SAURASHTRA UNIVERSITY

RAJKOT – INDIA



Accredited Grade A by NAAC (CGPA 3.05)

CURRICULUM FOR

UGC - B.Voc. under National Skills Qualification Framework(NSQF)

Bachelor of Vocation – Applied Computer Technology

(B.Voc.- ACTech.)

(Sanctioned to Shree Manibhai Virani & Smt. Navalben Virani Science College-Rajkot)

(Semester V and Semester VI)

Effective From June – 2016

$UGC\ B. Voc. -\ Applied\ Computer\ Technology\ (\ Semester-V\)$

Sr. No.	Paper No.	Subject	Credit
1	ACTECH 5.1	Business Etiquettes & Interview Techniques	5
2	ACTECH 5.2	Programming with C#.NET	5
3	ACTECH 5.3	Mobile Computing with Android	5
4	ACTECH 5.4	Project Work - II	5
5	ACTECH 5.5	Practical - I (Based on 5.2)	5
6	ACTECH 5.6	Practical - II (Based on 5.3)	5
Total Credits of Semester - V			30

Sr.	ACTECH 5.1 : Business Etiquettes & Interview Techniques Sr. Details Morris Approx				
No.	Topics	Details	Marks	Lectures	
1	Communication in a Business Organization	 Meaning & Process of Communication Objectives of Communication Communication in a business organization Vertical Communication Horizontal Communication Consensus Grapevine Communication Barriers to Communication Types of Barriers Linguistic and Semantic Barriers Physical / Environmental Barriers Personal / Socio-psychological Barriers Organizational Barriers Cross-cultural Barriers 	25	13	
2	Basic Official Correspondence & Writing Skills	 Letter Writing Report Writing Job Application / Resume Writing 	20	10	
3	Presentation & Group Discussion Skills	 Presentation Skills Planning a presentation Preparing a presentation Delivering a presentation Group Discussion Skills Phases of Group Discussion Personality traits required for effective GD Elements of effective GD 	15	12	
4	Communication Etiquettes	 Introduction to business etiquettes Telephone Etiquettes Email Etiquettes Video Conferencing Etiquettes Table Manners Respect in Office Environment 	20	13	
5	Interview Techniques	 Types of Interviews Basic Interview Mistakes Preparing for the interview Appearing for the interview Interview follow-up 	20	12	
		Total	100	60	

Student Seminar - 5 Lectures
Expert Talk - 5 Lectures
Student Test - 5 Lectures

Total Lectures 60 + 15 = 75

- 1. Communication Skills by Vaishali K. Ghadyalji (Nandu Publications)
- 2. Communication Skills by *Anasuya Kalavar* (Tech-Max Publications)
- 3. Effective Interview Skills by Brian Cahill

	ACTECH 5.2: Programming with C#.NET				
Sr. No.	Topics	Details	Marks	Approx Lectures	
1	.NET Framework	Introduction to .NET Framework Features of .NET	15	8	
2	Introducing C# Programming	Creation of C# Introduction of Visual Studio 2008 IDE First simple Program Compilation and Execution Creating and Organizing Classes and Namespace	5	3	
3	C# Basics	Declaring Variables, Keywords, Identifiers, Literals Data types in C# Type Conversion and casting, Boxing and Unboxing Operators in C# DLecision Making Statements	10	8	

		(If-else, Switch) Looping (For, While, Do-while, For-each) Jumping statement(Break, Continue, Goto) Structure, Enumeration Arrays(One Dimensional, Rectangular, Jagged) Exception Handling		
4	Object Oriented Programming	Classes and Objects Access modifiers Methods and it's parameters Inheritance and Polymorphism Constructor Inheritance Sealed Class, Abstract Class and Interface Properties and Indexer, Delegates and Events	20	10
5	Working with GUI	 Working with Forms Class: Loading, showing and hiding forms, Controlling One form within another, MDI Form. Windows Form Controls: Standard Controls: Textbox, Label, Button, Listbox, Combobox, Checkbox, PictureBox, RadioButton, Panel, Scroll-bar, Timer, Datetimepicker, NotifyIcon, ImageList, Link Label, ListView, TreeView, Toolbar, StatusBar, OpenFileDilog, SaveFileDialog, FontDialog, ColorDialog, PrintDialog Designing Menu's:	20	8
6	Database Programming With ADO.NET	ADO.NET Architecture Connected and Disconnected Architecture Types of Data Providers Introduction to SQL Data Provider	20	15

		Total	100	60
		Launch Conditions Editor		
		User Interface Editor		
		File System Editor	5	4
		Creating Setup Project		
8	Setup Project	Types of Setup Projects		
		Formula fields, Special Fields		
		Report Sections	3	4
		Standard, cross-tab, mail label	5	1
7	Crystal Reports	Creating Crystal Reports		
		controls		
		Database Programming with Data bound		
		DataSet Model		
		Differences between DataReader and		
		Dataset Object		
		DataTable Object		
		DataAdapter Object		

Student Seminar - 5 Lectures
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Student Test - 5 Lectures

Total Lectures 60 + 15 = 75

- 1) C#.NET Programming Black Book steven holzner -dreamtech publications
- 2) Introduction to .NET framework Wrox publication
- 3) Microsoft ADO. Net Rebecca M. Riordan, Microsoft Press
- 4) Programming with C# Bharat & Co.

	ACTECH 5.3 : Mobile Computing with Android			
Sr. No.	Topics	Details	Marks	Approx Lectures
1	Introduction to	The Open Handset Alliance	6	4
	Android	The Android Platform		
		Android SDK		
		Building a sample Android application		
2	Android	Anatomy of an Android applications	20	15
	Application	Android terminologies		
	Design	• Application Context, Activities, Services, Intents		
		Receiving and Broadcasting Intents		
		Android Manifest File and its common		
		settings		
		Using Intent Filter, Permissions		
		Managing Application resources in a		
		hierarchy		
		Working with different types of resources		
3	Android User	User Interface Screen elements	20	10
	Interface	Designing User Interfaces with Layouts		
	Design	Drawing and Working with Animation		
4	Database	Using Android Data and Storage APIs	20	15
	Connectivity	Managing data using SQLite		
	Using SQLite	Sharing Data Between Applications with		
		Content Providers		
5	Location Based	• Using Global Positioning Services (GPS)	7	3
	Services (LBS)	Geo-coding Locations		
		Mapping Locations		
		Many more with location based services		
6	Common	Android networking API	7	3
	Android API	Android web API		
		Android telephony API		
7	Notifications	Notifying the user	5	2
		Notifying with the status bar		
		Vibrating the phone		
		Blinking the lights		
		Customizing the notifications		

8	Services	• Services	5	3
		Application development using JSON in		
		MySQL		
9	Accessing	Live Folders Using sdcards	7	3
	Phone services	XML Parsing Example		
	& Live	JSON Parsing Example		
	Example	Accessing Phone services		
		(Call, SMS, MMS)		
		Android Sensors (GRAVITY_EARTH)		
10	Deployment of	Publish android application	3	2
	applications			
	•	Total	100	60

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- 1) Android Wireless Application Development By Lauren Darcey and Shane Conder, Pearson Education, 2nd ed. (2011)
- 2) Using SQLite By Jay A. Kreibich, Publisher: O'Reilly Media
- 3) Mobile Computing using Android and iPhone [ISBN: 978 93 81786 93 2] by Bharat & Company
- 4) Professional Android 2 Application Development Reto Meier, Wiley India Pvt Ltd (2011)
- 5) Beginning Android Mark L Murphy, Wiley India Pvt Ltd

ACTECH 5.4: Project Work - II		
Topics	Marks	
ACTECH 5.4	100	

ACTECH 5.5: Practical - I (Based on ACTECH 5.2)		
Topics Marks		
ACTECH 5.2	100	

ACTECH 5.6: Practical – II (Based on ACTECH 5.3)		
Topics	Marks	
ACTECH 5.3	100	

UGC B.Voc.- Applied Computer Technology (Semester – VI)

Sr. No.	Paper No.	Subject	Credit
1	ACTECH 6.1	Graphics and Multimedia	5
2	ACTECH 6.2	Web Programming with ASP.NET	5
3	ACTECH 6.3	Mobile Computing with IOS	5
4	ACTECH 6.4	Project Work - III	5
5	ACTECH 6.5	Practical - I (Based on 6.1 & 6.3)	5
6	ACTECH 6.6	Practical - II (Based on 6.2)	5
Total Credits of Semester - VI			30

	ACTECH 6.1 : Graphics and Multimedia			
Sr. No.	Topics	Details	Marks	Approx Lectures
1	Sony Vegas Movie Studio Introduction	Video File Formats Different video file formats, video frame size, video frame per second, video quality Capture your voice & video Timeline & Duration	5	3
2	Basic Media Manipulation	Video merge, split, zoom, crop, croma key, picture in picture, video transparency, slide show, time duration, video speed, slow motion, split by scene, multiple video layers and audio layers.	10	5
3	Adding Special Effects & Audio	Effects in video Video transition, video filters, white balance, watermark, special effects Adding Text Adding Audio Multiple audio layers, audio disable/enable, audio composition, audio effect, crop, merge, split	10	7
4	Making a Movie	Movie categories Documentary, small advertisement, short movie Video Rendering Different File formats rendering, video frames, video frame size, HD video, Quality of videos rendering, DVD Making, Web Video	15	8
5	Understanding Motion Graphics & After Effects Interface	Defining Motion Graphics Opening an Existing Project Understanding the Default Workspace Saving a Custom Workspace Setting Preferences in After Effects	10	6
6	Media Management	Importing Media Importing Photoshop and Illustrator Files and After Effects Project Files Using the Interpret Footage Dialog Box	5	3
7	Animation in After Effects	Creating a New Composition Importing Compositions from Photoshop and Illustrator Animating Layer Rotation Parenting Layers Adding Motion Blur Adjusting Blending Modes Creating a Nested Composition	10	6

8	Working with	Working with Masks	20	15
	Objects &	Basic Masks, Animating Masks,		
	Effects	Creating Free Form Masks,		
		Animating Mask Vertices, Creating		
		Track Mattes, Creating Chroma		
		Keys		
		Working with Text		
		Creating Text Layers, Animating		
		Text Properties, Saving Custom		
		Text Animation Presets, Working		
		with the Existing Text Animation		
		Presets, Creating Text on a Path		
		Working with Audio		
		Adding Audio Files to the Timeline,		
		Animating Audio Levels, Adding Effects to		
		Audio Layers, Creating Key Frames from		
		Audio Levels		
9	Advanced	Saving Animation Presets,	5	3
	Animation	Using Motion Sketch to Capture Motion,		
	Techniques	Using the Wiggler to Add Frenetic Motion,		
		Adding Easing to Key Frames,		
		Using the Graph Editor		
10	After Effects	Rendering Video Files	10	4
	Projects	Adjusting Render Settings		
		Creating Render Templates		
		Collecting Files for Backup		
		Total	100	60

Student Seminar – 5 Lectures Expert Talk – 5 Lectures Student Test – 5 Lectures

Total Lectures 60 + 15 = 75

- 1) Sony Vegas Pro 11 Beginner's Guide, by Duncan Wood (Author) Paperback
- 2) Adobe After Effects CS6 Classroom in a Book by Adobe Creative Team (Author) Paperback
- 3) Adobe After Effects CC Classroom in a Book, by Adobe Creative Team (Author) Paperback
- 4) Adobe After Effects CS6 Visual Effects and Compositing Studio Techniques, by Mark Christiansen (Author) Paperback

	ACTECH 6.2: Web Programming with ASP.NET				
Sr. No.	Topics	Details	Marks	Approx Lectures	
1	Framework & Web Contents	Overview of ASP.NET framework, ASP.NET Page Structure, Page Life Cycle and Events HTML Controls and ASP.NET Standards Controls Installation of IIS.	15	13	
2	Validation and Rich Controls	Overview of Form Validation	10	7	
3	State Management	Client Side State Management HiddenField Control ViewState Cookies Query String Server Side State Management Session State Application State	10	4	
4	Overview of Master Pages and Ajax	Master Page Overview of Master Page Creating and Using Master page Creating default contents Nesting Master pages Theme Skin file CSS file Ajax Ajax Server Controls Script Manager Update Panel Control Timer Control	15	6	

5	ADO.Net &	Architecture of ADO.NET	25	18
	Database	Types of Data Provider		
	Connectivity	Introduction to SQL Data Provider		
		 Connection Class 		
		 Command Class 		
		 DataAdapter Class 		
		 Date Reader Class 		
		 Dataset Class. 		
		 Data table Class 		
		Connected and Disconnected Architecture		
		Types of DataSource Controls		
		Types of ASP.NET Parameters		
		Overview of Data Controls		
		GridView Control		
		 Details View Control 		
		 DataList Control 		
		 FormView Control 		
		Repeater Control		
6	XML & Web	Overview of XML	10	5
	Services	 Writing datasets to XML 		
		 Reading datasets with XML 		
		Web Services		
		 Overview of Web services 		
		 Common standards for Building and 		
		Consuming Web Service		
		 Creating and Consuming Web 		
		Service		
7	Web Application	Overview	15	7
	& Configuration	Asp.net Configuration		
		Common Configuration		
		Tracing		
		Custom Error		
		Authentication & Authorization	100	
		Total	100	60

Student Seminar - 5 Lectures
Expert Talk - 5 Lectures
Student Test - 5 Lectures

Total Lectures 60 + 15 = 75

- 1) Asp.Net Unleashed
- 2) Asp.Net Wrox Publication
- 3) Programming With ASP.NET [ISBN: 978 81 909634 7 3] by Bharat & Company
- 4) Beginning ASP.NET.3.5.in.C.Sharp.2008.From.Novice.to.Professional Apress

	ACTECH 6.3: Mobile Computing with IOS			
Sr. No.	Topics	Details	Marks	Approx Lectures
1	Introduction and Application Development Fundamentals	 Overview of Mobile Computing (iOS) Specifics of mobile devices Programming fundamentals including computer programs, languages, compilers iOS Software Development Kit (SDK) and Cocoa Touch Architecture. Using the iOS tools -Xcode and Interface Builder to create apps Testing apps in the iOS Simulator 	8	4
2	Handling Basic Interaction & Objective-C for Experienced Programmers	 Data Types NSInteger NSNumber Operators Loop Intro to .H and .M Files Inheritance, Method Overloading Mutable and Immutable Strings, Mutable and Immutable Arrays Objective-C Classes, Objects, and Methods Declared Properties, Memory Management, Automatic Reference Counting (ARC) Categories and Extensions Formal and Informal Protocols Blocks 	10	6
3	User interface & controls	 The View Hierarchy Containers Controls Gestures Controllers Text and Web Views View Autosizing Views (Alertview, Table Views, Picker, Date and Time, Image) Navigation Based Application Development Tab Bar and Toolbar Audio and Video 	15	8
4	Human Interface	 Creating a great user interface Designing the user interface with wireframes, and in Interface Building System provided buttons and 	12	8

		ioons		
		 icons Model-View-Controller (MVC) paradigm Collections to hold data such as NSArray 		
		and NSMutableArray		
		 Utility App to display multiple views MainView and FlipsideView		
5	Table Views	Static and Dynamic Table Views	6	4
		Delegates and DataSources This William State		
		 Table View Styles Custom Cells		
6	Application	Exploring your file system	10	5
	Settings and Data	Reading Data from file		
	Persistence	Creating and deleting files and		
		directories		
		Writing data to files		
		• iCloud		
		Key-Value DataArchiving		
7	Single & Multi-	The Responder Chain	8	4
	touch Gesture	Touch Notification Methods		•
		Enabling Multi-touch on the View		
		Gesture Motions		
		Gesture Recognizers		
8	Core Location	Using the Location Manager	5	3
		Setting the desired accuracy		
		Setting the distance filter		
9	Working with	SQLite Integration	8	5
	Data	Using SQLite Directly		
		Overview of Core Data		
		Managed Objects Pagintant Stars Coordinates Entity		
		Persistent Store Coordinator Entity Descriptions		
		Retrieving and Modifying Data		
10	Notifications &	NOTIFICATION:	8	6
	Localization	Local Notifications		
		Push Notifications		
		LOCALIZATION:		
		• Resources		
		Language and Region		
		NSLocaleText		
		• Text • Dates		
		DatesNumbers		

11	How to create Certificate? & How to Upload App In AppStore?	 What is Certificate? How to make certificate? How to implement certificate in our app? How to Upload App in AppStore? 	5	4
12	What's New in iOS?	What is Swift?What is new in iOS 9?	5	3
		Total	100	60

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Total Lectures 60 + 15 = 75

- 1) Beginning iOS 5 Development: Exploring the iOS SDK; David Mark, Jack Nutting, Jeff LaMarche; Apress; ISBN---13:978---1430236054
- 2) Beginning iOS 6 Development By David Mark , Jack Nutting , Jeff LaMarche , Fredrik Olsson Apress Publication
- 3) Programming in Objective-C (5th Edition) (Developer's Library) by Stephen G. Kochan
- 4) iPhone OS Technology Overview, Apple Computer
- 5) The Objective-C 2.0 Programming Language, Apple Computer
- 6) Web reference: http://developer.apple.com

ACTECH 6.4: Project Work - III	
Topics	Marks
ACTECH 6.4	100

ACTECH 6.5 : Practical - I (Based on 6.1 & 6.3)	
Topics	Marks
ACTECH 6.1	50
ACTECH 6.3	50

ACTECH 6.6: Practical – II (Based on ACTECH 6.2)		
Topics	Marks	
ACTECH 6.2	100	