender	Set or change the time and workdays in the calender of email-messaging

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Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
7	Display an additional time zone	Creating and displaying additional time zone using calender software	Demonstrate how to create and display additional time zone using calender software	Creating and displaying additional time zone	Create different time zones of your frinds working in different location around the world and display it
8	Set availability options	Setting the availability using options over the Internet	Demonstrate how to set availability using options in email-messaging	Availability options in email-messaging	Create different time zones of your friends working in different location around the world and display it
9	Create calendar groups	Setting the calender in groups	Demonstrate how to set a calender in groups	Setting calender in groups	Set a calender in group
10	Manage automatic meeting responses	Configuration for automatic meeting responses	Demonstrate how to configure email-messaging for automatic meeting responses	Configuration for automatic meeting responses	configure email-messaging for automatic meeting responses
11	Manually Modify a journal entry	Create and modify manually journal entry	Demonstrate how to create and modify journal entry manually	Create and modify manually journal entry	Try out creating and modifying manual journal entry
12	Reply to a task request	Explain the purpose of task request	Demonstrate how to reply task request	Explain the purpose of task request	Assign a task and reply to request

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Unit Code	Unit Title	Duration	Location	Teaching and Training Method
IT 307	**Computer Networks**	**15 Hours**	**Classroom and Computer Lab**	**Interactive Lecture and Practical Activity**

Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
1	Introduce with computer networking	Types of networking Networking models Ways to form networking	Demonstrate the different types of computer networks and ways to form network	Types of networking, Networking models, Ways to form networking	Visit the different computer networking labs
2	Explore the OSI Model	Introduce with different layers in OSI Model	Demonstrate diagrammatically the different OSI layer in a OSI Model	Introduce with different layers in OSI Model	
3	Introduce with different network terminologies	Introduce with the basic concepts and terminologies in networking	Demonstrate the different networking terminologies by illustrations	Introduce with the basic concepts and terminologies in networking	Identify different networking devices
4	Networking topologies and access methods	Introduce with different networking topologies and access methods	Demonstrate graphically the different network topologies, access methods	Introduce with different networking topologies and access methods	Identify different networking devices
5	Introduce with network hardware – Network Interface Card, Hub, Switches, Routers	Networking hardware – configuration and use	Identify the different networking hardware devices and demonstrate its use in networking	Network hardware devices	Identify and name various network hardware devices in the networking
6	Introduce with various networking protocols	Explore and compare different networking protocols	Demonstrate the use of different networking protocols	Explore the different networking protocols	Try out using the different networking protocols
7	IP Addressing	Introduce with public and private IP addressing	Demonstrate IP addressing process	Introduce with public and private IP addressing	Try out using the different networking protocols
8	Transport layer protocols	Introduce with Transport layer protocols	Demonstrate the purpose of transport layer protocol	Introduce with Transport layer protocols	List transport layer protocols
9	Introduce with server operating system	List and compare various server operating systems	Demonstrate the features of various server OS	Various server operating systems	List transport layer protocols

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Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
10	Introduce with networking services - DHCP	What is DHCP and DHCP process	Demonstrate the installation and configuration of DHCP	DHCP, DHCP process	List transport layer protocols
11	Networking services – Name resolution, Net BIOS, WiNS, DDNS, Terminal services and active directory	Name resolution methods Net BIOS, WINS, DDNS, Terminal services and active directory	Install and configure networking services	Networking services	List transport layer protocols
12	Wireless networking	Introduce to wireless networking concept and features	Demonstrate the installation and configuration of wireless networking	Introduce to wireless networking concept and features	List transport layer protocols
13	Wireless security	Wireless security concept and features	Demonstrate how to establish wireless security	Wireless security	Establish wireless security
14	Wide Area Networks	Introduce with Wide Area Network concept	Demonstrate the functioning of Wide Area Networks	Introduce with Wide Area Networks	Install and confirue WAN
15	Proxy services and address translation services	Explain the functioning of proxy server, installation and configuration of proxy server	Demonstrate the installation and configuration of proxy server	Explain the functioning of proxy server, installation and configuration of proxy server	Install and confirue WAN
16	networking Infrastructure VPN and IPV 6	Introduce with Networking Infrastructure VPN and IPV 6	Demonstrate the use of Networking Infrastructure VPN and IPV 6	Networking Infrastructure VPN and IPV 6	Install and configure VPN and IPV6
17	Network Security	Introduce with Network Security tools & techniques	Demonstrate the network security tools & techniques	Network Security tools and techniques	Use Network Security tools and techniques
18	Network troubleshooting	Network troubleshooting process	Demonstrate the process of network troubleshooting	Network troubleshooting process	Troubleshoot the network

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Unit Code	Unit Title	Duration	Location	Teaching and Training Method
IT 308	**Web Designing Part 1**	**15 Hours**	**Classroom and Computer Lab**	**Interactive Lecture and Practical Activity**

Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
1	Introduction to Web Design & HTML	Introduction to web design tool HTML	Demonstrate the use of HTML for web page development	Introduction to web design tool HTML	Troubleshoot the network
2	Create web pages by using HTML basic tags	HTML basic elements and attributes to develop web pages	Demonstrate to develop web pages using HTML basic elements	HTML basic elements and attributes to develop web pages	Develop web pages using HTML basic elements
3	Introduce with CSS	Introduction to CSS	Use CSS in web development	Introduce with CSS	Use CSS in web development
4	Introduce with XML & XHTML	Overview of XML & XHTML	Demonstrate the use of XML & XHTML in web development	Introduction to XML & XHTML	See the use of XML, and SHTML in web development
5	Create web pages using JavaScript	Introduction to JavaScript Basics of JavaScript	Use Javascript for web development	Introduce with Javascript	See the use of XML, and SHTML in web development
6	Introduce with DHTML, Ajax and JQuery	Overview of DHTML, Ajax and JQuery	Use DHTML, Ajax and Jquery for web development	Introduce with DHTML, Ajax and Jquery	Use DHTML, Ajax and Jquery for web development
7	Introduce with Web server – IIS and Apache	Overview of IIS and Apache Web Server	Use web server in web development	Introduce with Web server – IIS and Apache	Use web server in web development
8	Introduce ASP for web development	Overview of ASP	Use ASP for web development	Introduce ASP for web development	Use ASP for web development
9	Introduce PHP for web development	Overview of PHP	Use PHP for web development	Introduce PHP for web development	Use PHP for web development

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Unit Code	Unit Title	Duration	Location	Teaching and Training Method
IT 308	Web Designing Part 2	15 Hours	Classroom and Computer Lab	Interactive Lecture and Practical Activity

Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
1	Introduc with various web development tools	Various web development tools	Compare the various web development tools	Various web development tools	View the websites developed in various web development tools
2	Create and test webpages	Development and testing of web pages	Create web pages and view it in the browser to see the desired output	Procedure for development of web pages	Develop web pages and test in a browser
3	Create website using templates & importing webpages	Website templates Creating web pages by using templates	Create and test web pages using templates	Creating web pages by using templates	View various web templates and create web pages using templates
4	Create web pages using common HTML elements	Common HTML elements - lists, formating text, use spell check and use find and replace	Create web pages using common HTML elements	common HTML elements - lists, formating text, use spell check, use find and replace	create web pages using common HTML elements
5	Work with tables and cells	How to create tables in web pages	Create tables in web pages	How to create tables in web pages	create and test table in web pages
6	Work with images	How to insert and manipulate image in web page	Insert images in the web pages	Image formats, inserting image in web pages	Insert and manipulate image in web page
7	Insert and work with hyperlinks	How to insert hyper-links in web page	Insert hyper-links to the text in web page	procedure to hyper-link the text	Create hyper link to the text in website
8	Insert and work with hyperlinks using images	How to link images using hyper-links	Link images in the web page	procedure to hyper-link the image	Create hyper-link to the image
9	Insert and work with audio & video content	How to insert audio and video content in the website	Insert audio and video content in the web site	How to insert audio and video content in the website	Insert audio and video content in the website

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Sn	Learning Outcomes	Knowledge Evaluation	Performance Evaluation	Interactive Lecture	Practical Activity
10	Working with frames, inline frames and layers	Frames and layers in web pages	Create frames, inline frames, layers in web pages	Frames and layers in web pages	Insert audio and video content in the website
11	Insert Hover effect, meta elements & watermark	What is Hover effect, meta elements & watermark	Assign hover effect, meta elements & watermark in web pages	What is **H**over effect, meta elements & watermark Assign hover effect to web pages	
12	Create and work with forms	Forms in web pages	Create and insert forms in web pages	Forms in web pages	Create and insert forms in web pages
13	Work with CSS	What is CSS, use of CSS in webpages	Use CSS in web pages	What is CSS, use of CSS in webpages	Create and insert forms in web pages
14	Work with behaviors	What is the behaviors of web pages	Controlling the behaviors of web pages	What is the behaviors of web pages	Control the behaviour of web page
15	Work with compatibility	Compatibility issues of website	Handle compatibility issues in web site	Compatibility issues of website	Handle compatibility issues in web site
16	Work with code view, add-ins, snippets and page transitions	Code view, add-ins, snippets and page transitions	Work with code view, add-ins, snippets and page transitions	**c**ode view, add-ins, snippets and page transitions	
17	Work with dynamic web templates	Creating and using dynamic web templates	Create and use dynamic web templates	Creating and using dynamic web templates	Create and use dynamic web templates
18	Search Engine Optimization	Search engine and its optimization	Optimize search engine	Search engine and its optimization	Optimize search engine
19	Work with Forms – advanced	Creating and using forms in web sites	Create forms and insert it in web page	Creating and using forms in web sites	Create forms and insert it in web page
20	Publish webpages or websites	Hosting services and procedures, Hosting the static and dynamic contents on the web server	Host the static and dynamic contents on the website and test for view	Hosting services and procedures, Hosting the static and dynamic contents on the web server	Host the static and dynamic contents on the website and test for view

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Assessment Guide

Assessment is a process used for determining an individual's progress or level of mastery/competence in an occupational area. It may be formative (continuous) and/or summative (final). It is a process of collecting evidence and making judgement about the extent to which a person demonstrates the knowledge and skills set out in the standards or learning outcomes of a unit of competency. Assessment should be done on the basis of information or evidence about the individual's ability against clearly stated objectives or standards. A diversity of assessment methods is required to achieve the multiple purposes and to satisfy the requirements of competency based assessment. Appropriate evidence is to be collected from activities that can be clearly related to the Units of Competency. It should cover all the elements and performance criteria/indicators in the competency standards. Student's achievements should be assessed by using the following methods of assessment.

Sn	Method of Assessments	Weightage (Max.marks)	Evaluator
1.	Written test	30	Teacher
2.	Practical test	30	Certified Assessor #
3.	Oral test/viva voce	10	Teacher/Ext. Examiner
4.	Portfolio	10	Teacher
5.	Project	10	Teacher/Trainer
6.	Direct Observation	10	Teacher/Trainer
Total		100	

Assessors will be certified by the State Education Board.

1. **Written test:** It allows candidates to demonstrate that they have the knowledge and understanding of a given topic.
2. **Practical test:** It allows candidates to demonstrate application of skills in simulated or real work conditions against competency standards (skill and academic standards).
3. **Oral test/viva voce:** It allows candidates to demonstrate communication skills and content knowledge. Audio or video recording can be done at the time of oral test or viva voce.
4. **Portfolio:** It is a compilation of documents that supports the candidate's claim of competence that was acquired from prior learning and experience. Documents (including photo's, newspaper articles, reports, etc.) of practical experience in the workplace or the community and photographs of the products prepared by the candidates related to the units of competency should be included in the portfolio.
5. **Project:** Projects (individual or group projects) are a great way to assess the practice skills on a deadline, but these should be given on the basis of the capability of the individual to perform the tasks or activities involved in the project. Projects should be discussed in the class and the teacher should periodically monitor the progress of the project and provide feedback for improvement and innovation.
6. **Direct Observation –** Direct observation requires a considerable degree of commitment from the observer and those being observed. Employability skills evaluation listed below in the table should be evaluated through direct observation by the teacher/trainer and appropriate records should be maintained for transparency in evaluation.

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Employability Skill Area	Sn	Competencies and Performance Standards	Y	N
Communication	1.	Questions appropriately		
	2.	Writes clearly and legibly		
	3.	Demonstrates good listening and responding skills		
	4.	Informs about the absence and reasons of absence		
Responsibility	5.	Organizes work		
	6.	Manages time effectively and efficiently		
	7.	Complete assignments timely		
	8.	Displays care for tools and equipment		
	9.	Accepts responsibility pleasantly		

Competent = 0.5 marks , Not yet competent = 0

List of Tools, Equipment and Materials

The list of tools, equipment and materials given below is suggestive and an exhaustive list should be prepared by the teacher/trainer. Only basic tools, equipment and accessories should be procured by the Institution for performance of routine tasks or activities by the students.

I. Computer Hardware, Software and Peripherals

HARDWARE

- Pentium system with multimedia and Combo drives, Zip drives and DAT drives (Latest configuration)
- Notebooks
- Inkjet printer
- Laser printer
- Spare memory, Processor, cables, connectors, power pack, battery.
- NIC cards.
- WEB Camera
- One Dot Matrix printer for dismantling, demonstration and reassembly.
- Inkjet/Desk jet for dismantling, demonstration and reassembly.
- LaserJet for dismantling, demonstration and reassembly.
- Line printer.
- External Hard disk drives.
- Different types, makes and capacities of HDD in IDE/ATA and SCSI.
- Flash/Thumb/Pen drives of different makes and capacities.
- Different types, makes and sizes of monitors for dismantling, demonstration and reassembly
- Different types of Keyboards including wireless keyboards.
- Different types of Mice including wireless mouse.

SOFTWARE

- Operating systems- full and legal versions.
- Windows MS office/OpenOffice package.
- Linux OS.

TOOLS

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- Tool kit
- Cable connectors
- Crimping tools
- RJ45 connectors and Crimping tool.
- Vacuum cleaner
- Air blower

OTHER DEVICES
- UPS 5 KVA
- Multimedia Projector
- External HDD
- DVD writer
- UTP 5/5e/6 cable.

FURNITURE
- Computer maintenance table
- Lab stools/chairs
- Computer tables

CONSUMABLES
- Paper
- Printer Cartridges

II. Training materials
- Teacher's handbook
- Reference books
- Student workbook
- Brochures
- Slides for presentations
- Recorded Compact Discs
- Video tapes

Teacher's Qualifications

Qualification, competencies and other requirements for appointment of Graduate Teacher (IT/ITeS) on contractual basis should be as follows:
Qualifications: BCA/B.Sc. (Computer Science)/ B.Sc. (IT) from any UGC recognized University OR 3 years Diploma in Computer Science/ Engineering or IT/ITES or DOEACC A level
Desirable: 1 year experience in industry
Minimum Competencies: Effective communication skills (oral and written) , Basic computing skills.
Age Limit:18-37 years, relaxation to be provided as per Govt. rules.

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