Swami RamanandTeerthMarathwadaUniversity Nanded

(NAAC Re-accredited with 'A' Grade)

Syllabus of

B.Voc. [Software Development] Third Year

Introduced from Academic Year 2016-17

Swami RamanandTeerthMarathwada University, Nanded

New Syllabus (Starting from Academic Year 2016-17) for B.Voc.[Software Development]
[Choice Based Credit System (CBCS) under Cumulative Grade Point Average (CGPA) pattern]

The New syllabus framing activity for one year **B.Voc. [Software Development]** programme (CBCS pattern) of D.S,M College , Parbhani (SRTMUN) was conducted through a panel of subject experts and faculties. The possible angles to be given importance in the curriculum were discussed. All members deliberated on the prepared rough structure of the syllabus in light of other Universities and UGC guidelines and then finalized the details of each theory course, practical course and dissertation work etc. semester wise. The prepared syllabus was sent to other University faculties for their expert suggestions too. Accordingly, necessary changes also have been incorporated. (Copies of these suggestions have been attached herewith) in the present syllabus. The final copy of the structured syllabus is submitted herewith for necessary approval and use.

HOD   Expert member
DSM College, Parbhani

                                                                             Expert Member

Faculty Member

Faculty Member   Expert Member

Approved by: **Forwarded by:**

                                                                     Director
Dean   S.R.T.M.U.N. Sub-Centre, Latur
Faculty of Computer Studies

Submitted to
The Director, B.C.U.D. for necessary action

DnyanopasakShikshan Mandal's

College Of Arts , Commerce & Science, Parbhani.

Syllabus

B.Voc. (Software Development)

Third Year

(To Be Implemented From Academic Year 2016-2017)

Student who study Second Year Subjects will be ready to perform following Job Roles:

1. He / she can be Windows Server 2008 Administrator
2. He / she can be Oracle Database Administrator
3. He / she can be ANDROID application developer

SEM V

Sr. No	Subject Code	Subject Title	Lectures/ Labs		Credits		MARKS		
			Per Week	TOTAL	Skill Component Credits	General Education Credits	INTERNAL	EXTERNAL	TOTAL
1	BVL501	Research Methodology& Project Management	3	45	-	3	10	50	60
2	BVL502	ASP.NET through C#.net	3	45	-	3	10	50	60
3	BVL503	Computer System Security	3	45	-	3	10	50	60
4	BVL504	PL/SQL PART - I	3	45	-	3	10	50	60
5	BVL505	Mobile Programming using Android - I	3	45	3		10	50	60
6	BVP501	LAB 21- Mobile Programming using Android - I	3	45	3	-	10	50	60
7	BVP502	LAB 22- ASP.NET through C#.net	3	45	3	-	10	50	60
8	BVP503	LAB 23 - PL/SQL PART I	3	45	3	-	10	50	60
9	BVP504	LAB 24 – Web Page Design Using CSS&Javascript	3	45	3	-	10	50	60
10	BVP505	LAB 25 - Windows Server 2008 Network Infrastructure, Configuring:	3	45	3	-	10	50	60
TOTAL			30	450	18	12	100	500	600

SEM VI

Sr No	Subject Code	Subject Title	Lectures/ Labs		Credits		MARKS		
			Per Week	TOTAL	Skill Component Credits	General Education Credits	INTERNAL	EXTERNAL	TOTAL
1	BVL601	Mobile Communication	3	45	-	3	10	50	60
2	BVL602	Servlets & JSP	3	45	-	3	10	50	60
3	BVL603	PL/SQL PART - II	3	45	-	3	10	50	60
4	BVL604	Artificial Intelligence	3	45	-	3	10	50	60
5	BVL605	Mobile Programming using Android - II	3	45	3		10	50	60
6	BVP601	LAB 26 - Mobile Programming using Android - II	3	45	3	-	10	50	60
7	BVP602	LAB 27 - Servlets & JSP	3	45	3	-	10	50	60
8	BVP603	LAB 28 – PL/SQL PART - II	3	45	3	-	10	50	60
9	BVP604	LAB 29 - Configuring and Troubleshooting Windows Server 2008 Terminal Services	3	45	3	-	10	50	60
10	BVP605	LAB 10 – Project Work (Based On Android Programming Language)	3	45	3	-	10	50	60
TOTAL			30	450	16	12	100	500	600

BVL501 - Research Methodology & Project Management

Sr. No	Topic	No. Of Lectures
1	**Introduction to Research Methodology** Meaning and definition of Research Characteristics of Research Objectives of research Types of research Process and steps of research	7
2	**Process of Selection and formulation of Research Problem** Problem Selection/Identification of the problem Sources of research problems Criteria of good research problem Principles of research problem Hypothesis, Meaning & characteristics of good hypothesis	7
3	**Data Collection and Analysis** Main forms of Data Collection Responses Methods of data collection Analysis of data Types of analysis Statistical tools and analysis Interpretation of data Need and importance Technique of interpretation	8
4	**Concept of Project Management** Meaning of project Characteristics of a project Project levels Types of projects Project cycle Meaning & phases of project management Need of Project Management	8
5	**Project Formulation** Feasibility analysis Technical analysis Profitability analysis and financial analysis-cost of project Means of financing & estimates of sales & production	7
6	**Introduction to Software Project Management** The nature of software production Key objectives of effective management Quality, productivity, risk reduction The role of the software project manager	8

Reference Books:
1. Research Methodology And Project Work By Dr Mahesh A Kulkarni, Nirali Prakashan, Mumbai,
2. Research Methodology By N Thanulingon, Himalaya Pbulication, Mumbai
4. Project Management By S. Chaudhary, Tata Mcgraw Hill.

BVL502 - ASP.NET through C#.net

Sr.No	Topic	No. Of Lecture
1	**INTRODUCTION** What is ASP.NET? ASP.NET Web Forms Model The ASP.NET Component Model Components of .Net Framework 3.5.	7
2	**ENVIRONMENTSETUP** The Visual Studio IDE Working with Views and Windows Adding Folders and Files to your wWebsite Projects and Solutions Building and Running a Project	8
3	**LIFE CYCLE** ASP.NET Application Life Cycle ASP.NET Page Life Cycle ASP.NET Page Life Cycle Events	7
4	**EVENT HANDLING** Event Arguments Application and Session Events Page and Control Events Event Handling Using Controls Default Events	8
5	**SERVER SIDE & CONTROLS** Server Object Request Object Response Object Properties of the Server Controls Methods of the Server Controls	7
6	**VALIDATORS** BaseValidator Class RequiredFieldValidator Control RangeValidator Control CompareValidator Control RegularExpressionValidator CustomValidator	8

Reference Books :

1. Beginning ASP.NET 4.5 by ImarSpaanjaars
2. Professional ASP.NET 4.5 By by Jason N. Gaylord, Christian Wenz, Pranav Rastogi, Todd Miranda, Scott Hanselman

BVL503 – Computer System Security

Sr.No	Topic	No. Of Lecture
1	**Security polices, Standrds& Guideline 6Hrs.** Different Types of polices standards & guidelines Common Elements Policy Standrds& Guide development Policy Creation Regulatory Considerations	8
2	**Security Attacks, Services & Mechanisms 6Hrs.** Attacks Services & Mechanisms Security Attacks Security Services A model for internet work security	7
3	**Conventional Encryption 5Hrs.** Conventional Encryption Techniques Steganography Classical Encryption techniques	8
4	**Intruders, Viruses & Worms 5Hrs.** Intruders Viruses & Related Threats	8
5	**Firewalls 7Hrs.** Firewalls Design Principles Trusted Systems	7
6	**Advanced Encryption Standard** Evaluation Criteria for AES The Origin of AES AES evaluation AES Cipher	7

References Books

1. Security Architecture Design, Deployment & Operations by Cistopher M king, Curtis E. Dalton, T.ErtemOsmanoglu
2. Cryptography & Network Security Principles & Practice (Second Edition)

BVL504 - PL/SQL PART - I

Sr.No	Topic	No. Of Lecture
1	**Introduction to RDBMS** Feature of RDBMS Advantages of RDBMS over FMS ad DBMS The 12 rules (E.F Codd's Rules –RDBMS) Need for Database Design Support of Normalization Process for Data Management Client server Technology Oracle Corporation Products Oracle Versions About SQL&SQL*PLUS	7
2	**Sub Language Commands:** Data Definition Language (DDL) Data Retrieval Language (DRL) Data Manipulation Language (DML) Transaction Control Language (TCL) Database Security and Privileges (DCL)	5
3	**Introduction to SQL Database Object** Oracle Pre Defined Data types DDL Commands Create, Alter (add, modify, rename, drop)Columns, Rename, truncate, drop DML-Insert, update, delete DQL-SELECT Statements using WHEREclause Comparison and Conditional Operators Arithmetic and Logical Operators Set Operators (UNION, UNION ALL, INTERSECT, MINUS) Special Operators – IN (NOT IN), BETWEEN (NOT BETWEEN), LIKE (NOTLIKE), IS NULL (IS NOT NULL) Working with DML, DRL Commands Operators Support	10
4	**Built in Functions&Grouping the Result of a Query** Arithmetic Functions, Character Functions, Date Functions, Conversion Functions Aggregate Functions, OLAP Functions & General Functions Using Group by and Having Clause of DRL Statement Using Order by clause	5

5	**Working with Integrity Constraints**
	Importance of Data Integrity
	Support of Integrity Constraints for Relating Table in RDBMS
	  NOT NULL constraint
	  UNIQUE constraint
	  PRIMARY KEY constraint
	  FOREIGN KEY constraint
	  CHECK constraint
	Working with different types of integrity Constraints
		8

6	**Querying Multiple Tables (Joins)** Equi Join/Inner Join/Simple Join Cartesian Join Non-Equi Join Outer Joins Self Join	7

Reference Books :

1. SQL, PL/SQL the Programming Language of Oracle

BVL505 - Mobile Programming using Android – I

Sr.No	Topic	No. Of Lecture
1	**Introduction to Android** Overview of Android Java Editions and comparison with Android Android Apps – Design, Vendor, Behavioral Classification	7
2	**Android Architecture Overview** Android Architecture Application Frameworks Android Libraries Android Runtime, Dalvik Virtual Machine	8
3	**Setup of Android Development Environment** System Requirements Java, Eclipse and Android SDK Installation Android SDK & Tools Android Virtual Devices & Device Definitions	7
4	**Your First Android Application** Creating Android Application Creating Configurations Testing the app : AVD, Active device Android Project Structure Android Manifest file	8
5	**Publishing to the Play Store** Release process & Release build of Android Application Signing the .apk file Preparing the Store Listing page Content Rating Distributing the Application Merchant Registration for Paid Applications	7
6	**Activities** About XML – approach to design layouts Views and Layouts View properties Linear Layout vs. Relative Layout vs. Frame Layout vs. Absolute Layout Localization of UI Best practices for targeting various form factors: phone, tablet, TV Best practices when working designing Android UI	8

Reference books :

1. Android Development: Interview Questions You'll Most Likely be Asked
2. Professional Android Programming with Mono for Android and .NET / C#

BVP501-LAB 21- Mobile Programming using Android – I

1. Android # Introduction and Installing and Configuring Java JDK
2. How to install Android Studio
3. Building Your First Android App (Hello World Example)
4. Android Activity Lifecycle State change Example
5. Adding Two Numbers App (Simple Calculator)
6. wrap_content, fill_parent, Password Field and Toast in Android
7. Android RadioButton Basics With Example
8. Android RatingBar Basics
9. Android Alert Dialog Example
10. Android Analogclock And Digitalclock Example
11. Android Login Screen Example
12. Android ImageView example
13. Android ListView
14. Android SeekBar
15. Android TimePicker

BVP502   LAB 22- ASP.NET through C#.net

1. Create a ASP.NET application to demonstrate Hello World
2. Create a ASP.NET application to demonstrate comparing to two numbers
3. Create a ASP.NET application to demonstrate for login window
4. Create a ASP.NET application to demonstrate ViewState, SessionState and ApplicationState in asp.net
5. Create a ASP.NET application to demonstrate arithmetic operations.
6. Create a ASP.NET application to demonstrate Server control events
7. Create a ASP.NET application to demonstrate IsPostBack in asp.net
8. IIS Internet Information Services and ASP.NET
9. Create a ASP.NET application to demonstrate Data Access from MS-Access
10. Create a ASP.NET application to demonstrate TextBox Control
11. Create a ASP.NET application to demonstrate Radio Button control
12. Create a ASP.NET application to demonstrate CheckBox Control
13. Create a ASP.NET application to demonstrate Hyperlink control
14. Create a ASP.NET application to demonstrate Ad rotator control
15. Create a ASP.NET application to demonstrate validators

BVP503   LAB 23 - PL/SQL PART –I

1. Introduction to SQL.

2. To study Basic SQL commands (create database, create table, use , drop, insert) and execute the following queries using these commands:

- Create a database named ' Employee'.
- Use the database 'Employee' and create a table 'Emp' with attributes 'ename','ecity','salary','enumber','eaddress','depttname'.
- Create another table 'Company' with attributes 'cname', ccity','empnumber' in the database 'Employee'.

3. To study the viewing commands (select , update) and execute the following queries using these commands:

- Find the names of all employees who live in Delhi.
- Increase the salary of all employees by Rs. 5,000.
- Find the company names where the number of employees is greater than 10,000.
- Change the Company City to Gurgaon where the Company name is 'TCS'.

4. To study the commands to modify the structure of table (alter, delete) and execute the following queries using these commands:

- Add an attribute named ' Designation' to the table 'Emp'.
- Modify the table 'Emp', Change the datatype of 'salary' attribute to float.
- Drop the attribute 'depttname' from the table 'emp'.
- Delete the entries from the table ' Company' where the number of employees are less than 500.

5. To study the commands that involve compound conditions (and, or, in , not in, between , not between , like , not like) and execute the following queries using these commands:

- Find the names of all employees who live in ' Gurgaon' and whose salary is between Rs. 20,000 and Rs. 30,000.
- Find the names of all employees whose names begin with either letter 'A' or 'B'.
- Find the company names where the company city is 'Delhi' and the number of employees is not between 5000 and 10,000.
- Find the names of all companies that do not end with letter 'A'.

6. To study the aggregate functions (sum, count, max, min, average) and execute the following queries using these commands:

- Find the sum and average of salaries of all employees in computer science department.
- Find the number of all employees who live in Delhi.
- Find the maximum and the minimum salary in the HR department.

7. To study the grouping commands (group by, order by) and execute the following queries using these commands:

- List all employee names in descending order.
- Find number of employees in each department where number of employees is greater than 5.
- List all the department names where average salary of a department is Rs.10,000.

8. To study the commands involving data constraints and execute the following queries using these commands:

- Alter table 'Emp' and make 'enumber' as the primary key.
- Alter table 'Company' and add the foreign key constraint.
- Add a check constraint in the table 'Emp' such that salary has the value between 0 and Rs.1,00,000.
- Alter table 'Company' and add unique constraint to column cname.
- Add a default constraint to column ccity of table company with the value 'Delhi'.

9. To study the commands for aliasing and renaming and execute the following queries using these commands:

- Rename the name of database to 'Employee1'.
- Rename the name of table 'Emp' to 'Emp1'.
- Change the name of the attribute 'ename' to 'empname'.

10. To study the commands for joins (cross join, inner join, outer join) and execute the following queries using these commands:

- Retrieve the complete record of an employee and its company from both the table using joins.
- List all the employees working in the company 'TCS'.

11. To study the various set operations and execute the following queries using these commands:

- List the enumber of all employees who live in Delhi and whose company is in Gurgaon or if both conditions are true.
- List the enumber of all employees who live in Delhi but whose company is not in Gurgaon.

12. To study the various scalar functions and string functions (power, square, substring, reverse, upper, lower, concatenation) and execute the following queries using these commands:

- Reverse the names of all employees.
- Change the names of company cities to uppercase.
- Concatenate name and city of the employee.

13. To study the commands for views and execute the following queries using these commands:

- Create a view having ename and ecity.
- In the above view change the ecity to 'Delhi' where ename is 'John'.
- Create a view having attributes from both the tables.
- Update the above view and increase the salary of all employees of IT department by Rs.1000.

14. To study the commands involving indexes and execute the following queries:

- Create an index with attribute ename on the table employee.
- Create a composite index with attributes cname and ccity on table company.
- Drop all indexes created on table company.

15. To study the commands of indexes

BVP504   LAB 24 – Web Page Design Using CSS&JavaScript

1. Changing font type, color, and size
   Multiple selectors and writing rule for more than one element
   Add a line to header and border property
 Inheritance and overriding
   Using Classes in CSS
   More on Classes in CSS
2. Font Family
   The Font Weight Property
   Using an external style sheet
 Text-decoration property
   Italic fonts
   Web Colors
3. Using inline style
   More on Font sizes
   Line height property
 CSS Box Model
   Background image property
   The ID Attribute
4. The text align property
   Border Property
   The SPAN element
 Add content page and reuse some of our CSS classes
   Special effects
   Block and Inline elements
5. Floating an element
   Absolute position for an element
   Fixed position for an element
6. The overflow property
   The cursor property
   Custom cursor
 Text and images
   Relative positioning
   Vertical menu
7. Horizontal menu
   A nice button
   The inline-block
Web Forms
   Review and descendant selector
   Opacity property - Working against a DIV
8. Linear gradients
Combine opacity and gradient
 Text shadow
   Box shadow
9.JavaScript Operators & Conditional statement.
assignment operators.
relational operators.
Logical operators.
If statement

If else statement
The switch statement
10.Lopping Statement & Function
      For loop
      Do loop
      While loop
      Library function.
      User define function.
11.Display extracting information from the object
Add the property and value to the object.
String Functions.
      Length
Concatnate.
12.Date and Time Function & Math Functions
      Square
      Square root.
cube.
Cuberoot.
      Random.
13.Events
     Button Event.
     Mouse Event.
14.Use of slice() method.
Create an array.
15.Use the length property to display the number of array items
Use the length property to add a new item.

BVP505   LAB 25 - Windows Server 2008 Network Infrastructure, Configuring:

1. Install and configure servers.
2. Configure and troubleshoot DNS.
3. Configure and manage WINS.
4. Configure and troubleshoot DHCP.
5. Configure and troubleshoot IPv6 TCP/IP.
6. Configure and troubleshoot Routing and Remote Access.
7. Install, configure, and troubleshoot the Network Policy Server Role service.
8. Configure Network Access Protection.
9. Configure IPsec.
10. Monitor and troubleshoot IPsec.
11. Configure and manage Distributed File System.
12. Configure and manage storage technologies.
13. Configure availability of network resources and content.
14. Configure server security compliance.
15. Troubleshoot operating system and applications issues

BVL601   Mobile Communication

Sr.No	Topic	No. Of Lecture
1	**Wireless Transmission** History and application of wireless communication Frequencies for Radio Transmission Signals Antennas Signal Propagation Multiplexing Modulation Spread Spectrum.	7
2	**Medium access control** Motivation for a specialized MAC SDMA FDMA TDMA CDMA Comparison of S/T/F/CDMA	8
3	**Telecommunication System** GSM DECT TETRA UMTS and IMT-2000	7
4	**Satellite System** History Application Basics, Routing Localization Handover	8
5	**Broadcast System** Overview Cyclical Repetition of data Digital audio broadcasting Digital Video broadcasting Convergence of broadcasting and mobile Communications	8
6	**Wireless LAN** Infra red vs radio transmission Infrastructure and ad-hoc network IEEE 802.11 HYPERLAN Bluetooth	7

Reference Books :

1. Mobile Communications Second Edition – By Jochen Schiller (Pearson Education)
2. Mobile Cellular Telecommunications Second Edition-By William C.Y.Lee (Mc-Graw-Hill)

BVL602   Servlets & JSP

Sr.No	Topic	No. Of Lecture
1	**An Overview of Servlets and JSP terminology** A Servlets jobs Why build web pages dynamically? Advantages of Servlets over traditional CGI The Role of JSP Installing & Configuring the JDK & Apache Tomcat Testing your setup Web application – A Preview	7
2	**Servlet Basics** Basic Servlet structure A Servlet that generate plain text A Servlet that generate HTML text A Servlet package The Servlet life cycle The Single Thread model interface Servlet debugging	8
3	**Handling Client Request: Form DATA** Reading Form Data from Servlet Example: Reading three parameter Example: Reading all parameter Filtering String for HTML –specific character	5
4	**Handling cookies and session tracking** Benefits of cookies Some problem with cookies Sending and receiving cookies Using cooking to detect first time visitors Using cookies attributes The need for session tracking Session tracking basics Session tracking API Browser session Vs server sessions A Servlets that shows per client access counts	10
5	**JSP Technology: Overview of JSP technology** The Need for JSP Benefits of JSP Installation of JSP Basic syntax	5
6	**Invoking Java code with JSP scripting elements & The JSP page directives** Invoking Java code from JSP Limiting the amount of java code in JSP pages Using JSP Expression Using Scriptlets to make parts of the JSP page conditional The *Import* attribute The *contentType*and *pageEncoding*attribute	10

	Generating Excel Spreadsheet The *session* attribute The *isELIgnored*attribute The *errorPage*and *isErrorPage*attribute	

ReferenceBooks*:*
1. Core Servlets and Java Server Pages
By- Marty Hall & Larry Brown vol-1 Low price edition

BVL603 PL/SQL PART - II

Sr.No	Topic	No. Of Lecture
1	**Working with Sub Queries**	10
	Understanding the practical approach to Sub Queries/Nested Select/Sub Select/Inner Select/Outer Select	
	What is the purpose of a Sub Query?	
	Sub Query Principle and Usage	
	Type of Sub Queries	
	Single Row	
	Multiple Row	
	Multiple Column	
	Applying Group Functions in Sub Queries	
	The impact of Having Clause in Sub Queries	
	IN, ANY/SOME, ALL Operators in Sub Queries	
	PAIR WISE and NON PAIR WISE Comparison in Sub Queries	
	Be … Aware of NULL's	
	Correlated Sub Queries	
	Handling Data Retrieval with EXISTS and NOT EXISTS Operators	
2	**Working with DCL, TCL Commands**	5
	Grant, Revoke	
	Commit, Rollback, Savepoint	
	SQL Editor Commands	
	SQL Environment settings	
3	**Maintaining Database ObjectsVIEWS in Oracle**	10
	Understanding the Standards of VIEWS in Oracle	
	Types of VIEWS	
	Relational Views	
	Object Views	
	Prerequisites to work with views	
	Practical approach of SIMPLE VIEWS and COMPLEX VIEWS	
	Column definitions in VIEWS	
	Using VIEWS for DML Operations	
	In-Line View	
	Forced Views	
	Putting CHECK Constraint upon VIEWS	
	Creation of READ ONLY VIEWS	
	Understanding the IN LINE VIEWS	
	About Materialized Views	
	View Triggers	
4	**Locks**	5
	Row level Locks	
	Table Level Locks	
	Shared Lock	
	Exclusive Lock	
	Dead Lock	
5	**PL-SQL (Procedure Language – SQL)**	10
	Introduction to Programming Languages	

	Introduction to PL/SQL
	The Advantages of PL/SQL
	PL/SQL Architecture
	PL/SQL Data types
	Variable and Constants
	Using Built_in Functions
	Conditional and Unconditional Statements
	Simple if, if… else, nested if..else, if..else Ladder
	Selection Case, Simple Case, GOTO Label and EXIT
	Iterations in PL/SQL
	     Simple LOOP,WHILE LOOP,FOR LOOP and NESTED
	     LOOPS
	     SQL within PL/SQL
	     Composite Data types (Complete)
	     Cursor Management in PL/SQL
	     Implicit Cursors
	     Explicit Cursors
	     Cursor Attributes
	     Cursor with Parameters
	     Cursors with LOOPs Nested Cursors
	     Cursors with Sub Queries
	     Ref. Cursors
	          Record and PL/SQL Table Types	

6	**EXCEPTIONS in PL/SQL**
	   Types of exceptions
	   User Defined Exceptions
	   Pre Defined Exceptions
	   RAISE_APPLICATION_ERROR
	   PRAGMA_AUTONOMOUS_TRANSACTION
	   SQL Error Code Values
		5

Reference Books :

1. SQL, PL/SQL the Programming Language of Oracle

BVL604   Artificial Intelligence

Sr.No	Topic	No. Of Lecture
1	**INTRODUCTION** Intelligent Agents Agents and environments Good behavior The nature of environments Structure of agents Problem Solving Problem solving agents Example problems	7
2	**SEARCHING TECHNIQUES** Informed search and exploration Informed search strategies Heuristic function Local search algorithms and optimistic problems Local search in continuous spaces Online search agents and unknown environments Constraint satisfaction problems (CSP) Backtracking search and Local search for CSP Structure of problems Adversarial Search	8
3	**KNOWLEDGE REPRESENTATION** First order logic Representation revisited Syntax and semantics for first order logic Using first order logic Knowledge engineering in first order logic Inference in First order logic Prepositional versus first order logic Unification and lifting Forward chaining Backward chaining	7
4	**LEARNING** Learning from observations - forms of learning Inductive learning - Learning decision trees Ensemble learning - Knowledge in learning – Logical formulation of learning Explanation based learning Learning using relevant information Inductive logic programming Statistical learning methods Learning with complete data Learning with hidden variable	8
5	**APPLICATIONS** Communication – Communication as action Formal grammar for a fragment of English Syntactic analysis – Augmented grammars Semantic interpretation – Ambiguity and disambiguation	7

| 6 | **ADVANCED APPLICATIONS**
Discourse understanding – Grammar induction
Probabilistic language processing
Probabilistic language models –
Information retrieval – Information Extraction
Machine translation. | **8** |

Reference Books:

1. Stuart Russell, Peter Norvig, "Artificial Intelligence – A Modern Approach", 2nd Edition, Pearson Education / Prentice Hall of India, 2004.

BVL605 Mobile Programming using Android – II

Sr.No	Topic	No. Of Lecture
1	**Android Testing** Creating a Test Project for Android project 　　Working with Test Packages 　　Writing test cases	7
2	**Fragments** 　　Designing fragments 　　Fragments lifecycle 　　Fragment management and integration	8
3	**User Interfaces** 　　Creating the Activity 　　XML versus Java UI 　　Selection Widgets, Using fonts 　　Common UI components 　　Handling UI events: a bit about listener	7
4	**Advanced UI** 　　Adapters 　　Complex UI components 　　Menus and Dialogs 　　Tabbed Activities 　　Navigation Drawer 　　Animations 　　Create activity layouts programmatically 　　Testing and optimizing UI	8
5	**Android Material Design** 　　What is material? 　　Material properties 　　Material Styling / Animations 　　Material Patterns	7
6	**SQLite Database** 　　Introducing SQLite 　　SQLiteOpenHelper and creating a database 　　Opening and closing a database 　　Working with cursors 　　Inserts, updates, and deletes	8

Reference books :

1. Android Development: Interview Questions You'll Most Likely be Asked
2. Professional Android Programming with Mono for Android and .NET / C#

BVP601 LAB 26 - Mobile Programming using Android – II

1. Android WebView Example
2. Fragments in Android - Part 1 ,Part 2
3. Android AutoCompleteTextView Control
4. Android TimePicker
5. Android TimePicker Dialog (TimePickerDialog)
6. Android DatePicker Dialog (DatePickerDialog)
7. Showing Notifications and using NotificationManager
8. Action Bar (ActionBar) # Overflow Menu Items and Icons
9. Add Up Button for Low-level Activities to Action Bar
10. Explicit and Implicit Intents in Android
11. Introduction to Services and Creating Started Service
12. Service and Thread in Android
13. Creating Service Using IntentService
14. Applying Styles on Components
15. Style inheritance in Android &How to Save a File on Internal Storage

BVP602   LAB 27 - Servlets & JSP

1. Write a step to install and configure the software to run jsp pages.
2. Write a JSP code to print 1 to 10 on screen.
3. Write a JSP code that prints following on screen.

$$
\begin{array}{c}
1 \\
1\ 1 \\
1\ 1\ 1 \\
1\ 1 \\
1
\end{array}
$$

4. Write a JSP code to design a web page that accepts a user name and greet user hello
5. Write a JSP code to design a web page which accepts user name and password and compare it against static username and password, display appropriate message valid/ invalid user.
6. Write a JSP code to design a web page which accepts user name and age from user if age is less than 30 change background color to red else green.
7. Write a JSP code to demonstrate transfer the values between two form
8. Write a JSP code to perform arithmetic operation.
9. Write a JSP code to calculate number of visitors visited to site.
10. Write a JSP code to demonstrate session and cookies
11. Write a step to install and configure the software to run servlet program.
12. Write a servlet program for accessing data from database
13. Write a servlet program for insert the data into database.
14. Write a servlet program to delete the data from database.
15. Write a servlet program to update the data from database.

BVP603   LAB 28 – PL/SQL PART - II

1. Introduction to PL-SQL.

2. To study the conditional controls and case statement in PL-SQL and execute the following queries:

- Calculate the average salary from table 'Emp' and print increase the salary if the average salary is less that 10,000.
- Print the deptno from the employee table using the case statement if the deptname is 'Technical' then deptno is 1, if the deptname is 'HR' then the deptno is 2 else deptno is 3.

3. To study procedures and triggers in PL-SQL and execute the following queries:

- Create a procedure on table employee to display the details of employee to display the details of employees by providing them value of salaries during execution.
- Create a trigger on table company for deletion where the whole table is displayed when delete operation is performed.

4. Write a PL/SQL code block to calculate the area of a circle for a value of radius varying from 3 to 7.Store the radius and the corresponding values of calculated area in an empty table named Areas.

5. Write a PL/SQL Block of code for inverting a number 5639 to 9365.

6. Write a PL/SQL Block of code that will merge the data available in the newly created
   table NEW_BRANCHES with the data available in the table BRANCH_MSTR .if data in the first table already exist in the second table then that data should be skipped.

7. Create a function that accepts a client_no and checks if the client_no exits in the table CLIENT_MASTER.if the client_No exits, display a message valid client and if the Client_No does not exits then display an appropriate error message.

8. Write a PL/SQL block to display whether the given number is Odd or Even.

9. Write a PL/SQL block to display LJIET 10 times using for loop.

10. Write a PL/SQL block using cursor to update salary of a given programmer by 25%.

11. Write a PL/SQL Block to print the sum of numbers from 1 to 50.

12. Write a PL/SQL block to display the detail about given employee from EMP table.

13. Write a PL/SQL block to find the salary of a given employee and raise his salary by 20%.

14. Create a cursor emp_cur,fetch record from emp table and check whether sal>10000 then
    update Grade = 'A' else if sal = > 5000 and sal<= 10000 then update Grade = 'B'.

15. Write a PL/SQL block to calculate factorial of given number.

BVP604 LAB 29 - Configuring and Troubleshooting Windows Server 2008 Terminal Services

1. Install and configure the TS role.
2. Configure TS settings.
3. Identify the appropriate licensing scope and configure forest, domain, and workgroup Licensing.
4. Identify when to use the per-user and per-device licensing modes.
5. Install the TS Licensing Role.
6. Configure TS licensing for per-user and device licenses.
7. Manage the licensing lifecycle.
8 Configure TS connection properties using TS console and Group Policy.
9 Troubleshoot TS connection properties for a single user and multiple users.
10. Identify the considerations for the types of applications that can be installed in a TS Environment.
11. Install applications on TS.
12 Configure TS Web Access to make TS RemoteApp programs available through a Web Site.
13 Configure TS Easy Print.
14. Install and configure TS Web Access role service.
15. Configure a TS session broker for a load-balanced TS farm.

BVP605 LAB 10 – Project Work (Based On Android Programming Language)

Module	Maximum Marks	Minimum Marks
Project Work	20	8
Project Report	10	4
Internal Assessment	10	4
Project Demonstration withPresentation Viva	10	4