Third-Year Scheme & Syllabus for B.Voc. Degree Programme in

Software Development

(Dr Babasaheb Ambedkar Technological University, Lonere)

Semester V

Sr. No.	Course Code	Name of the Course	Teaching scheme			Evaluation Scheme			Credits	Total Marks
			L	T	P	IA	MSE	ESE		
General Education										
		Theory								
1	BVSWC501	Technology Trends in IT	3	0	0	25	0	25	3	50
2	BVSWC502	Advanced PHP	3	0	0	25	0	25	3	50
3	BVSWC503	Introduction to Python Programming	3	0	0	25	0	25	3	50
4	BVSWC504	Relational Database Management System	3	0	0	25	0	25	3	50
								Total	**12**	**200**
Skill Components										
		Lab/Practical								
5	BVSWL505	Advanced PHP Lab	0	0	1	25	0	25	1.5	50
6	BVSWL506	Python Programming Lab	0	0	1	25	0	25	1.5	50
On-Job –Training (OJT)/Qualification Packs(Any One)										
			Evaluation Scheme							
			IA			ESE				
7	BVSWE517	Software Developer (SSC/Q0501)	50			150			15	200
8	BVSWE528	Associate - Transactional F&A (SSC/Q2301)								
9	BVSWE529	Consultant Network Security (SSC/Q0917)								
		Total							**18**	**300**

Semester VI

Sr. No.	Course Code	Name of the Course	Teaching scheme			Evaluation Scheme			Credits	Total Marks
			L	T	P	IA	MSE	ESE		
General Education										
		Theory								
1	BVSWC601	Introduction to AI	3	0	0	25	0	25	3	50
2	BVSWC602	E-Commerce	3	0	0	25	0	25	3	50
3	BVSWC603	Object Oriented Modelling and Design	3	0	0	25	0	25	3	50
4	BVSWC604	Advanced Java Programming	3	0	0	25	0	25	3	50
								Total	**12**	**200**
Skill Components										
		Lab/Practical								
5	BVSWL605	Advanced Java Programming Lab	0	0	1	25	0	25	1.5	50
6	BVSWL606	Industrial Project	0	0	1	25	0	25	1.5	50
On-Job –Training (OJT)/Qualification Packs(Any One)										
			Evaluation Scheme							
			IA			ESE				
7	BVSWE617	Master Trainer for Software Developer (SSC/Q0509)	50			150			15	200
8	BVSWE628	UI Developer(SSC/Q0502)								
		Total							**18**	**300**

Semester
V
Syllabus

Subject Name: Technology Trends in IT	
Course Code : BVSWC501	Semester:V
Weekly Teaching Hours: TH: Tut:	Scheme of Marking TH: IA: Total:
TH Exam Duration: Hours	Scheme of Marking PR: --

Objective-	
1.	To analyze data from various sources in real-time and take necessary actions in an intelligent fashion
2.	To provide an overview of an exciting growing field of big data analytics
3.	To learn how to use Cloud Services.
4.	Gain a historical perspective of AI and its foundations.

Outcome- The student will be able to	
1.	Implement concepts of IOT based prototypes
2.	Understand the key issues in big data management and its associated applications in intelligent
3.	Analyze the Cloud computing vulnerabilities and applications using different architectures.
4.	Demonstrate fundamental understanding of the history of artificial intelligence (AI) and its

Content		Hours
Unit – I	Internet of Things (IoT)	08
	Definition of IoT, History of IoT, IoT vs. similar concepts, Application/Segment overview, Technology overview.	
Unit – II	Big Data Analytics	07
	Concepts, examples of big data analytics, benefits of big data analytics, Technologies, and Applications, requirements for being successful with big data analytics. Big data analytics tools.	
Unit – III	Cloud Computing	07
	Cloud Computing – Introduction, Why cloud services are popular, advantages, Characteristics, Service models, Deployment of cloud services, Potential privacy risks	
Unit – IV	Cyber Security	07
	Cyber Security – Introduction, risks, Malicious code, Hacker, attacker or intruder, Cyber security Principles, Information Security (IS) within Lifecycle Management, Risks & Vulnerabilities, Incident Response, Future Implications & Evolving Technologies.	
Unit – V	Wearable Technologies	07
	Wearable Technologies – Introduction, Applications of Wearable Technology, Challenges to Wearable Technology, various Wearable devices.	

Text Books

Name of Authors	Title of the Book	Publisher
A. Ravichandran	Computer Today	Khanna Publishing House

Reference Books

Jeeva Jose	Internet of Things	Khanna Publishing House
V.K. Jain	Big Data and Hadoop	Khanna Publishing House
V.K. Jain	Data Sciences and Analytics	Khanna Publishing House

Subject Name: Advanced PHP		
Course Code: BVSWC502	**Semester: V**	
Weekly Teaching Hours: TH: 03 Tut: 00	**Scheme of Marking TH: 25 IA: 25 Total: 50**	
TH Exam Duration: 01 Hours	**Scheme of Marking PR: 50**	
Credit :03		

	Content	Hours
Unit – I	**Introduction to Web Application**	04
	Website and Webpage, Web application , Web server, Client and Server, Scripting languages, Web Terminologies	
Unit – II	**Cascading Style Sheets (CSS)**	10
	Introduction to CSS , Advantages and Disadvantages of CSS, Types of CSS - Inline CSS, Internal CSS, External CSS, Different Types of Selector- Element Selector, Class Selector, Id Selector, CSS properties- for text, color, background, borders, shapes. Introduction to JavaScript, Advantage of JavaScript, Types of JavaScript - Internal and External JavaScript, Variables, Operators, Functions, Events, Comparison, Condition, Loops, JavaScript –Form Validation and Regular Expression Introduction, Text, Number, Space,& Special character validation using regular expression.	
Unit – III	**Bootstrap**	06
	Introduction to Bootstrap ,Advantages of Bootstrap, Bootstrap Grid System, Creating Layouts with Bootstrap, Buttons, Tables, Images, Form, Tooltips, Modal	
Unit – IV	**OOPs using PHP**	10
	OOPs Concepts, Classes, Objects, Abstract Class, Abstraction, Access Specifiers, Constructor, Destructor, Abstract vs Class vs Interface, Encapsulation, Final Keyword, Functions, Inheritance, Interfaces, Overloading,	
Unit-V	**PHP File Handling**	06
	Introduction to PHP file handling, PHP Open File, PHP Read File, PHP Write File, PHP Append File, PHP Delete File.	

Reference Books

1. PHP & MySQL Novice to Ninja – by Kevin Yank. ...
2. Head First PHP & MySQL – by Lynn Beighley & **Michael Morrison**.
3. Learning PHP, MySQL, JavaScript, and CSS: A Step-by-Step Guide to Creating Dynamic Websites – by Robin Nixon.
4. PHP & MySQL Web Development – by Luke Welling & Laura Thompson

Subject Name: **Introduction to Python Programming**	
Course Code : BVSWC503	**Semester:V**
Weekly Teaching Hours: TH: 03 Tut: 00	**Scheme of Marking TH: 25 IA: 25 Total: 50**
TH Exam Duration: 01 Hours	**Scheme of Marking PR: --**
Credit :03	

	Content	Hours
Unit – I	**Basics of Python programming**	06
	Introduction to Python, Unique features of Python Python-2 and Python-3 differences.	
Unit – II	**Programming in Python**	06
	First Python Program, Python Identifiers, Keywords and Indentation, Comments ,command line arguments	
Unit – III	**Data Types and Operators**	06
	Declaring and using Numeric data types: int, float, complex Using string data type and string operations Defining list and list slicing Use of Tuple data type, Python basic Operators	
Unit – IV	**Conditional statements**	06
	Conditional blocks using if, else and elif, Programming using Python conditional statements.	
Unit – V	**Python String and List Manipulation**	06
	Building blocks of python programs, Understanding string in build methods , List manipulation using in build methods.	
Unit – VI	**Python Dictionaries & Functions**	06
	Introduction, Python Dictionaries implementation. Introduction to functions, calling the function, anonymous function.	

TextBooks		
Name of Authors	**Title of the Book**	**Publisher**
Jeeva Jose	Introduction to Computing and Problem Solving With Python	Khanna Publishing House
Jeeva Jose	Taming Python by Programming	Khanna Publishing House

Subject Name: **Relational Database Management System**	
Course Code :BVSWC504	**Semester: V**
Weekly Teaching Hours: TH: 03 Tut: 00	**Scheme of Marking TH: 25 IA: 25 Total: 50**
TH Exam Duration: 02 Hours	**Scheme of Marking PR: --**
Credit :03	

Content		Hours
Unit – I	**Database System Concept**	08
	An Introduction to database Data, DBMS, Application of database. What is RDBMS, Names of various DBMS and RDBMS software, Data abstraction, Database languages, Introduction to client server architecture. Two/Three tier Architecture, Database Users, Functions of Database Administrator.	
Unit – II	**Relational Data Model And Security And Integrity Specification**	08
	Data Model:- Network Model, Hierarchical Model, Relational Model Relational Model: - Basic Concepts Attributes and Domains. Key Concepts: - Candidate key, Primary key, Foreign key and Super key. E-R model, Types of attributes, Database Design: Relational database, Normal forms: 1NF, 2NF, 3NF, BCNF. Integrity Constraints:-Domain Integrity Constraints, Entity integrity Constraints, Referential Integrity Constraints & on delete cascade. Database Security.	
Unit – III	**Interactive SQL**	08
	Introduction to SQL: - Data Types in SQL, DDL Commands, DML Commands. SQL Operators:- Arithmetic Operators, Comparison Operators,Logical Operators, Set Operators, Range Searching operators- Between, Pattern matching operators-Like. Oracle Functions. DCL Commands: COMMIT, SAVEPOINT, ROLLBACK, GRANT, REVOKE	
Unit – IV	**Transaction Management**	08
	The concept of Transaction ACID properties, States of Transaction, Concurrent execution of Multiple transaction.	
Unit – V	**SQL Performance Tuning Set**	08
	Views: What are Views? The Create View Command, Updating Views, Views and Joins, Views and Sub queries, What Views cannot do? , Dropping Views. Indexes:- Index Types. Snapshots:- Creating a Snapshot. Remote Backup System.	

R E F E R E N C E   B O O K S

1. PHP Database System Concepts 5th Edition - Silberschatz, Korth, Sudershan.
2. Database Management System - Bipin Desai.
3. SQL/PLSQL the programming language of oracle - Ivan Bayross.

Subject Name: **Advanced PHP Lab**	
Course Code:BVSWL505	**Semester: V**
Weekly Teaching Hours: TH: 03 Tut: 00	**Scheme of Marking TH: 25 IA: 25 Total: 50**
TH Exam Duration: 01 Hours	**Scheme of Marking PR: 50**
Credit :03	

Content

1. Practical based on Web Application.
2. Practical based Cascading Style Sheet (CSS).
3. Practical based on Bootstrap Layout.
4. Practical based on Bootstrap Grid System.
5. Practical based on Bootstrap Layout with button, table, image.
6. Practical based on Based on Java Script Function, Event, Comparison and loop Statement.
7. Practical based on Based on Java Script form Validation With Regular Expressions, Text, Number and Special character.
8. Practical based on OOPs using PHP – Constructor, Destructor, Inheritance.
9. Practical based on File handling using PHP Open, Read, Write, Append, Delete operation in file.
10. Mini Project.

Subject Name:- **Python Programming Lab**	
Course Code : BVSWL506	**Semester: V**
Weekly Practicals: PR: 01 Tut: 00	**Scheme of Marking TH: --**
TH Exam Duration:--	**Scheme of Marking PR: 25, IA: 25, Total: 50**
Credit:1.5	
Content	

Suggested List of Experiments:

1. Python program to check if the input number is prime or not

2. Python program to check if the input number is even or not

3. Python Program to Count the Number of Digits in a Number

4. Find the largest and smallest numbers in a list.

5. Find the third largest number in a list.

6. Find whether a string is a palindrome or not.

7. Given two integers x and n, compute X^n

8. Compute the greatest common divisor and the least common multiple of two integers.

9. Test if a number is equal to the sum of the cubes of its digits. Find the smallest and largest such numbers

Semester V - On-Job-Training (OJT)/Qualification Packs (Any One)
Group GEM5 of Qualification Packs

Subject Name: Software Developer (SSC/Q0501)	
Course Code :**BVSWE517**	Semester: **V**
Weekly Skilling Hours: PR: **24** Tut: **00**	Scheme of Marking TH: **00,** IA: **00,** Total: **00**
PR Exam Duration: **06 Hours**	Scheme of Marking PR: **200,** IA: **00,** Total: **200**
Credit:**15**	**Choose any one from specified Group GEM3 of Qualification Packs**
Syllabus for this qualifier Pack is available on https://www.sscnasscom.com/qualification-pack/SSC/Q0501/	

Subject Name: Associate - Transactional F&A (SSC/Q2301)	
Course Code :**BVSWE528**	Semester:**V**
Weekly Skilling Hours: PR: **24** Tut: **00**	Scheme of Marking TH: **00,** IA: **00,** Total: **00**
PR Exam Duration: **06 Hours**	Scheme of Marking PR: **200,** IA: **00,** Total: **200**
Credit:**15**	**Choose any one from specified Group GEM1 of Qualification Packs**
Syllabus for this qualifier Pack is available on https://www.sscnasscom.com/qualification-pack/SSC/Q2301/	

Subject Name: Consultant Network Security (SSC/Q0917)	
Course Code :**BVSWE529**	Semester:**V**
Weekly Skilling Hours: PR: **24** Tut: **00**	Scheme of Marking TH: **00,** IA: **00,** Total: **00**
PR Exam Duration: **06 Hours**	Scheme of Marking PR: **200,** IA: **00,** Total: **200**
Credit:**15**	**Choose any one from specified Group GEM1 of Qualification Packs**
Syllabus for this qualifier Pack is available on https://www.sscnasscom.com/qualification-pack/SSC/Q0917/	

Semester
VI
Syllabus

Subject Name: **Artificial Intelligence**	
Course Code : BVSWC601	**Semester:** VI
Weekly Teaching Hours: TH: 03 Tut: 00	**Scheme of Marking TH: 25 IA: 25 Total: 50**
TH Exam Duration: 02 Hours	**Scheme of Marking PR: ---- 25 Practical 25 Term work**
Credit :03	

	Content	Hours
Unit – I	**Introduction to AI**	06
	Overview of A.I: Introduction to AI, Importance of AI, AI and its related field, Concept of AI, history, current status, scope, agents, environments, Problem Formulations, AI techniques, Criteria for success. Problems, problem space and search: Defining the problem as a state space search : Generate and test, hill climbing, best first search technique.	
Unit – II	**Knowledge Representation**	06
	Definition and importance of knowledge, Knowledge representation, Various approaches used in knowledge representation, Issues in knowledge representation. Using Predicate Logic: Represent ting Simple Facts in logic, Representing instances and is-a relationship, Computable function and predicate .	
Unit – III	**Natural language processing**	06
	Introduction syntactic processing, Semantic processing, Discourse and pragmatic processing. Learning: Introduction learning, Rote learning, Learning by taking advice, Learning in problem solving, Learning from example-induction, Explanation based learning.	
Unit – IV	**Probabilistic Reasoning**	06
	Probability, conditional probability, Bayes Rule, Bayesian Networks- representation, construction and inference, temporal model, hidden Markov model.	
Unit – V	**Expert System**	06
	Introduction, Representing using domain specific knowledge, Expert system shells. Knowledge acquisition: General concepts in knowledge acquisition, early work in Machine Learning, examples of Inductive Learners, computer vision, Robotics, overview of LISP-AI language.	
Unit – VI	**AI Platforms & Reinforcement Learning**	06
	Basics of text processing, Lexical processing, Syntax and Semantics, Other problems in text analytics.Introduction to AI/Cognitive platforms and Understand the basics of Reinforcement Learning and its applications in AI.	

Reference Books
1. Stuart Russell and Peter Norvig, "Artificial Intelligence: A Modern Approach" , 3rd Edition, Prentice
2. Elaine Rich and Kevin Knight, "Artificial Intelligence", Tata McGraw Hill
3. Trivedi, M.C., "A Classical Approach to Artifical Intelligence", Khanna Publishing House, Delhi. Robin
4. Saroj Kaushik, "Artificial Intelligence", Cengage Learning India, 2011

Subject Name: **E-Commerce**		
Course Code :BVSWC602	**Semester: VI**	
Weekly Teaching Hours: TH: 03 Tut: 00	**Scheme of Marking TH: 25 IA: 25 Total: 50**	
TH Exam Duration: 01 Hours	**Scheme of Marking PR: --**	
Credit :03		

	Content	Hours
Unit – I	**Introduction E-Business**	09
	Origin and Need of E-Commerce, Factors affecting E -Commerce, Business dimension and technological dimension of E-Commerce, Value Chains in Electronic Commerce.	
Unit – II	**Internet and E-Business**	09
	Introduction to Internet and its application, Intranet and Extranets. World Wide Web, Internet Architectures, Internet Applications, Business Applications on Internet, E – Shopping, Electronic Data Interchange, Components of Electronic Data Interchange, Creating Web Pages using HTML.	
Unit – III	**Fundamental of ERP**	09
	Needs and Evolution of ERP Systems, Benefits of ERP, Factors Affecting on ERP, Business Process Reengineering, Supply Chain Management, Customer Relationship Management (CRM).	
Unit – IV	**Implementation of ERP**	09
	Implementation Challenges, ERP Transition Strategies, , Pre-implementation Tasks—Getting Ready, Implementation, ERP Project Teams, Vendors and Consultants, Employees and Employee Resistance.	

Text Books		
Name of Authors	**Title of the Book**	**Publisher**
Sarika Gupta	E-Commerce	Khanna Publishing House
Alexix Leon	ERP Demystified,	MC Graw Hill Publication

Subject Name: Object Oriented Modeling and Design		
Course Code : BVSWL603		Semester: VI
Weekly Teaching Hours: TH: 03 Tut: 00		Scheme of Marking TH: 25 IA: 25 Total: 50
TH Exam Duration: 01 Hours		Scheme of Marking PR: --
Credit :03		

Content		Hours
Unit – I	Importance of Modeling	08
	Object Orientation:- Object Oriented Development and Themes - OO methodology, Three Models :-Modeling as Design techniques - Brief overview of OMT by Rumbaugh, Importance of Modeling, Four principles of Modeling Introducing the UML :- overview, conceptual model, architecture, software development lifecycle.	
Unit – II	Class Modeling	08
	Object and Class Concepts:- Objects, Classes, Class Diagrams, Values and Attributes, Operations and Methods, Link and Association concepts **-**Links and Associations, Multiplicity , Aggregation and Object Modeling Multiplicity, Aggregation, Propagation of operations, Metadata and Constraints**-**Metadata, Constraints on objects and links, Object modeling, Object instances.	
Unit – III	Basic Behavioral Modeling	06
	Use case Diagram:- Notations for Use case diagram – use cases, Actors, Communication Lines, System boundaries, Use case relationships - Include and extend, Sample use case diagrams. Sequence Diagrams :- Notations for Sequence diagram – Objects / Participants, Time, events, Activation Bars , signals , message arrows, synchronous and asynchronous messages, return message, create and destroy message.	
Unit – IV	Advanced Behavioral Modeling	06
	Activity Diagram:- Notations for Activity Diagram - Actions and Activity nodes, initialization and completion, Decisions. Sample Activity Diagram State Diagram:- Notations for State diagram - initial state, final state, transitions and conditions, activity, event, Nested state diagram, concurrent / composite state diagram ,Sample state diagram.	
Unit – V	Architectural modeling	06
	Component Diagram:- Notations for component Diagram - component and interfaces, ports, connectors, Sample Component Diagram. Deployment Diagram :-Notations for Deployment diagram - nodes, artifacts, node, instances, communication between nodes, Sample Deployment diagram.	

Text Books

Name of Authors	Title of the Book	Publisher
Blaha and Rumbaugh	Object oriented modeling and design with UML 2.0 (second edition)	Pearson
Booch, Rumbaugh, Jacobson	The unified modeling language user guide (second edition)	Pearson education
Miles and Hamilton	Learning UML 2.0	SPD O'REILLY

Subject Name: **Advanced Java Programming**		
Course Code: BVSWC604	**Semester: VI**	
Weekly Teaching Hours: TH: 03 Tut: 00	**Scheme of Marking TH: 25 IA: 25 Total: 50**	
TH Exam Duration: 01 Hours	**Scheme of Marking PR: --**	
Credit :03		

Content		Hours
Unit – I	**Introduction To Abstract Windowing Toolkit (Awt) & Swing**	08
	Component, container, window, frame, panel, Creating windowed programs & applets, AWT: - AWT controls & layout managers:- Understanding the use of AWT controls. Introduction to swing: - Swing features, MVC Architecture.	
Unit – II	**Event Handling**	08
	The delegation Event Model: - Event sources, Event listeners, Event classes. The Action Event class, The Component Event class, the Container Event class. Event listener interfaces:-The Action Listener Interface, the Component Listener Interface, the Container Listener Interface, the Focus Listener Interface.	
Unit – III	**Networking & Security**	08
	Basics of Networking: - Socket, IP, TCP, UDP, Proxy Server, Internet Addressing. The Inet Address Class Factory methods, Instance methods, TCP/IP Sockets, URL Connection, http, URL Connection methods, creating & using TCP/IP client & server. Security with Java:- Package, Permission class, Policy class	
Unit – IV	**Interacting With Database**	08
	JDBC, ODBC, & Other APIS Connecting to Database: - Driver Interface, Driver Manager class, Connection Interface, Statement Interface, the java.sql. Package Establishing connection & retrieving information Result set interface.	
Unit – V	**Servlets & JSP**	08
	Servlet: - Type of Servlet, Servlet life cycle. Basic concepts of sessions, cookies & session tracking. Introduction to servlet chaining & filters, Introduction to applet servlet communication. JSP :- expression, directives& declarations, Life cycle of a JSP page TLD & JSTL, Java beans.	

Text Books		
Name of Authors	**Title of the Book**	**Publisher**
Joshua Bloch	Effective Java	Addison Wesley
Herbert Schildt	Java: A Beginner's Guide	McGraw-Hill Education
Kathy Sierra & Bert Bates	Head First Java	Shroff/O'Reilly
Herbert Schildt	Java - The Complete Reference	McGraw Hill Education

Subject Name:- **Advanced Java Programming Lab**	
Course Code :BVSWL605	**Semester: VI**
Weekly Practicals: PR: 01 Tut: 00	**Scheme of Marking TH: --**
TH Exam Duration:--	**Scheme of Marking PR: 25, IA: 25, Total: 50**
Credit:1.5	
Content	

Suggested List of Experiments:

1. Develop a program which makes use of Flow Layout.
2. Write a program to create Menus such as File, Edit &Views And Submenu
3. Develop a program to create resizable frame with the lable "Login ID" and a frame with title, Login Page.
4. Develop a program to create three Radio button once user click on button background color will change such as "red","green","blue".
5. Develop a program to create an applet to accept a number in two Textfield and display the largest of two numbers when a button with the caption "Largest is pressed".
6. Develop a program to retrieve IP Address of Local machine with Host name.
7. Develop a program to print protocol, port host, file of http://www.dksdc.org.
8. Develop a JSP to implement to connect with database and validate username
9. Develop a JSP to submit user information and store data into a database.
10. . Mini Project work.

Subject Name: - Industrial Project	
Course Code : BVSWL606	**Semester: VI**
Weekly Teaching Hours: TH: 03 Tut: 00	**Scheme of Marking TH: 25 IA: 25 Total: 50**
TH Exam Duration:	**Scheme of Marking PR: --**
Credit :1.5	

General Objectives:

1. The students should be able to:
1. Work in Groups, Plan the work, and Coordinate the work.
2. Develop leadership qualities.
3. Develop Innovative ideas.
4. Practically implement the acquired knowledge.
5. Develop basic technical Skills by hands on experience.
6. Document and Write project report.
7. Develop skills to use latest technology in Computer/Information Technology field.
8. Analyse the different types of Case studies.
9. Testing of software and hardware.
10. Maintaining systems and accessories.

Note: 1. One Project from any one of the following groups.
            2. Form a group of maximum four students.

Content		Hours
Group- I	**Web Based Oriented projects**	08
	Develop Application Software for Hotels / Hospital / Shopping Mall / Cinema Theatre / Commercial Complex / Educational Institute / Industrial Complex / utility services on Mobile / smart phones, mobile phone games, GIS, GSM, CDMA coding for various applications.	
Group- II	**Software Oriented projects**	08
	• Develop Network monitoring system. • Develop systems for financial organization • Develop Information Processing System • Develop In-house Systems. • Case Studies Related to Industries - Operation / Maintenance / Repair and Fault Finding. (Refer Guideline Document). • Develop System Program based system like compilers, editors, spreadsheets, mini database systems • Develop mobile phone based software to transfer pathological data to smart phone of Doctor to take second opinion before prescription • Design and implement software to check virus and malware of mobile phones • Design local language operating system/Graphical User Interface for Tablet PC. • Design wearable computers for the physically challenged person. We are	

	assuming that due some accident persons vision is blurred. Here microphone should whisper in the ear of this person by taking input from camera images and analyzing and recognizing places and persons. Here we are assuming wearable computer means with spectacle mountable monitors and wallet size CPU.	
Group- III	**Android Application Based Oriented projects**	08
	• Develop various types of Android Applications • Design and implement Android Application for example people sensing fans and auto-off at the railway station, bus station • Develop Speech Recognition System Using Android System Focus should be on Machine learning • Design automatic human body vital parameters by sensors to diagnose the human • Design operating system By Using Android System for washing machine or refrigerator	
Group-IV	**Seminar**	08
	Seminar on any relevant latest technical topic based on latest research, recent trends, new methods and developments in the field of Computer Engineering / Information Technology and publish the paper.	

Semester VI - On-Job-Training (OJT)/Qualification Packs (Any One)

Group GEM 6 of Qualification Packs

Subject Name: Master Trainer for Software Developer (SSC/Q0509)	
Course Code :**BVSWE617**	Semester: **VI**
Weekly Skilling Hours: PR: **24** Tut: **00**	Scheme of Marking TH: **00**, IA: **00**, Total: **00**
PR Exam Duration: **06 Hours**	Scheme of Marking PR: **200**, IA: **00**, Total: **200**
Credit:**15**	**Choose any one from specified Group GEM3of Qualification Packs**
Syllabus for this qualifier Pack is available on https://www.sscnasscom.com/qualification-pack/SSC/Q0509/	

Subject Name: UI Developer(SSC/Q0502)	
Course Code :**BVSWE628**	Semester: **VI**
Weekly Skilling Hours: PR: **24** Tut: **00**	Scheme of Marking TH: **00**, IA: **00**, Total: **00**
PR Exam Duration: **06 Hours**	Scheme of Marking PR: **200**, IA: **00**, Total: **200**
Credit:**15**	**Choose any one from specified Group GEM1 of Qualification Packs**
Syllabus for this qualifier Pack is available on https://www.sscnasscom.com/qualification-pack/SSC/Q0502/	