

Syllabus on Vocational Education and Training Course (VTC)

Paper Title		: Beekeeping -I						
CODE		: VTC: 240.3						
Number of Credits		: 4						
Semester		: III						
No. of Theory Hours Per Week		: One (1 hour)						
No. of Practical Hours per Week		: Three (3 Hours)						
Outline of the Paper:								
Type of Course	Units in the VTC	Hours	Credits	Total Marks	Distribution of Marks (as per OC-8)			
Beekeeping-I					In-Semester		End-Semester	
					Theory	Practical	Theory	Practical
	Unit-I Theory (25 Marks)	15	4	100	25			
Unit-II to IV Theory (75 Marks)	90				15		60	
Marks Distribution		: Internal Assessment: 40 : External Assessment: 60						
Course Objectives		<ol style="list-style-type: none">1. For identification of bees, bee biology, behaviour and importance of bee keeping.2. Explain the different requirements for bee farming establishment and to identify different equipment's, accessories and handling.						
Course Outcome	Learning	At the end of the course students will able to: <ol style="list-style-type: none">1. describe the basic concepts of apiculture, tools and equipment of beekeeping2. identify different bee species, bee products and handling of bee hives3. choose the basic requirements for beekeeping establishment4. explain the scientific care and management of bees.						
Unit I: (Theory) 15 Hours		<ul style="list-style-type: none">• Introduction to apiculture/beekeeping; Scope and importance of beekeeping;• Bee biology; Morphology and anatomy of bee;• Classification of bees;• How, when and where to start bee-keeping;• Caste determination and their specific role; Age related activities of workers; Communication in honeybees; swarming and its prevention; robbing and its prevention						
UNIT-II: (Practical) 30 Hours		<ul style="list-style-type: none">• Identification of honeybee species• Identification of different castes of honeybee• Dissection of worker bees to study different morphological and anatomical characteristics.• Comb structure and stages.						

	<ul style="list-style-type: none"> • Handling of bee colony and colony inspection.
UNIT-III: (Practical) 30 Hours	<ul style="list-style-type: none"> • Bee keeping accessories and equipments • Handling of bee colonies. • Collection and preservation of bee pasture. • Seasonal management.
UNIT-IV: (Practical) 30 Hours	<ul style="list-style-type: none"> • Identification of different types of bee hives. • Identification of bee flora. • Identification of bee products. • Visit to important apiaries and bee keeping societies around the region.
Suggested Readings	<ol style="list-style-type: none"> 1. Atwal AS. 2000. Essentials of Beekeeping and Pollination. Kalyani Publishers, New Delhi Ludhiana, India. 2. Atwal AS. 2001. World of Honey Bees. Kalyani Publishers, New Delhi- Ludhiana, India. 3. Cramp, D. 2008. Practical manual of beekeeping. Little, Brown Book Group, United Kingdom. 4. Rahman, A. 2017. Apiculture in India, ICAR, New Delhi 5. Sardar Singh. 1962. Beekeeping in India. ICAR, New Delhi, India (Reprint: 1982) 6.
Requirements	<p>Classroom Facilities</p> <p>Apiary</p> <p>Beekeeping Equipment</p> <ol style="list-style-type: none"> 1. Protective Gear 2. Beekeeping Tools: Such as hive tools, smokers, bee brushes, and queen catchers. <p>Specialized Labs and Facilities</p> <ol style="list-style-type: none"> 1. Honey Processing Unit 2. Bee Product Laboratory 3. Pest and Disease Management Lab <p>Storage and Preservation Facilities</p> <ol style="list-style-type: none"> 1. Cold Storage 2. Library and Resource Center <p>Field and Outdoor Facilities</p> <ol style="list-style-type: none"> 1. Bee Flora Garden

	<p>2. Field Visit Coordination Office</p> <p>Miscellaneous Facilities</p> <ol style="list-style-type: none"> 1. Supplementary Feeding Facility 2. Swarm Management Area <p>Safety and Compliance</p> <ol style="list-style-type: none"> 1. Safety Equipment: Including first aid kits, emergency response kits, and safety protocols for handling bees and bee products <p>Any other item as required</p>
Qualified Instructors	<p>Instructors with experience in Bee-keeping</p> <p>Certifications or relevant qualifications in Bee-keeping.</p>

Vocational Education and Training Course (VTC)

Paper Title	: Mushroom Cultivation -I							
CODE	: VTC: 241.2							
Number of Credits	: 4							
Semester	: III							
No. of Theory Hours Per Week	: One (1 hour)							
No. of Practical Hours per Week	: Three (3 Hours)							
Outline of the Paper:								
Type of Course	Units in the VTC	Hours	Credits	Total Marks	Distribution of Marks (as per OC-8)			
Mushroom Cultivation-I					In-Semester		End-Semester	
					Theory	Practical	Theory	Practical
	Unit-I Theory (25 Marks)	15			25			
	Unit-II to IV Theory (75 Marks)	90	4	100		15		60
Marks Distribution		: Internal Assessment: 40 : External Assessment: 60						
Course Objectives		<ol style="list-style-type: none"> 1. To enrich the students with basic information of mushrooms, 2. To enable them to identify edible and poisonous mushrooms 3. To provide exposure on various aspects of mushroom cultivation through field visits. 						
Course Learning Outcome		At the end of the course students will be able to: <ul style="list-style-type: none"> • identify edible and poisonous mushrooms • demonstrate the aspects of production and processing of mushrooms. 						
Unit I: (Theory) 15 Hours		<ul style="list-style-type: none"> • Introduction, history and scope of mushroom cultivation; Common edible mushrooms; Other economically important and medicinal mushrooms; • Different parts of a typical mushroom & variations in mushroom morphology; • Characters of edible and poisonous mushrooms; • Mushroom classification based on occurrence, Natural habitats, Colour of spores, Morphology, Structure and texture of fruit bodies; Nutritional and health benefits of mushrooms. 						
UNIT-II: (Practical) 30 Hours		<ul style="list-style-type: none"> • Identification of edible and poisonous mushrooms (specimen/chart). • Study of nutritional profile of common edible mushrooms. • Study of general morphology, distinguishing 						

	characteristics, spore germination and life cycle of common edible mushrooms
UNIT-III: (Practical) 30 Hours	<ul style="list-style-type: none"> • Determination of soil temperature, soil moisture content, soil pH etc • Identification of different parts of mushroom • Classification of mushroom
UNIT-IV: (Practical) 30 Hours	<ul style="list-style-type: none"> • Visit to mushroom production unit • Visit to mushroom processing unit • Visit to spawn production unit.
Suggested Readings	<ol style="list-style-type: none"> 1. Biswas, Subrata M. Datta, S. V. Ngchan. (2012) Mushrooms: A manual for Cultivation. PHI Learning Pvt Ltd. 2. Gogoi, R. Y. Rathaiah, T.R. Borah. (2006). Mushroom cultivation technology, Scientific Publishers, Jodhpur, India. 3. Kannaiyan S. & Ramasamy K. (1980). A hand book of edible mushrooms, Today & Tomorrows printers & publishers, New Delhi. 4. Nita, B. (2000). Handbook of Mushrooms. Vol 1 & 2. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi. 5. Pandey, R.K. and Ghosh, S.K. (1996). A handbook of Mushroom Cultivation. Emkey Publication. 6. Som, D. 2021. A Practical Manual on Mushroom Cultivation. P.K. Publisher and Distributor. 7. Tripathi, D.P (2005). Mushroom Cultivation. Oxford & IBH Publishing Co. Pvt. Ltd, New Delhi.
Requirements	<ul style="list-style-type: none"> • Microscopes • Charts and specimens • Tools for studying nutritional profiles • Growing chambers or areas for cultivating mushrooms. • Soil testing kits (for temperature, moisture content, pH). • Equipment for measuring environmental factors (light, humidity). • Specimens of mushrooms for hands-on identification <p>Any other item as and when required</p>
Qualified instructors	<ul style="list-style-type: none"> • Qualified instructors with expertise in mushroom cultivation and related fields. • Support staff for maintaining equipment and facilities

Vocational Education and Training Course (VTC)

Paper Title	: Electronic Repairing - I							
CODE	: VTC: 242.3							
Number of Credits	: 4							
Semester	: III							
No. of Theory Hours Per Week	: One (1 hour)							
No. of Practical Hours per Week	: Three (3 Hours)							
Outline of the Paper:								
Type of Course	Units in the VTC	Hours	Credits	Total Marks	Distribution of Marks (as per OC-8)			
Electronic Repairing-I					In-Semester		End-Semester	
					Theory	Practical	Theory	Practical
	Unit-I Theory (25 Marks)	15			25			
	Unit-II to IV Theory (75 Marks)	90	4	100		15		60
Marks Distribution		: Internal Assessment: 40 : External Assessment: 60						
Course Objectives		<ol style="list-style-type: none"> 1. To recognise various electrical symbols 2. To explain the electrical safety and precautions 3. To understand various tool kits used in electrical and electronic repairing 4. To describe various passive electronic passive and active components 5. To explain various test and measurement instruments used in electronic repairing 						
Course Outcome	Learning	At the end of the course students are able to: <ol style="list-style-type: none"> 1. identity various electrical and electronic symbols 2. describe and take necessary safety precautions at the workplace 3. explain various electronics and electrical tools kits used in electrical and electronic repairing 4. identify the functions of various active and passive electronics components and circuits 5. use of various test and measurement instruments, such as analog and digital multimeters 						
Unit I: (Theory) 15 Hours		Electrical Safety and Tools <ul style="list-style-type: none"> • Electrical Symbols • Electrical safety • Tool Kit Fundamentals of Electrical Technology <ul style="list-style-type: none"> • Passive Components: Resistor, Capacitor, Inductor, Connecters, Fuses- CircuitSymbol, Working principle, Types, Specification, Application. • Batteries: Battery Chemistry, Circuit Symbol, Working 						

	<p>principle, Types and Specification.</p> <ul style="list-style-type: none"> • Cables: Twisted pair cable, Co-axial cable, fibre optic cable- Specification, Applications. • Switches: Circuit Symbol, Working principle, Types, specification, Application. • Relays: Circuit Symbol, Working principle, Types, Specification, Application. • Test & Measuring Instruments: Moving Coil Galvanometer, Voltmeter, Ammeter, Digital meter, Multimeter, Tachometer, Earth resistance tester: Megger, Wattmeter, Energy meter <p>Electrical Appliances-I:</p> <ul style="list-style-type: none"> • Testing Equipment • Basic Control Equipment
UNIT-II: (Practical) 30 Hours	<ul style="list-style-type: none"> • Hands-on training on Multimeter: Analog & Digital. 30 Hours • Experiments on Passive Components: Resistor, Capacitor, Inductor, Connectors, Cables & Fuses. • Experiments on switches and Relays: Mechanical, Electronic & Electro-mechanical. • Hands-on training on Batteries: Physical (Solar & Thermal), • Hands-on training on Chemical Batteries (Fuel cell, Rechargeable, Non-Rechargeable)
UNIT-III: (Practical) 30 Hours	<ul style="list-style-type: none"> • Hands-on- use of Voltmeter & Ammeter. • Experiments on Earth resistance tester. • Experiments on Electrical Energy Meter. • Hands-on training on Line tester, MCB (Miniature Circuit Breaker), • Hands-on training on ELCB (Earth Leakage Circuit Breaker).
UNIT-IV: (Practical) 30 Hours	<ul style="list-style-type: none"> • Dismantling and reassembling of basic home appliances • Testing and repairs of basic home appliances. • Testing and repairing of Switches • Testing and repairing of various types of Fuses. • Visit the Electrical appliances service and repair shop.
Suggested Readings	<ul style="list-style-type: none"> • Balasubramanyam M. Business Communication. Vani Educational Books, New Delhi, 1985. • Bhatiya, K. B. Study of Electrical Appliances and Devices. Khanna, 1983. • Brook P.T. Woll Jr., Small Appliance Servicing. McGraw-Hill, 1957. • Fitzgerald, E. Arvin Gabel, David E. Higginbotham,

	Textbook of Basic Electrical Engineering. TMH Publishing Co.
Requirements	<ul style="list-style-type: none"> • Multimeter (Analog and Digital) • Cathode Ray Oscilloscope (CRO) • Function Generator • Soldering Iron (25-50 Watts) • Solder Wire and Flux • Breadboard • DC Power Supply (Variable, 1-30V) • Hook-Up Wires • Soldering Station • Long Nose Pliers and Tweezers • Screwdriver Set (Various Sizes) • Wire Stripper • Crocodile Clip • Capacitance Bridge Meter • Desoldering Pump and Wick • Wheatstone Bridge Meter <p>Any other item as required</p>
Qualified Instructors	<ul style="list-style-type: none"> • Instructors with experience in Electronic Repairing and teaching. • Certifications or relevant qualifications in Electrical Repairing

Syllabus on Vocational Education and Training Course (VTC)

Paper Title	: Electrical -I							
CODE	: VTC: 242.2							
Number of Credits	: 4							
Semester	: III							
No. of Theory Hours Per Week	: One (1 hour)							
No. of Practical Hours per Week	: Three (3 Hours)							
Outline of the Paper:								
Type of Course	Units in the VTC	Hours	Credits	Total Marks	Distribution of Marks (as per OC-8)			
Electrical - I					In-Semester		End-Semester	
					Theory	Practical	Theory	Practical
	Unit-I Theory (25 Marks)	15			25			
	Unit-II to IV Theory (75 Marks)	90	4	100		15		60
Marks Distribution		: Internal Assessment: 40 : External Assessment: 60						
Course Objectives		<ol style="list-style-type: none"> 1. To enable students to describe the electrical safety tools and electrical symbols. 2. To enable students to explain the concepts of electrical network elements and associated laws of electrical circuits 3. To enable students to detect the fundamental skills for fault detection, repairing of electrical equipment and PCB circuit design. 						
Course Learning Outcome		At the end of the course students will be able to: <ol style="list-style-type: none"> 1. explain the concepts of electrical circuits. 2. demonstrate of working & operating principles of electronic circuits & equipment. 3. make use of skills related to fault analysis and diagnosis of electronic equipment, repair & replacement of faulty parts. 4. examine schematic layouts wiring diagrams and product details. 5. apply safety precautions and knowledge of entrepreneurship activities. 						
Unit I: (Theory) 15 Hours		<ul style="list-style-type: none"> • Basics of Electrical: Electrical Symbols, Electrical safety, Tool Kit, Basic Electrical Terms, Basic Networks; • Electrical Laws: Ohm's law, effect of temperature on resistance, resistance temperature coefficient, insulation resistance, Kirchhoff's law, ideal and practical voltage and current sources; • Electrical Components: Passive Components, Active Components, PCB and Soldering; • Electrostatics: Electrostatic field, electric flux density, electric field strength, absolute permittivity, relative permittivity and capacitance, composite dielectric 						

	capacitors, capacitors in series and parallel, energy stored in capacitors, charging and discharging of capacitors and concept of time constant.
UNIT-II: (Practical) 30 Hours	<ul style="list-style-type: none"> • Prepare drawing sheet of electrical symbols • Prepare drawing sheet of tools used in the electronics lab. • Enlist the Safety precautions to be taken in the Electronics Laboratory.
UNIT-III: (Practical) 30 Hours	<ul style="list-style-type: none"> • Verification of Ohm's Law. • Verification of Kirchhoff's Current Law and Voltage Law. • Enlist different voltage sources in the laboratory and note their specifications.
UNIT-IV: (Practical) 30 Hours	<ul style="list-style-type: none"> • Prepare drawing sheet of Active and passive components. • Identification and testing of Active and Passive components • Familiarization and use of Ammeter, Voltmeter and Multimeter • Prepare layout and PCB of simple circuit like bridge rectifier.
Suggested Readings	<ol style="list-style-type: none"> 1. Fitzgerald, E. Arvin Gabel, David E. Higginbotham, Textbook of Basic Electrical Engineering, TMH Publishing Co. 2. Kothari, D P I J Nagrath, Basic Electrical Engineering, TMH Publishing Co. Ltd. References: 3. Mehta K Rohit Mehta, Basic electronics, S. Chand & Co. 4. Patel, A Textbook of Elements of Electrical Engineering, Mahajan Publishing House, Ahmedabad. 5. Theraja, B. L. A.K. Theraja, Textbook of Electrical Technology, Volume I, S. Chand Co.
Requirements	<ul style="list-style-type: none"> • Multimeter- Analog and Digital • Cathode Ray Oscilloscope (CRO) • Function Generator • Soldering Iron- 25 to 50 Watts • Solder Wire, Flux Bread Board • DC Power Supply Variable Type-1-30 V • Hook Up Wires • Soldering Station • Long Nose Pliers, Tweezers • Screw Driver set (various size) • Wires Stripper • Crocodile Clip • Capacitance Bridge Meter • Desoldering Pump, • Wick for removing solder

	<ul style="list-style-type: none"> • Wheat Stone Bridge Meter • Any other item as and when required
Qualified Instructors	<ul style="list-style-type: none"> • Instructors with experience in Electrical Repairing and teaching. • Certifications or relevant qualifications in Electrical Repairing

Syllabus on Vocational Education and Training Course (VTC)

Paper Title				: Web Designing -I					
CODE				: VTC: 243.1					
Number of Credits				: 4					
Semester				: III					
No. of Theory Hours Per Week				: One (1 hour)					
No. of Practical Hours per Week				: Three (3 Hours)					
Outline of the Paper:									
Type of Course	Units in the VTC	Hours	Credits	Total Marks	Distribution of Marks (as per OC-8)				
Web Designing - I			4	100	In-Semester		End-Semester		
					Theory	Practical	Theory	Practical	
	Unit-I Theory (25 Marks)	15				25			
	Unit-II to IV Theory (75 Marks)	90					15		60
Marks Distribution			: Internal Assessment: 40 : External Assessment: 60						
Course Objectives			1. Develop skills in designing and creating websites using essential tools and technologies for web development. 2. Distinguish between front-end and back-end development roles and responsibilities. 3. Implement front-end development techniques using HTML, CSS, and JavaScript to build interactive and visually appealing web pages. 4. Manage server-side processes and database interactions to ensure robust and secure back-end functionality. the front-end.						
Course Learning Outcome			After the completion of the course the students are able to: 1. use fundamental skills to maintain web server services required to host a website 2. select and apply mark-up languages for processing, identifying, and presenting information in web pages 3. use scripting languages and web services to transfer data and add interactive components to web pages 4. create and manipulate the web Employ media objects using editing software 5. combine multiple web technologies to create advanced web components 6. design websites using appropriate security principles, focusing specifically on the vulnerabilities inherent in common web implementations.						
Unit I: (Theory)			Introduction to Web Technology and Web						

<p>15 Hours</p>	<p>Designing</p> <ul style="list-style-type: none"> • Web Technology: HTTP; System Architecture of a Web server; Client-side Scripting versus Server-side Scripting. • Introduction to HTML: What is HTML- HTML Documents- Basic structure of an HTML document. CSS: What is CSS, Structure of CSS. Advantages of CSS. • Javascripts: What is JavaScript? -Client-Side JavaScript -Advantages of JavaScript- Limitations of JavaScript.
<p>UNIT-II: (Practical) 30 Hours</p>	<p>Hyper Text Markup Language (HTML5)</p> <ol style="list-style-type: none"> 1. HTML5 Basics: Structure of an HTML5 document (<!DOCTYPE html>, <html>, <head>, <title>, <body>), Semantic elements (<header>, <nav>, <section>, <article>, <footer>, etc.) 2. Text and Multimedia: Text formatting (headings, paragraphs, emphasis, etc.), Adding images (tag) and multimedia content (<video>, <audio> tags), Using HTML entities for special characters 3. Links, Lists, and Tables: Creating hyperlinks (<a> tag) and anchor links, Lists (unordered , ordered , and definition <dl> lists), Creating tables (<table>, <tr>, <th>, <td>) 4. Forms and Input Elements: Building forms (<form> tag) with various input types (text, password, email, etc.), Radio buttons, checkboxes, and dropdown lists, Form validation using HTML5 attributes (required, pattern, min/max, etc.) 5. Media and Embedding: Embedding multimedia content (videos, audio) from external sources, Using the <iframe> tag for embedding content from other websites 6. HTML5 APIs : Geolocation API for obtaining user location, Canvas API for drawing graphics and animations, Local Storage and Session Storage for client-side data storage 7. Accessibility and SEO: Importance of semantic HTML for accessibility and SEO, Using ARIA attributes for enhancing accessibility, Optimizing HTML for search engines (meta tags, title tags, alt attributes) 8. Responsive Design and Mobile Compatibility: Creating responsive layouts using HTML5 and CSS3, Meta viewport tag for mobile responsiveness, Mobile-friendly forms and input elements 9. Advanced HTML5 Features: Web components and custom elements, Drag and drop functionality, Web

	storage (local Storage, session Storage)
Suggested Practical Assignment:	<p>1. Create a Web Page Structure: Design a web page structure using HTML5 semantic elements such as <header>, <nav>, <section>, <article>, <footer>, and <aside>.</p> <p>2. Create a web page for a cake shop to display all the different types of cakes and price to choose from.</p> <p>3. Multimedia Embedding: Embed an audio or video file using the <audio> or <video> tag with appropriate attributes like controls, autoplay, and loop.</p> <p>4. Responsive Image Gallery: Build a responsive image gallery using HTML5 <figure> and <figcaption> elements. Ensure that the gallery adjusts smoothly on different screen sizes.</p> <p>5. Interactive Form Validation: Develop an HTML5 form with input fields like text, email, password, and a submit button. Implement HTML5 form validation using attributes like required, pattern, and min/max.</p> <p>6. Create a HTML page with controls to take data for a College Admission with all the proper validations in the form.</p> <p>7. Geolocation API Integration: Implement the HTML5 Geolocation API to display the user's current location on a map or show nearby places based on latitude and longitude.</p> <p>8. Local Storage Usage: Create a web page that allows users to store data locally using HTML5 localStorage or session Storage. Develop functionality to add, edit, and delete stored items.</p> <p>9. Create a HTML Page to display the number of the times the web page was visited using local storage.</p> <p>10. Semantic Markup for SEO: Optimize an existing web page for search engines using semantic HTML5 tags. Use <header>, <nav>, <main>, <article>, <section>, <aside>, and <footer> tags appropriately.</p>
UNIT-III: (Practical) 30 Hours	<p>Cascading Style Sheets (CSS)</p> <p>1. Introduction to CSS: What is CSS? Importance and benefits, CSS syntax: selectors, properties, and values, External, internal, and inline CSS</p> <p>2. CSS Selectors and Specificity: Basic selectors: element selectors, class selectors, ID selectors, Combinators: descendant, child, adjacent sibling, general sibling, Pseudo classes and pseudo-elements, CSS specificity and inheritance</p> <p>3. CSS Box Model: Understanding the box model: content, padding, border, margin, Box sizing: content-</p>

	<p>box vs. border-box, Margin collapsing</p> <p>4. Layout and Positioning: Display property: block, inline, inline-block, flex, grid, Position property: static, relative, absolute, fixed, sticky, Floats and clearing floats, CSS Grid and Flexbox layouts</p> <p>5. Typography and Fonts: Font properties: font-family, font-size, font-weight, font-style, line-height, Text properties: color, text-align, text-decoration, text-transform, letter spacing, word-spacing, Google Fonts and custom font usage</p> <p>6. Colors and Backgrounds :Color values: named colors, hexadecimal, RGB, RGBA, HSL, HSLA, Background properties: background-color, background-image, background repeat, background-position, background-size</p> <p>7. Responsive Design and Media Queries: Responsive design principles, Media queries syntax and usage, Designing responsive layouts for different screen sizes (mobile-first approach)</p> <p>8. CSS Transitions and Animations: Transition properties: transition-property, transition duration, transition-timing-function, transition-delay, CSS animations: keyframes, animation properties, animation-duration, animation-timing-function, animation-delay</p> <p>9. Flexbox and Grid Layouts: Flexbox properties: flex-direction, justify-content, align-items, align-self, flex-grow, flex-shrink, CSS Grid properties: grid-template-columns, grid-template-rows, grid-gap, grid-template-areas</p> <p>10. CSS Frameworks and Preprocessors: Introduction to CSS frameworks (Bootstrap, Tailwind), Overview of CSS preprocessors (Sass): variables, mixins, nesting, inheritance</p> <p>11. Advanced CSS Techniques: Transformations: translate, rotate, scale, skew, CSS variables (custom properties), CSS gradients, shadows, and filters, Cross-browser compatibility and vendor prefixes</p>
Suggested Practical on the topics	<p>1. CSS Selectors and Box Model:</p> <ul style="list-style-type: none"> ○ Create a webpage with different elements styled using basic selectors, class selectors, and ID selectors. Apply different properties such as background color, padding, border, and margin to understand the box model. <p>2. Layout and Positioning:</p> <ul style="list-style-type: none"> ○ Design a web page layout using CSS display properties (e.g., flexbox or grid) for header, navigation, content, and footer sections. Use positioning (static, relative, absolute) to position elements within the

	<p>layout.</p> <p>3. Typography and Fonts:</p> <ul style="list-style-type: none"> ○ Style text on a webpage with different font families, sizes, weights, styles, colors, and text alignments. Experiment with line height, letter spacing, and text decorations. <p>4. Colors and Backgrounds:</p> <ul style="list-style-type: none"> ○ Create a webpage with various background colors, gradients, images, and patterns. Apply different background properties such as background-size, background-position, and background-repeat. <p>5. Responsive Design with Media Queries:</p> <ul style="list-style-type: none"> ○ Develop a responsive webpage that adjusts its layout and styling based on different screen sizes using media queries. Test the responsiveness on mobile devices and desktop screens. <p>6. CSS Transitions and Animations:</p> <ul style="list-style-type: none"> ○ Add transitions to elements (e.g., hover effects) using CSS transition properties (transition-duration, transition-property, transition-timing-function). simple animations using keyframes and animation properties. <p>7. Flexbox and Grid Layouts:</p> <ul style="list-style-type: none"> ○ Design a webpage layout using CSS Flexbox properties (flex-direction, justify-content, align-items) for a navigation menu or card-based layout. Create a grid based layout using CSS Grid properties (grid-template-columns, grid-template-rows, grid-gap). <p>8. Customizing CSS Frameworks:</p> <ul style="list-style-type: none"> ○ Customize a CSS framework (e.g., Bootstrap) by modifying variables, adding custom styles, and overriding default styles to create a unique design. <p>9. Advanced CSS Techniques:</p> <ul style="list-style-type: none"> ○ Implement CSS transformations (translate, rotate, scale, skew) on elements to create interactive effects. Use CSS gradients, shadows, and filters to enhance visual elements. ○ Optimize CSS code by minifying, concatenating, and compressing stylesheets. <p>Use browser developer tools to debug and optimize CSS for performance.</p>
<p>UNIT-IV: (Practical) 30 Hours</p>	<p>Java Scripts</p> <p>1. JavaScript Basics :JavaScript syntax: variables, data types, operators, expressions, statements, Functions: defining functions, function expressions, arrow functions, Control flow: if statements, switch statements, loops (for, while)</p> <p>2. Arrays and Objects: Arrays: creating arrays, accessing elements, array methods (push, pop, shift,</p>

	<p>unshift, slice, splice), Objects: creating objects, object properties, methods, constructor functions, prototypes</p> <p>3. DOM Manipulation: Accessing DOM elements: get Element ById, querySelector, querySelectorAll, Manipulating DOM elements: changing content, styles, attributes, adding/removing elements</p> <p>4. Events and Event Handling: click, mouseover, keydown, submit, etc. Event listeners: adding event listeners, event propagation (bubbling, capturing) Handling user interactions with events</p> <p>5. Forms and Validation: Working with HTML forms in JavaScript, Form validation: validating input fields, displaying error messages, preventing default form submission</p> <p>6. Error Handling: Handling errors in JavaScript: try-catch blocks, Debugging JavaScript code using browser developer tools</p>
Suggested Practical Assignments	<p>1. Basic JavaScript Concepts:</p> <ul style="list-style-type: none"> ○ Write JavaScript code to declare variables of different data types (string, number, boolean). ○ Implement arithmetic operations, comparison operators, and logical operators in JavaScript. <p>2. Functions and Control Flow:</p> <ul style="list-style-type: none"> ○ Create a function to calculate the factorial of a number using recursion. ○ Write a JavaScript program to check if a number is prime or not using a function. ○ Write a Javascript program to print all the perfect numbers from 1 to n. <p>3. Arrays and Objects:</p> <ul style="list-style-type: none"> ○ Create an array of numbers and write JavaScript code to find the sum, average, maximum, and minimum value in the array. ○ Define an object representing a person with properties like name, age, and country. Use object methods to display information about the person. <p>4. DOM Manipulation and Events:</p> <ul style="list-style-type: none"> ○ Build an HTML form with input fields for username and password. Use JavaScript to validate the form on submission and display appropriate messages. ○ Create a webpage with a button that changes the background color of a div element when clicked using event handling. <p>5. Project-Based Assignments:</p> <ul style="list-style-type: none"> ○ Choose a project idea (e.g., interactive quiz, weather app, budget tracker) and implement it using JavaScript. Use concepts learned throughout the syllabus to build the project.

Suggested Readings	<ol style="list-style-type: none"> 1. David Flanagan, "JavaScript: The Definitive Guide" by, O'Reilly Media. 2022. 8th Edition 2. Elizabeth Castro and Bruce Hyslop, "HTML and CSS: Visual QuickStart Guide", Peachpit Press, 9th Edition 3. Jennifer Niederst Robbins, "Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics". 4. Marijn Haverbeke, "Eloquent JavaScript: A Modern Introduction to Programming".
Requirements	<ul style="list-style-type: none"> • Computers • Software • Internet Access • External Storage • Printers and Scanners • Projector and Screens • Any other item as required
Qualified Instructors	<ul style="list-style-type: none"> • Instructors with experience in Web Designing and teaching. • Certifications or relevant qualifications in Web Designing

Syllabus on Vocational Education and Training Course (VTC)

Paper Title	: Desktop Publishing - I							
CODE	: VTC: 243.2							
Number of Credits	: 4							
Semester	: III							
No. of Theory Hours Per Week	: One (1 hour)							
No. of Practical Hours per Week	: Three (3 Hours)							
Outline of the Paper:								
Type of Course	Units in the VTC	Hours	Credits	Total Marks	Distribution of Marks (as per OC-8)			
Desktop Publishing - I					In-Semester		End-Semester	
					Theory	Practical	Theory	Practical
	Unit-I Theory (25 Marks)	15			25			
	Unit-II to IV Theory (75 Marks)	90	4	100		15		60
Marks Distribution		: Internal Assessment: 40 : External Assessment: 60						
Course Objectives		<ol style="list-style-type: none"> 1. To describe the fundamental concepts of computer hardware and software. 2. To explain the proficiency in working with Graphical User Interface (GUI) based operating systems. 3. To use word processing, spreadsheets, and presentation efficiently. 4. To Recognize the basic functions and features of word processing, spreadsheets, and presentation software. 5. To efficiently produce, edit, format, and manage documents, spreadsheets, and presentations. 6. Enhance productivity through the use of advanced features and techniques within each Office application. 						
Course Learning Outcome		At the end of the course students are able to: <ol style="list-style-type: none"> 1. create, format, and edit documents with proficiency and utilise the advanced formatting tools, incorporate tables, images, and graphics. 2. specify master document collaboration, use reviewing features and mail merge. 3. develop spreadsheets for data analysis, calculation, and data visualisation using charts and graphs. 4. apply formulas and functions to perform calculations efficiently and explore data analysis tools such as pivot tables and filters. 5. design engaging and professional presentations using multimedia elements. 6. combine content effectively with slides, layouts, and themes and employ animations & transitions to enhance presentation delivery. 						
Unit I: (Theory) 15 Hours		Computer fundamentals: <ul style="list-style-type: none"> • Computer, block diagram of a computer, functions of the 						

	<p>Different Units, Input and Output device, Memory hierarchy (Registers, Cache Memory, Primary Memory, Secondary Memories),</p> <ul style="list-style-type: none"> • Concepts of Hardware and Software, Types of software - system software, application software, utility software, Open source, freeware and proprietary software. Programming language, compiler, interpreter and translator. • Concept of Computing, Units of Memory (Bits, Bytes), Operating System, types of Operating System, • Functions of Operating System. Networking Concept (LAN, MAN, WAN), Internet.
UNIT-II: (Practical) 30 Hours	<p>Operating Systems:</p> <ul style="list-style-type: none"> • Graphical User Interface, Basics of (MS-WINDOWS/LINUX), Desk Top, Task Bar, Start Up Menu Working with programs and icons-Adding, removing, starting and quitting programs and icons. • Working with files and folders-creating, deleting, opening, finding, copying, moving and renaming files and folders. • Control Panel, setting, My Computer, Recycle bin, Desktop & its terminology, Set up using Control panel, accessories, File Management. <p>Word Processor:</p> <ul style="list-style-type: none"> • Overview of Word Processing, parts, types of menus, opening, creating, saving, cut, copy, paste, paste especial, print and print preview, Find and Replace. • Character and paragraph formatting. Bullets & Numbering, spelling and grammar, Auto Correct, symbols, equations, page number, footnote, end note, Header/Footer, Clip Art, Smart Art. Border and shading, Table handling, Hyperlink, Bookmark, Cross reference, Mail merge, Label & Envelope and important shortcut keys.
UNIT-III: (Practical) 30 Hours	<ul style="list-style-type: none"> • Spreadsheet – Overview, Opening, creating, saving worksheet and workbook. Copy & paste, insert rows/columns, cell, range, fill series, print and print preview. Formatting Cells; Selecting Cells, Entering Text and Numeric Data into the Cells, Applying Fonts and Background Colour, Aligning Data, Merging Cells, Text Wrapping, Number Formatting – Text, Percentage, Currency, Dates. • Formulas and Functions – Performing Basic Mathematical Operations using Formula, Applying Formulas using Cell Names and Range, Performing Calculation using basic Numerical and Mathematical Functions. If and nested if function, Logical Functions-AND, OR, NOT. • Filters, Grouping and Charts- Sort, filter, advance filter, graphs, charts, conditional formatting rules, data

	validation, Introduction to Pivot Tables and Pivot Charts.
UNIT-IV: (Practical) 30 Hours	<ul style="list-style-type: none"> • Presentation: Overview, slides, designing slides, background design, auto content wizard, themes and styles. Animations, slide transition and build effects, action buttons and rehearse timing and slideshow. Sound effects, charts, graphs, smart art, media clips, objects, tables, slide view, master Slide.
Assignments	<ol style="list-style-type: none"> 1. Customize the desktop background, add/remove icons, and organize the taskbar. Demonstrate the use of the Start Menu to open programs and access settings. 2. Create, delete, open, find, copy, move, and rename files and folders using both the graphical interface and command line (where applicable). 3. Open a new document, type text, use cut, copy, paste, and paste special functions to paste in a different folder 4. Create a text document and save it under different names using save as use character and paragraph formatting, apply bullets and numbering, check spelling and grammar 5. In the above created document insert symbols, equations, page numbers, footnotes, and endnotes 6. In a document create and format tables, insert hyperlinks, bookmarks, and cross references 7. Open, create, and save worksheets and workbooks. Copy and paste data, insert and delete rows/columns, and apply print and print preview settings. 8. Format cells by selecting cells, entering text and numeric data, applying fonts and background colors, aligning data, merging cells, and text wrapping. Use number formatting for text, percentage, currency, and dates 9. Perform basic mathematical operations using formulas, apply formulas using cell names and ranges, and use basic numerical and mathematical functions. Implement IF and nested IF functions along with logical functions 10. Sort and filter data, use advanced filter options, create graphs and charts, and apply conditional formatting rules. Explore data validation techniques and create pivot tables and pivot charts. 11. Create a new presentation, design slides, apply background designs, use auto content wizard, and apply themes and styles. 12. Add animations to slide elements, use slide transitions, and build effects. Include action buttons and rehearse timing for the slideshow.

Suggested Readings	<ol style="list-style-type: none"> 1. Curtis, F. L. Joan , Microsoft Office Step by Step (Office 2021 and Microsoft 365), Pearson Education ; 1st edition, 2022. 2. Gurdy, L. F. Ellen and L. Mary , OpenOffice.org For Dummies, John Wiley & Sons publication, 2004 3. Kevin,W. Essential Office 365 Third Edition: The Illustrated Guide to Using Microsoft Office (Computer Essentials)”, Elluminet Press, 2018. 4. Matt ,V. Microsoft Office 365:A Complete Guide to Master Word, Excel and PowerPoint 365 for Beginners and Pro, Kindle Edition, 2021. 5. Sinha P. and P. K. Sinha, Computer Fundamentals, (Eight Edition) New Delhi: BPB Publications, 2004. 6. Steinberg,J. Open Office Basic: An Introduction, Createspace Independent Publication, 2012.
Requirements	<p>Name of the Tools and Equipment with Specification</p> <ul style="list-style-type: none"> • CPU: 32/64 Bit, 7th Generation or higher, i3 or latest processor, Speed: 3 GHz or Higher. • RAM:- 8 GB or higher, 1TB HDD/SDD, Wi-Fi Enabled. • Network Card: Integrated Gigabit Ethernet, with USB Mouse, USB • Keyboard and Monitor (as available in the market). Or All in one PC (As per above configuration) Licensed Operating System and Antivirus compatible with trade related software • Wi-Fi RouterWith wireless connectivity • Broadband connection with min.2 mbps speed/Optical Fibre <p>Software Requirement (Latest Version)</p> <ul style="list-style-type: none"> • MS Office 2010 or the latest version available at the time of procurement • Antivirus or Total security for – clients/workstations in profile • Adobe Creative Suite • Corel Graphic Suite • Regional Language Software <p>Any other item as required</p>
Qualified Instructors	<ul style="list-style-type: none"> • Instructors with experience in Desktop Publishing and teaching. • Certifications or relevant qualifications in Desktop Publishing

Syllabus on Vocational Education and Training Course (VTC)

Paper Title		: Computerized Accounting -I						
CODE		: VTC:243.3						
Number of Credits		: 4						
Semester		: III						
No. of Theory Hours Per Week		: One (1 hour)						
No. of Practical Hours per Week		:Three (3 Hours)						
Outline of the Paper:								
Type of Course	Units in the VTC	Hours	Credits	Total Marks	Distribution of Marks (as per OC-8)			
Computerized Accounting-I					In-Semester		End-Semester	
					Theory	Practical	Theory	Practical
	Unit-I Theory (25 Marks)	15	4	100	25			
Unit-II to IV Theory (75 Marks)	90				15		60	
Marks Distribution		: Internal Assessment: 40 : External Assessment: 60						
Course Objectives		To introduce the students to the computerized accounting environment to enable them creating and managing accounting records using computerized accounting software.						
Course Learning Outcome		At the end of the course students will able to: 1. gain proficiency in using Accounting Software for Accounting and Financial Management tasks 2. describe the fundamental concept of accounting, including ledger creation, journal entries and trial balance						
Unit I: (Theory) 15 Hours		Introduction to Computerized Accounting Understanding basic accounting principles and concepts, Definition of Accounting terms, Concept ofCapital and Revenue Expenditure and Receipt. Characteristics of Computerized Accounting,Advantages and Disadvantages, Manual Accounting Vs Computerized Accounting, Readymade Accounting Packages, Advantages and Disadvantages of Readymade Accounting Packages,Customized Accounting Package, Tailor-made Accounting Packages, Own Developed AccountingPackage, Third Party Developed Accounting Software, Advantages and disadvantages of Third Party Accounting Software, Factors to be considered while Purchasing Accounting Software.						
UNIT-II: (Practical) 30 Hours		Introduction to Accounting Software Interface and Navigation, Company Information, Remote Access, Security control, Usage of Function Keys. Installation and Configuration of the Accounting software, Company Information-						

	<p>Parts of Screen, Company Create, Select, Shut, Alter, Delete, Split Company, Backup and Restore Company, Vault and Security, Gateway of Tally: Features and Configurations - F11 and F12. Masters: Creation, Alter and Chart of Accounts, Creation of Groups, Display, Delete and Configure Groups.</p>
UNIT-III: (Practical) 30 Hours	<p>Ledgers and Sub Ledgers Concept, Creation, Alter, Delete and Configuration: with and without Opening Balances, Revenue Receipt and Revenue Payment, Capital Receipt and Capital Payment. Cost Centers and Cost Categories: Create Display and Alter, Accounting Voucher Entry in Single entry and Double Entry, Contra Voucher, Receipt and Payment Voucher, Journal Voucher, Memorandum Voucher and Reversing Journals.</p>
UNIT-IV: (Practical) 30 Hours	<p>Report Generation Vouchers entry, Accounting and Inventory features, statutory and Taxation features: TDS, GST, preparing Trial balance, financial statements and reports (The curriculum has been divided into three progressive levels spread across three semesters, totalling 315 hours (105 hours for each semester). Each semester combines theoretical knowledge with practical application through hands-on exercises.)</p>
Suggested Readings	<ol style="list-style-type: none"> 7. Agrawal Gaurav, Learn Tally Prime with GST, Digital Muneem Ji Publications 8. Bhaderia, Gagan, Tally Prime: Advanced Notes with QR Code, Notion Press 9. Mishra, V, Tally Prime with GST, TBP Publications 10. Nadhani, K Asok, Mastering Tally Prime, BPB Publications 11. Prime, BPB Publications 12. Sangwan, Rakesh, Tally Workbook using Tally Prime, Ascent Prime Publications 13. Tally Education Private Limited, Official Guide to Managing your Business using Tally 14. Tally India, Official Guide to Financial Accounting using Tally Prime, BPB Publications
Requirements	<p>Accounting Software</p> <ul style="list-style-type: none"> • Types of Accounting Packages <p>Tally Accounting Software</p> <ul style="list-style-type: none"> • Interface and Navigation • Masters Management <p>Voucher Entry</p>

	<ul style="list-style-type: none"> • Single entry and double entry accounting • Types of vouchers: Contra, receipt, payment, journal, memorandum, and reversing journals <p>Report Generation</p> <ul style="list-style-type: none"> • Vouchers entry • Accounting and inventory features • Statutory and taxation features: TDS and GST • Preparing trial balance, financial statements, and reports <p>GST Concepts and Procedures</p> <ul style="list-style-type: none"> • GSTIN registration • HSN code and input tax credit • Composition scheme and returns <p>Bank Reconciliation</p> <ul style="list-style-type: none"> • Creation of ledgers for bank reconciliation • Methods of transactions <p>Payroll Processing</p> <p>Inventory Management System</p> <ul style="list-style-type: none"> • Hands-on Exercises • Case Studies <p>Any other item as required</p>
Qualified Instructors	Instructors with experience in Computerized Accounting Certifications or relevant qualifications in Computerized Accounting

Syllabus on Vocational Education and Training Course (VTC)

Paper Title		: Piano -I						
CODE		: VTC: 245.2						
Number of Credits		: 4						
Semester		: III						
No. of Theory Hours Per Week		: One (1 hour)						
No. of Practical Hours per Week		: Three (3 Hours)						
Outline of the Paper:								
Type of Course	Units in the VTC	Hours	Credits	Total Marks	Distribution of Marks (as per OC-8)			
Piano-I					In-Semester		End-Semester	
					Theory	Practical	Theory	Practical
	Unit-I Theory (25 Marks)	15	4	100	25			
Unit-II to IV Theory (75 Marks)	90				15		60	
Marks Distribution		: Internal Assessment: 40 : External Assessment: 60						
Questions to be Set		: Sixteen (Any one question shall be chosen according to the VTC Students have opted)						
Duration of End Semester Examination		: Three Hours						
Course Objectives		1. This course is designed to help students understand, handle and learn to play the instrument.						
Course Learning Outcome		At the end of the course students will be able to handle and control the instrument for its effective use with necessary knowledge, skills and understanding developing their proficiency and creativity.						
Unit I: (Theory) 15 Hours		Introduction to Pitch <ul style="list-style-type: none">• Pitch names and Notation• The major scale• Key Signatures• Accidentals						
UNIT-II: (Practical) 30 Hours		Basics of Rhythm and Tempo <ul style="list-style-type: none">• Time values• Time signatures• Tempo• Rhythm• Rests• The basis of Simple and Compound Time Notation						
UNIT-III: (Practical) 30 Hours		Scales, Keys and Clefs <ul style="list-style-type: none">• Major scales and the Circle of Fifths• Minor scales and keys• Relative Major/minor Keys						

UNIT-IV: (Practical) 30 Hours	Triads and Chords <ul style="list-style-type: none"> • Triads • Chords • Learning the Primary chords in the key of A, B, C, D, E, F, G both in major and minor. • Common chord progressions in pop, rock and blues • Ear training: Chord recognition
Suggested Readings	<ol style="list-style-type: none"> 1. Eric Taylor, Introduction to Pitch: The AB Guide to Music Theory I 2. Raymond Elliot, Basics of Rhythm and Tempo: Fundamentals of Music 3. Terry B. E. Well, Scales, keys and clefs: Music Fundamentals 4. Williard A. Palmer, Chords and Cadences: The complete book of Scales, Chords, Arpeggios and Cadences. 5. William Duckworth, Ear Training: A Creative approach to fundamental music
Requirements	Classroom Space Individual Practice Rooms <ul style="list-style-type: none"> • Soundproof rooms for individual and small group practice. • Each room should be equipped with basic instruments like keyboards, guitars, etc. Pianos/Keyboards At least one piano or high-quality electronic keyboard Audio Systems <ul style="list-style-type: none"> • High-quality speakers and audio playback systems for playing music samples and accompaniments. Projector and Screen <ul style="list-style-type: none"> • For displaying music notation, instructional videos, and interactive learning sessions. Computers and Software <ul style="list-style-type: none"> • Computers with music notation software (like Sibelius or Finale), DAWs (Digital Audio Workstations) like Logic Pro, Ableton Live, etc.

	<p>Headphones</p> <ul style="list-style-type: none"> • Good quality headphones for individual practice and ear training sessions. <p>Learning Materials and Resources</p> <p>Sheet Music</p> <ul style="list-style-type: none"> • Extensive library of sheet music covering various genres and difficulty levels. <p>Music Theory Books</p> <ul style="list-style-type: none"> • Books and reference materials covering all aspects of music theory as per the syllabus. <p>Online Resources</p> <ul style="list-style-type: none"> • Subscriptions to online music learning platforms and resource in each classroom and practice room. <p>Any other item as required</p>
Qualified instructors	<ul style="list-style-type: none"> • Qualified instructors with expertise in Piano and related fields. • Support staff for maintaining equipment and facilities

Syllabus on Vocational Education and Training Course (VTC)

Paper Title	: Guitar -I							
CODE	: VTC: 245.3							
Number of Credits	: 4							
Semester	: III							
No. of Theory Hours Per Week	: One (1 hour)							
No. of Practical Hours per Week	: Three (3 Hours)							
Outline of the Paper:								
Type of Course	Units in the VTC	Hours	Credits	Total Marks	Distribution of Marks (as per OC-8)			
Guitar-I					In-Semester		End-Semester	
					Theory	Practical	Theory	Practical
	Unit-I Theory (25 Marks)	15			25			
	Unit-II to IV Theory (75 Marks)	90	4	100		15		60
Marks Distribution		: Internal Assessment: 40 : External Assessment: 60						
Course Objectives		2. This course is designed to help students understand, handle and learn to play the instrument.						
Course Learning Outcome		At the end of the course students will be able to handle and control the instrument for its effective use with necessary knowledge, skills and understanding developing their proficiency and creativity.						
Unit I: (Theory) 15 Hours		Introducing the Nashville Numbering System <ul style="list-style-type: none"> Naming and numbering the scale degree. (whole step and half step). Learning the primary chords I IV V (open and barre chords) in the key of A B C D E F G both in major and minor. Learning the diatonic chord sequence i.e. I ii iii IV V vi vii in natural keys both major and minor. 						
UNIT-II: (Practical) 30 Hours		The Basics of Harmony and Common Chord Progressions with Ear Training <ul style="list-style-type: none"> The relationship between major and minor i.e tonic, predominant and dominant. Common chord progression in rock, pop, blues and jazz. (I IV V, ii V I, iii vi ii V I, I IV ii V, I V vi IV) etc. Ear training: Chord recognition. 						
UNIT-III: (Practical) 30 Hours		Time Signatures and Key Signatures. <ul style="list-style-type: none"> Playing in common time signatures like 4/4, 3/4 and 						

	<p>2/2</p> <ul style="list-style-type: none"> Understanding the circle of fifths. (Order of Sharps # and Flats <i>b</i>)
UNIT-IV: (Practical) 30 Hours	<p>Borrowed Chords, Secondary Dominants and Rhythm Sight-Reading.</p> <ul style="list-style-type: none"> (Notes and rests) Whole note, half note, triplets, quarter note, eighth note, sixteenth note and dotted notes for rhythm sight-reading
Suggested Readings	<ol style="list-style-type: none"> 1. Bill Keis The Basics of Harmony 2. Chas Williams, The Nashville Number System Book 3. Pete Ford, Practical Music Theory – Part 1 4. Pete Ford, Practical Music Theory – Part 2 5. Ted Greene, Chord chemistry
Requirements	<ul style="list-style-type: none"> Classroom Space Individual Practice Rooms Guitar Audio Systems Projector and Screen Computers and Software Headphones Sheet Music Music Theory Books Online Resources <p>Any other item as required</p>
Qualified instructors	<ul style="list-style-type: none"> Qualified instructors with expertise in Guitar and related fields. Support staff for maintaining equipment and facilities

Syllabus on Vocational Education and Training Course (VTC)

Paper Title		: Vocals -I						
CODE		: VTC: 245.4						
Number of Credits		: 4						
Semester		: III						
No. of Theory Hours Per Week		: One (1 hour)						
No. of Practical Hours per Week		: Three (3 Hours)						
Outline of the Paper:								
Type of Course	Units in the VTC	Hours	Credits	Total Marks	Distribution of Marks (as per OC-8)			
Vocals-I					In-Semester		End-Semester	
					Theory	Practical	Theory	Practical
	Unit-I Theory (25 Marks)	15	4	100	25			
Unit-II to IV Theory (75 Marks)	90				15		60	
Marks Distribution		: Internal Assessment: 40 : External Assessment: 60						
Course Objectives		3. Students will have an understanding of vocal music, timbre and tonality.						
Course Learning Outcome		At the end of the course students will be able to apply this skill and fine tune the voice culture with a comprehensive understanding of vocal music, technical aspects like timbre and tonality and exploring the different expressive dimensions.						
Unit I: (Theory) 15 Hours		Introduction <ul style="list-style-type: none">• Definition: Music, Sound, Notes, Scale, Pitch, Key-Tone, Octave, Degree, Mental Effects, Technical Names• Scale: Diatonic Scale & Natural Scale• Tune: 1st, 3rd, 5th^{with} their Octaves• Mental effects and Technical Names of 1st, 3rd, 5thDegrees• Times: Accent, Pulse, Measurement, Braces, Double Bars, Breathing Place, Continued Tones• Times: 2-PulseMeasurement, 4-PulseMeasurement and Forms with Time Names• Pulse Division: ½PulseDivision, ½PulseContinuation & ½ to ½ Pulse Continuation with Time Names• Tunes: 2nd&7thwith Mental Effects and Technical Names• Slurs, Silent Pulse & Corona						
UNIT-II: (Practical) 30 Hours		Sight Singing <ul style="list-style-type: none">• Tune: 1st, 3rd, 5thwith their Octaves• Time: Measurement 2-Pulse, 4-Pulseand Forms with						

	<p>Time Names</p> <ul style="list-style-type: none"> • Pulse Division: $\frac{1}{2}$ Pulse Division, $\frac{1}{2}$ Pulse Continuation & $\frac{1}{2}$ to $\frac{1}{2}$ Pulse Continuation with Time Names • Tunes: 2nd & 7th in 2-Pulse & 4-Pulse Measure with $\frac{1}{2}$ Pulse Division • Slurs, Silent Pulse & Corona • Time & Rhythm–Keeping Time–Tapping • Vocalising– LINES
UNIT-III: (Practical) 30 Hours	<p>Aural Test</p> <ul style="list-style-type: none"> • Tune: 1st, 3rd, 5th • Time: Measurement 2-Pulse–Primary Form • Time: Measurement 4-Pulse–Primary Form • Tunes: 2nd & 7th in 2- Pulse Measurement
UNIT-IV: (Practical) 30 Hours	<p>Voice Lesson</p> <ul style="list-style-type: none"> • Posture, Position of the Mouth • Breathing and Chest Exercises • Vocalisation • Singing (Art of Producing Good Tone) • Pieces – Hymns & Choruses etc
Suggested Readings	<ol style="list-style-type: none"> 1. Cicely Berry, Your Voice and How to Use it 2. Elizabeth Sabine, Strengthening Your Singing Voice 3. Full voice The Art and Practice of Vocal Presence 4. Jan Schmidt, Basics of Singing 5. Klaus Heizmann, Vocal Warm-Ups: 200 Exercises for Chorus and Solo Singers 6. Samuel W. Cole, Melodia; a comprehensive course in sight-singing (solfeggio); the educational plan 7. Stephen Greenlane, Find Your Own Singing Voice: Vocal Training from Fundamentals to Mastery Techniques to Help You Enjoy Singing More and More See less
Requirements	<ul style="list-style-type: none"> • Classrooms • Practice Rooms • Performance Hall • Musical Instruments and Equipment • Sound Equipment • Technology and Software

	<ul style="list-style-type: none"> • Computers and Software • Multimedia Resources • Rehearsal Spaces • Any other item as and when required
Qualified instructors	<ul style="list-style-type: none"> • Experienced vocal coaches and music theory teachers. • Guest lecturers and visiting artists for workshops and masterclasses

Syllabus on Vocational Education and Training Course (VTC);

Paper Title			: Khasi Traditional Music -I						
CODE			: VTC: 245.5						
Number of Credits			: 4						
Semester			: IV						
No. of Theory Hours Per Week			: One (1 hour)						
No. of Practical Hours per Week			: Three (3 Hours)						
Outline of the Paper:									
Type of Course	Units in the VTC	Hours	Credits	Total Marks	Distribution of Marks (as per OC-8)				
Khasi Traditional Music- I					In-Semester		End-Semester		
					Theory	Practical	Theory	Practical	
					Unit-I Theory (25 Marks)	15	4	100	25
Unit-II to IV Theory (75 Marks)	90		15		60				
Marks Distribution			: Internal Assessment: 40 : External Assessment: 60						
Course Objectives			1. This course will introduce the students to the basic understanding of Khasi Music. 2. It will train them to develop professional skills in handling Khasi membrane musical instruments and learn the rhythmic patterns of different Skits.						
Course Learning Outcome			After the completion of the course the students are able to play and become proficient in handling Khasi membrane instruments.						
Unit I: (Theory) 15 Hours			Understanding Khasi Music& Khasi Polity (Theory) <ul style="list-style-type: none">• Sur Shnong (Music at the Village Level)• Music at the level of “Ka Hima” (Khasi Native State)• Concept of Khasi Rhythmic Pattern (Oral Tradition and Notation)						
UNIT-II: (Practical) 30 Hours			Learning of The Khasi Membrane Musical Instruments (Practical) <ul style="list-style-type: none">• Recitation of Drum Syllables• Playing Techniques• Ki Skit: Learning of Ka Lumpaid and Shadwait Tem Beit						
UNIT-III: (Practical) 30 Hours			Learning of the Rhythmic Patterns (Practical) <ul style="list-style-type: none">• Ki Skit on Ka KsingShynrang: Ka Shadwait Kynting Dieng and Ka Mastieh• Ksing Kynthei: Rhythm of Ka Padiah Ardieng						
UNIT-IV: (Practical) 30 Hours			Further Training and Learning of other Membrane Musical Instruments (Practical) <ul style="list-style-type: none">• Ka Bom: The Rhythmic Patterns of Ka Lumpaid, Shadwait and Ka Mastieh						

	<ul style="list-style-type: none"> • Ka Padiah: Playing of Ka Padiah Ardieng
Suggested Readings	<ol style="list-style-type: none"> 1. Alfred Einstein: <i>A Short History of Music</i>, Illustrated, Edition, London, 1986. 2. All India Radio, Shillong (Archival Collection). 3. Arun Kumar Sen: <i>Indian Concept of Rhythm</i> (Director Bhatkhande Institute of Music and Musicology), Kanishka Publisher & Distributor New Delhi, 1994. 4. Barthakur D.R: <i>The Music and Musical Instruments of North East India</i>, Mittal Publications, New Delhi. 5. David Roy: <i>Principles of Khasi Customs</i>, Shillong, 1934. 6. Deva B.C.: <i>Musical Instruments</i>, National Book Trust, Reprint, 1979. 7. Fr. G Costa: <i>Ka Riti jong ka Ri LaiphewSyiem Vol I(1036) and Vol II (1938)</i>, Don Bosco Press,Shillong. 8. Hamlet Bareh : <i>The History and Culture of the Khasi People</i>, Shillong, 1964. 9. Helen Giri (Ed) :<i>U Myllung ha ki Sur – Thup II</i> (in press) 10. Helen Giri (Ed): <i>KattoKatneshaphang ka Put ka Tem</i>, La Riti Publications. 11. Helen Giri (Ed): <i>Lest We Forget, Published Seven Huts Enterprise</i>, Shillong 1994. 12. Helen Giri(Ed) : <i>U Myllung ha ki Sur – Thup II</i> (Reprint 2016), La Riti Publications. 13. KJWA Publication Cell: <i>Ka Thwet Jingstad</i>. 14. Kyndiah P R (1969): <i>A peep into Khasi and Jaintia Music, Khasi Heritage</i>, Shillong. 15. La Riti Publications. 16. LapynshaiSyiem: <i>The Evolution of Khasi Music: A Study of the Classical Content</i>, La Riti Publications.2005 17. La-Riti Archival Documentation. 18. Mawrie H O : <i>Ka Pyrkhat u Khasi</i>, Shillong, 1973. 19. Mawrie H O : <i>U Khasi ha la ka Niamra</i>, Ri Khasi Press Shillong, 1973. 20. P R T Gurdon: <i>The Khasis</i>, Cosmo Publications, Delhi,1975. 21. Rash Mohan Roy: <i>U Khasi Hyndai</i>, Shillong, 1958. 22. Seng Khasi: <i>Khasi Heritage</i>, Ri Khasi Press, Shillong,1969. 23. Webstar Davies Jyrwa: <i>Phra Tylli ki Essay</i>.
Requirements	<ol style="list-style-type: none"> 1. Music Rooms:

	2. Instruments: 3. Drums (KsingShynrang and KsingKynthei) 4. Bom 5. Padiah 6. String Instruments (Duitara): 7. Craft Workshop: 8. Recording Studio: 9. Performance Hall: 10. IT and Digital Resources: 11. Cultural Resource Center: Any other item as required
Qualified Instructors	<ul style="list-style-type: none"> • Instructors with experience in Khasi Traditional Music • Certifications or relevant qualifications in Khasi Traditional Music

Syllabus on Vocational Education and Training Course (VTC)

Paper Title	: Beauty Care -I							
CODE	: VTC: 247.1							
Number of Credits	: 4							
Semester	: III							
No. of Theory Hours Per Week	: One (1 hour)							
No. of Practical Hours per Week	: Three (3 Hours)							
Outline of the Paper:								
Type of Course	Units in the VTC	Hours	Credits	Total Marks	Distribution of Marks (as per OC-8)			
Beauty Care -I					In-Semester		End-Semester	
					Theory	Practical	Theory	Practical
	Unit-I Theory (25 Marks)	15			25			
	Unit-II to IV Theory (75 Marks)	90	4	100		15		60
Marks Distribution		: Internal Assessment: 40 : External Assessment: 60						
Course Objectives		<ol style="list-style-type: none"> 1. To enable students to recognize and adhere to professional ethics and conduct in the workplace, ensuring high standards of professionalism and integrity in all aspects of their work. 2. To explain and equip students with various techniques of manicure and pedicure, promoting proper nail care and aesthetic enhancement. 3. To enable students to apply skills in threading, bleaching, facials, and waxing, offering a range of beauty treatments to meet client needs effectively. 4. To demonstrate the skills required for comprehensive hair care, including various hair treatments, to maintain and improve hair health and appearance. 						
Course Learning Outcome		Students will be able to <ol style="list-style-type: none"> 1. recognise professional ethics and professional conduct in the work place 2. explain and equip themselves with the various technique of manicure and pedicure 3. appple the skill of threading, bleaching, facial and waxing 4. demonstrate the skill for hair care including hair treatment 						
Unit I: (Theory) 15 Hours		Personal Development for beautician and Introduction to Beauty care (Theory) <ul style="list-style-type: none"> • Professional Outlook, Personal Grooming, Professional Ethics and Communication Skills • Threading and Bleach - Types, Side effects and Remedial measures • Facial - Types, Types of Skin, Phases of massages, Side effects and Remedial measures. Waxing - Types of wax 						

	<p>Types of waxing, Preparation of wax and Testing</p> <ul style="list-style-type: none"> • Importance of hair care, Types of hair, Factors affecting hair growth, Hair problems
UNIT-II: (Practical) 30 Hours	<p>Introduction to basic Beauty care (Practical):</p> <ul style="list-style-type: none"> • Threading - Materials required, Methods • Bleach –Trolley setting, Materials required, Methods • Facial - Materials required, Method, • Waxing - Methods of applying wax- hand, leg and underarm waxing, Methods of Epilation and Depilation.
UNIT-III: (Practical) 30 Hours	<p>Manicure and Pedicure (Practical):</p> <ul style="list-style-type: none"> • Types of pedicures and manicure • Manicure and pedicure techniques • Nail Art: Different methods of nail art, types of nail polish, application and their methods. • Mehendi: Introduction, preparation of Mehendi paste, Mehendi cone preparation and Technique of application - hands and legs.
UNIT-IV: (Practical) 30 Hours	<p>Hair Care (Practical)</p> <ul style="list-style-type: none"> • Scalp massage - Materials required and Procedure and Technique • Shampooing and rinsing- Types of shampoo and their uses, Application and Technique, Types of rinses and methods of rinsing • Hair conditioning – Types of Hair conditioner, Application and Technique • Hair Treatment
Suggested Readings	<ol style="list-style-type: none"> 1. Burne, Deborah. The Beauty Geek's Guide to Skin Care: 1,000 Essential Definitions of Common Product Ingredients. Rockridge Press, 2019 2. Coetzee, Bronwyn. Manicure & Pedicure: A Complete Guide to Beautiful Hands and Feet. Kindle Editions 2015 3. Essential Beauty Guide. Goodwill Publishing House 2001 4. Gupta, Renu. Complete Beautician course. New Delhi, Diamond pocket books Pvt Ltd, 2001 5. Husain, Shanaz. Shahnaz Husain's Beauty Book, Orient Paperbacks, 2014 6. Johnson, Dale H. Hair and Hair Care. New York: Marcel Decker Inc, 1997 7. Kochar, Blossom. Hair, Skin and Beauty Care 9 The complete body Book. New Delhi: VBSPD/VBS Publishers Distributors Ltd 2000 8. Paudwal, Madhumita. Practical Guide to Beautician Training. New Delhi: Asian Publishers, 2002 9. Saikia, Madhumita. Basic Beautician Training Course. Computech Publications Limited, 2019

	<p>10. Sinha, M, Rajgopal and Banerjee. S. All You Wanted To Know About Hair Care. New Delhi: Sterling Publishers Pvt. Ltd, 2000</p> <p>11.</p>
Requirements	<p>Threading</p> <ul style="list-style-type: none"> • Thread (antibacterial and hypoallergenic) • Tweezers • Threading scissors • Disinfectants and sterilization equipment <p>Bleach</p> <ul style="list-style-type: none"> • Bleach creams and powders • Mixing bowls and applicators • Trolley for organization • Protective gear (gloves, masks) • Aftercare products (soothing creams, lotions) <p>Facial</p> <ul style="list-style-type: none"> • Cleansers, toners, and moisturizers • Facial masks and scrubs • Massage creams and oils • Steamers and facial towels • Sponges and cotton pads • Facial beds/chairs <p>Waxing</p> <ul style="list-style-type: none"> • Wax heaters • Different types of wax (soft, hard, strip) • Wax applicators (spatulas) • Waxing strips • Pre-wax and post-wax care products <p>Manicure and Pedicure</p> <ul style="list-style-type: none"> • Manicure and pedicure kits (nail files, buffers, clippers, cuticle pushers) • Bowls for soaking • Foot baths and spas • Exfoliating scrubs • Lotions and creams <p>Nail Art</p> <ul style="list-style-type: none"> • Nail polishes (various types and colors)

	<ul style="list-style-type: none"> • Nail art brushes and tools • Stencils and stickers • UV/LED nail lamps for gel polish <p>Mehandi</p> <ul style="list-style-type: none"> • Henna powder • Mixing bowls and spoons • Mehandi cones • Design stencils and instructional guides <p>Hair Care</p> <p>Scalp Massage</p> <ul style="list-style-type: none"> • Massage oils and creams • Scalp massagers and brushes • Towels and capes <p>Shampooing and Rinsing</p> <ul style="list-style-type: none"> • Various types of shampoos and conditioners • Rinsing bowls or salon sinks • Applicator bottles <p>Hair Conditioning</p> <ul style="list-style-type: none"> • Different hair conditioners • Leave-in conditioners and hair masks • Heat caps and steamers <p>Hair Treatment</p> <ul style="list-style-type: none"> • Treatment-specific products (anti-dandruff, anti-hair fall) • Applicators and mixing bowls • Towels and capes <p>Any other item as and when required</p>
Qualified Instructors	<ul style="list-style-type: none"> • Qualified instructors with experience in beauty care • Guest lecturers or industry professionals for specialized sessions • Ensure instructors have or receive training in effective teaching methods.