Second Year Scheme & Syllabus for B.Voc. Degree Programme in

Software Development

(Dr Babasaheb Ambedkar Technological University, Lonere)

Semester III

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	BVSWC301	Linux Operating System – Operations and Management	3	0	0	25	0	25	3	50
2	BVSWC302	Software Engineering	3	0	0	25	0	25	3	50
3	BVSWC303	Web Development using PHP	3	0	0	25	0	25	3	50
4	BVSWC304	Windows Development Fundamental	3	0	0	25	0	25	3	50
		Total							**12**	**200**
Skill Components										
		Lab/Practical								
4	BVSWL305	Web Development using PHP Lab	0	0	1	25	0	25	1.5	50
5	BVSWL306	Window Development Fundamentals Lab	0	0	1	25	0	25	1.5	50
		On-Job-Training (OJT)/Qualification Packs (Any One)								
			IA			**ESE**				
6	BVSWE317	Junior Data Associate (SSC/Q0401)	50			150			15	200
7	BVSWE328	IP Executive (SSC/Q6201)								
8	BVSWE339	Security Analyst (SSC/Q0901)								
		Total							**18**	**300**

Semester IV

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	BVSWC401	Software Testing and Project Management	3	0	0	25	0	25	3	50
2	BVSWC402	Android Application Development	3	0	0	25	0	25	3	50
3	BVSWC403	Window Configuration and Server Administration	3	0	0	25	0	25	3	50
4	BVSWC404	Management Information Systems	3	0	0	25	0	25	3	50
								Total	**12**	**200**
Skill Components										
		Lab/Practical								
5	BVSWL405	Android Application Development Lab	0	0	1	25	0	25	1.5	50
6	BVSWL406	MIS Lab	0	0	1	25	0	25	1.5	50
			IA			**ESE**				
7	BVSWE417	QA Engineer (SSC/Q1302)	50			150			15	200
8	BVSWE428	Software Engineer (SSC/Q4601)								
9	BVSWE439	Test Engineer (SSC/Q1301)								
		Total							**18**	**300**

Semester III

Syllabus

Subject Name : Linux Operating System – Operations and Management		
Course Code : BVSWC301	**Semester:III**	
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:3		

Content		Hours
Unit – I	**Linux introduction**	
	Linux introduction and file system - Basic Features, Advantages, Installing requirement, Basic Architecture of Unix/Linux system, Kernel, Shell. How Linux access files, storage files, Linux standard directories, Commands for files and directories cd, ls, cp, md, rm, mkdir, rmdir, more, less, creating and viewing files, using cat, file comparisons, View files, Disk related commands, checking disk free spaces.	06
Unit – II	**Linux Shell and Commands Overview**	
	Partitioning the Hard drive for Linux, Installing the Linux system, System startup and shut-down. Essential Linux commands Understanding shells, Processes in Linux process fundamentals, connecting processes with pipes, redirecting input output, manual help, Background processing, managing multiple processes, batch commands, kill, ps, who, sleep, Printing commands,	06
Unit –III	**Linux File Permissions**	
	grep, fgrep, find, sort, Cal, banner, touch, file, file related commands-ws, sat, cut, grep, dd, etc. Mathematical commands- bc, expr, factor, units. vi, joe, vim editor.	06
Unit – IV	**Shell Programming**	
	Shell programming Basic of shell programming, Various types of shell, shell programming in bash, conditional and looping statements, case statements, parameter passing and arguments, Shell variables, shell keywords.	06
Unit – V	**System Administrator**	
	System administration Common administrative tasks, identifying administrative files – configuration and log files, Role of system administrator, Managing user accounts-adding & deleting users, changing permissions and ownerships, Creating and managing groups, modifying group attributes, Temporary disable user's accounts, creating and mounting file system, becoming super user using su. Getting system information - host name, disk partitions & sizes, users, kernel. Backup and restore files, linux conf.	06

Unit – VI	**Linux Networking Concepts**	
	Basic networking administration Setting up a LAN using Linux, choosing peer to peer vs client/server model, setting up an Ethernet Lan, configuring host computers, checking Ethernet connecting, connecting to internet, administration in a networked environment, common networking administrative tasks, the network file system, configuring Ethernet, initializing Ethernet Interface, ifconfig, netstat and netconfig commands a TCP/IP networks.	06

Text Books		
Name of Authors	**Title of the Book**	**Publisher**
	Linux Complete command reference	Sams Publishing
William E. Shotts	The Linux Command line	Second Internet Edition
	Linux System Administration	Paul Cobbaut
	Linux Fundamental	Paul Cobbaut

Subject Name : Software Engineering		
Course Code : BVSWC302	**Semester:III**	
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:3		

Content		Hours
Unit – I	**Software**	
	Software Characteristics, Components & Applications, Software Engineering - A Layered Technology, Software Process Models - Linear Sequential Model, Prototype & Rad Model., Evolutionary Software Process Model – Incremental Model and Spiral Model.	08
Unit – II	**Software Project Management**	
	Project Management Concepts – People Problem and Process S/W process and Project Metrics: Metrics in The Process and Project Domains. Software Measurement fundamental concepts –Size Oriented, Function Oriented Metrics, Extended Function.	06
Unit –III	**Software Project Planning**	
	Objectives, Scope, Project Estimation, Project Decompositions, and Empirical Estimation Models. **Software Project Estimation:** Work Breakdown structure (WBS), steps in WBS, Measuring efforts for a project, techniques for estimation – SLOC, FP, COCOMO and Delphi methods.	08
Unit – IV	**Analysis Concept And Principles**	
	Requirement Analysis, Communication Techniques, Analysis Principles, Software Prototyping, Specifications. **Analysis Modeling:** Elements of the Analysis Modeling, Data Modeling, Functional Modeling and Information Flow, Behavioral Modeling, Data Dictionary.	08
Unit – V	**Design Concepts And Principles**	
	Design Process, Design Concepts, Design Principles, Effective Modular Design. **Design Methods:** Architectural Design Process, Transform Mapping and Transaction Mapping, Interface Design, - Internal and External Design, Human Computer Interface Design, Interface Design Guidelines, Procedural Design.	08

Text Books

Name of Authors	Title of the Book	Publisher
Rogger S. Pressman	Software Engineering: A Practitioner's Approach	McGraw Hill Publication
N.S. Gill	Software Engineering	Khanna Publishing House
R.P. Mahapatra	Software Engineering	Khanna Publishing House

Subject Name: Web Development using PHP	
Course Code : BVSWC303	**Semester:III**
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:3	

Contents		Hours
Unit - I	**Introduction to PHP**	05
	Overview of PHP, Advantages of PHP, Evaluation of Php, Basic Syntax, Defining variable and constant, Php Data type, Operator and Expression.	
Unit - II	**Handling Html Form With Php**	07
	Working with forms, form elements (Text Box, Text Area, Password, Radio Button, Checkbox, The Combo Box, Hidden Field and image etc.), Capturing Form Data, Dealing with Multi-value filed, Generating File uploaded form, Redirecting a form after submission.	
Unit-III	**Decisions and loop**	07
	Making Decisions, Doing Repetitive task with looping, Mixing Decisions and looping with Html.	
Unit- IV	**Function and Array**	07
	What is a function, Define a function, Call by value and Call by reference, Recursive function, Anatomy of an Array, Creating index based and Associative array, Accessing array Element Looping with Index based array, Looping with associative array using each() and foreach().	
Unit - V	**Database Connectivity with MySql**	05
	Introduction to RDBMS, Connection with MySql Database, Performing basic database operation(DML) (Insert, Delete, Update, Select), Setting query parameter, Executing query, Join.	
Unit- VI	**Cookies and Sessions**	04
	Introduction to cookies, introduction session.	

Reference Books		
Name of Authors	**Title of the Book**	**Publisher**
Web Tech Solutions	Mastering PHP	Khanna Publishing House
Ramesh Bangia	Learning PHP	Khanna Publishing House

Subject Name: Window Development Fundamentals	
Course Code : BVSWC304	Semester:III
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:3	
Objective-	
1.	To develop ASP.Net applications using standard .net controls.
2.	To be able to connect to data sources and manage them
3.	Maintain session and controls related information for user used in multi-user web applications.
4.	Understand the fundamentals of developing modular application by using object oriented
Outcome-The student will be able to	
1.	Design web applications using ASP.NET.
2.	Use ASP.NET controls in web applications.
3.	Debug and deploy ASP.NET web applications.
4.	Create database driven ASP.NET web applications and web services.

Content		Hours
Unit – I	**Introduction to Web Development**	06
	Architecture of Microsoft .Net Platform, Console environment, MSIL, JIT Common language runtime, Components of CLR, Garbage Collection, common type system. Introduction of ASP.NET and C#.	
Unit – II	**Data Types C#**	06
	Data Types, Operators, Garbage Collection, Jagged Array, Collection (Array list, Hash table).	
Unit – III	**Object-oriented programming**	06
	Developing Object-Oriented C# Programs Using Functions, Methods, Control Structures.	
Unit – IV	**Web Controls**	06
	Navigation Controls, Validation controls	
Unit – V	**Introduction to ADO.Net**	06
	Architecture of ADO.Net, Create Connection using ADO.NE, Connection Class, .Net Data provider, Data Adapter, Data Set, Data Row, Data Column, Data Relation, command, Data Reader.	
Unit – VI	**Managing State Information**	06
	Introduction, Session Management.	

Text Books		
Name of Authors	**Title of the Book**	**Publisher**
Herbert Schildt	Complete Reference C#	TMH Publication.
Reference Books		
G.AndewDuthie	Microsoft ASP.Net With C#.Net step by step	PHI Publication.

Subject Name –Web Development using PHP Lab	
Course Code :**BVSWL305**	Semester:**III**
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	

Contents

1. Demonstrate the PHP program to input and output value or text.
2. Demonstrate the PHP program to demonstrate the use of conditions.
3. Demonstrate the PHP program to demonstrate the use of loop control structures.
4. Demonstrate the PHP program to demonstrate the use of switch statement.
5. Demonstrate the PHP program to demonstrate the use of arrays.
6. Demonstrate the PHP program to demonstrate the use of date and time functions.
7. Demonstrate the PHP program to demonstrate the use of mathematical and string functions.
8. Demonstrate the PHP program to demonstrate the use of session and cookies.
9. Create the database using MYSQL or others and Write the PHP program to connect to database.
10. Write the PHP program to insert, delete, update and query to the database table.
11. Based on above program demonstrations create a Mini Project: To Design the web pages use Bootstrap or similar technologies. To make web page interactive and transactional use PHP and MySql or any other database. Each student must do his/her own project independently.

Subject Name –Window Development Fundamentals Lab	
Course Code : **BVSWL306**	Semester:**III**
Weekly Practicals: PR: **01** Tut: **00**	Scheme of Marking TH: --
TH Exam Duration:--	Scheme of Marking PR: **25,** IA: **25,** Total: **50**

Contents

Subject Name: Window Development Fundamentals(Practical)

1. Create a console program comparing to two numbers
2. Create a ASP.NET application to demonstrate standard Control
3. Create a ASP.NET application to demonstrate Server control events
4. Create a ASP.NET application to demonstrate for login window
5. Create a ASP.NET application to demonstrate Navigation control
6. Create a ASP.NET application to demonstrate validators
7. Create a ASP.NET application to demonstrate ADO.Net
8. Create a ASP.NET application to demonstrate View State, Session State and Application State in asp.net

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

Group GEM3of Qualification Packs

Subject Name: Junior Data Associate (SSC/Q0401)	
Course Code :**BVSWE317**	Semester:**III**
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 **http://www.sscnasscom.com/qualification-pack/SSC/Q0401/**	

Subject Name: IP Executive (SSC/Q6201)	
Course Code :**BVSWE328**	Semester:**III**
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 **http://www.sscnasscom.com/qualification-pack/SSC/Q6201/**	

Subject Name: Security Analyst (SSC/Q0901)	
Course Code :**BVSWE339**	Semester:**III**
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 **http://www.sscnasscom.com/qualification-pack/SSC/Q0901/**	

Semester

IV

Syllabus

Subject Name: Software Testing and Project Management		
Course Code :BVSWC401	**Semester: IV**	
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	**Testing basics and Development Models**	08
	Principals and context of testing in software production, Usability and Accessibility Testing, Phases of Software Project, Process models to represents different phases, Software Quality Control and its relation with testing, validating and verification.	
Unit – II	**White and Black Box Testing**	06
	White Box Testing: White Box Testing - Static Testing, Structural Testing-Unit code functional testing, Code coverage testing, code complexity testing, **Black Box Testing-** What? Why and when to do Black box testing, Requirements based testing, Positive and Negative Testing, Boundary value testing, Decision Tables, Equivalence Partitioning, State Based or Graph Based Testing, Compatibility Testing.	
Unit – III	**Integration, System and Acceptance Testing**	08
	Integration Testing: Introduction and types of integration testing, Scenario testing, defect bash. **System and Acceptance Testing-** Overview, functional and non-functional testing, Acceptance testing. Overview of some software testing tools: Win Runner, Load Runner, Test Director. (Some practical should be conducted using these tools)	
Unit – IV	**Performance and Adhoc Testing**	08
	Performance Testing- Introduction, factors related to performance testing, methodology for performing testing, Regression Testing, **Ad hoc Testing-** Overview, Buddy & pair testing, Exploratory testing, Interactive testing, Agile and extreme testing. **Testing of Object Oriented Testing –** Introduction, Differences in OO testing.	
Unit – V	**Software Project Management:**	06
	Software Project Management: Overview, Software Project Management Framework, Software Development life cycle, Organization Issues and Project Management, Managing Processes, Project Execution, Problems in Software Projects, Project Management Myths and its clarifications. **Project Scheduling:** Scheduling and its need, scheduling basics, Gant Chart, Network scheduling techniques, Pert and CPM.	

Text Books

Name of Authors	Title of the Book	Publisher
Boris Bezier	Software testing tools	Dreamtech Publication
Ron Patton	Software testing	Tech Publications
Rogger S. Pressman	Software Engineering: A Practitioner's Approach	McGraw Hill Publication.
CemKener	Testing Computer Software	Van Nostrand Publications

Subject Name: Android Application Development		
Course Code :BVSWC402	**Semester: IV**	
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	**Android Introduction**	08
	Android Introduction, Smartphone's future, preparing the Environment, Installing the SDK, Creating Android Emulator, Installing Android Development Tools, Choosing which Android version to use Android Architecture, Android Stack, Android applications structure.	
Unit – II	**Android Architecture**	06
	Creating a project, working with the AndroidManifest.xml, Using the log system Activities. Introduction to UI – Layouts, Fragments, Adapters, Action bar, Dialogs, Notifications, UI best practices UI Architecture, Application context, Intents, Activity life cycle, supporting multiple screen sizes.	
Unit – III	**Android Interface**	08
	Designing User Interface Using Views – Basic Views- Text View, Button, Image Button, Check Box, Toggle Button, Radio Button etc., Progress Bar View and Auto Complete Text View, Time Picker and Date Picker View, List View, Image View, Image Switcher and Grid View, Digital Clock & Analog Clock Views Notification and Toast, Parameters, on Intents, Pending intents, Status bar notifications, Toast notifications.	
Unit – IV	**Android Component**	08
	Menus, Localization, Options menu, Context menu Dialogs-Alert dialog, Custom dialog, Dialog as Activity Orientation and Movement- Pitch, roll and yaw, Natural device orientation, working with Media –Playing audio and video, Recording audio and video.	
Unit – V	**Android Location & Maps**	06
	Location and Maps - Google maps, Using GPS to find current location Working with data storage - Shared preferences, Preferences activity, Files access, Using External storage, SQLite database.	
Unit – VI	**Android Animation & Camera**	06
	Animation-View animation, Drawable animation Working with Sensors- Finding sensors, Accelerometers, Gyroscopes, Other types Working with Camera – Controlling the camera, Preview and overlays, Taking pictures.	

Text Books		
Name of Authors	**Title of the Book**	**Publisher**
Ramesh Bangia	Learning Android	Khanna Publishing House

Subject Name: Window Configuration and Server Administration		
Course Code :BVSWC403	**Semester: IV**	
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	**Windows Services**	06
	Understand windows application deployment methods. Integrating data.	
Unit – II	**Windows Application**	06
	Windows 7/8: Installing, upgrading and migrating to Window 7/8, Deploying Windows 7/8, Configuring disk and device drivers, Configuring, file access and printers on Window 7/8 client.	
Unit – III	**Network basics**	06
	Transmission media, Install UTP (Straight, Cross, Rollover Cables) IP Addressing, Subletting, Wireless Network, Network Devices. Server Installation Drivers, Working with windows server Devices, Troubleshooting Devices & Drivers, and Managing system updates.	
Unit – IV	**Working With Disk Storage**	06
	Type of Disk Storage, Type of volumes, Implementing fault tolerance, Use disk management tools, Disk Quota, Troubleshooting disk management, Shadow copy. Domain Controller: Install Active Directory; Manage Active Directory Component Working with OU Structure, Working.	
Unit – V	**DNS & DHCP**	06
	Define Name resolution. Install DNS, Configure DNS Client, Manage and Troubleshoot DNS ,Configure DNS Server , Working With Super Scope, Configure DHCP Client , Manage and Troubleshoot DHCP Server.	
Unit – VI	**Backup and Restore**	06
	Requirement for Backup and Recovery AD, Issue for AD Backup and Recovery, Steps for Backup and Recovery AD.	

Text Books		
Name of Authors	**Title of the Book**	**Publisher**
Mark Minasi, John Paul Mueller	Mastering Window Server 2008	TMH Publication.
Danielle Ruest	Microsoft Windows Server 2008 "The Complete Reference"	
Reference Books		
1. Craig Zacker	Windows 7 Configuration : Microsoft Certified Technology Specialist Exam 70-680 [With Access Code] (Microsoft Official Academic Course) [Paperback]	

Subject Name: Management Information Systems	
Course Code :BVSWC404	**Semester: IV**
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**	09
	Definition, Purpose, Objectives and Role of MIS in Business Organization with particular reference to Management Levels. MIS Growth and Development, Concept and design. Transaction Processing System, Decision Support System, Executive Information system, Expert System, and the recent developments in the field of MIS.	
Unit – II	**Management System**	09
	Concept of System, Types of Systems –Open, Closed, Deterministic, Probabilistic, etc. Relevance of choice of System in MIS, Integration of Organization Systems and Information Systems, System Analysis, Design and Implementation, MIS Applications in Business.	
Unit – III	**Management Analysis**	09
	Data and Information –meaning and importance, Relevance of Information in Decision Making, Sources and Types of Information, Cost Benefit Analysis –Quantitative and Qualitative Aspects, Assessing Information needs of the Organization.	
Unit – IV	**MIS Database**	09
	Multimedia Approach to Information Processing. Decision of Appropriate Information Technology for proper MIS. Choice of appropriate IT Systems –Database, Data warehousing & Data mining Concepts, Centralized and Distributed Processing.	

Reference Books

Javadekar W. S., "Management Information System", Tata Mac Graw Hill Publication,2003. ISBN0-07-282256-2

Davis B. Gordon, "Management Information System", Tata Mac Graw Hill Publication, 2002. ISBN13:978-0-07

Gupta A. K., "Management Information System", S Chand Publications, 2003 ISBN13: 9788121919937

Arora Ashok & Bhatia Akshaya, "Management Information System", Excel Books, New Delhi, 2001 ISBN: 978-81-7446-781-2

Subject Name:- Android Application Development Lab	
Course Code : **BVSWL405**	Semester:**III**
Weekly Practicals: PR: **01** Tut: **00**	Scheme of Marking TH: --
TH Exam Duration:--	Scheme of Marking PR: **25,** IA: **25,** Total: **50**

Contents

1. Write a simple Application which will print "Hello World!"
2. Write a simple Application that uses UI Layout and Control.
3. Write a simple Application that makes use of Style & Themes.
4. Write a simple Application that uses Event Handling.
5. Write a simple Application that uses Alarm, Notification.
6. Make a location based app.
7. Write a program that shows the use animation.
8. Write a program that shows the use of Image Effects.
9. Write a program that shows the use Image Switcher.
10. Write a program that shows the use of database.

Subject Name:- Management Information Systems Lab	
Course Code ::**BVSWL406**	Semester:**IV**
Weekly Practicals: PR: **01** Tut: **00**	Scheme of Marking TH: --
TH Exam Duration:--	Scheme of Marking PR: **25,** IA: **25,** Total: **50**

Contents
10 Practical based on MIS syllabus

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

Group GEM4 of Qualification Packs

Subject Name: QA Engineer (SSC/Q1302)	
Course Code :**BVSWE417**	Semester:**IV**
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 **http://www.sscnasscom.com/qualification-pack/SSC/Q1301/**	

Subject Name: Software Engineer (SSC/Q4601)	
Course Code :**BVSWE428**	Semester:**IV**
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 **http://www.sscnasscom.com/qualification-pack/SSC/Q4601/**	