JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTHAPURAMU COLLEGE OF ENGINEERING (AUTONOMOUS):: PULIVENDULA

| Course Code | : | 15ACS14 | 15ACS14 | | | | | | |
|---------------------|---|-----------|---------------------|------------|---------|--|--|--|--|
| Course Title | : | INTERNE | TERNET TECHNOLOGIES | | | | | | |
| Course Stranotura | : | Lectures | Tutorials | Practicals | Credits | | | | |
| Course Structure | | 3 | 1 | 0 | 3 | | | | |
| Course Coordinator | : | Mr. M.Nag | Ar. M.Naga Seshudu | | | | | | |
| Team of Instructors | : | Dr. G. Mu | Dr. G. Murali | | | | | | |

I. Course Overview

Internet technologies will guide us to learn lot of technologies to create a project. In a project totally there are three parts: Front-end, server and back-end. In Front-end user will use any language to write the code (it is coding part), at server user will take any server related to language in front-end. Last back-end, here user will create a database to store the details of client to server. In our syllabus we learn these three parts related to Java and we learn how the project is created and executed. The technologies involved in our syllabus is Java beans, JDBC, JSP, HTML, CSS, XML, XHTML, SERVLETS, DATABASE .

II. Prerequisite(s):

| Level | Credits | Periods / Week | Prerequisites |
|-------|---------|----------------|--------------------------------|
| UG | 3 | 3 | Basic core Java and basic HTML |

III. Assessment:

| FORMATIVE ASSESMENT | | |
|---|----------|--|
| Mid Semester Test I for 20 Marks in first 2 units is conducted at8 the end of 9 th week. | 20 Marks | |
| Mid Semester Test II for 20 Marks in last three units is conducted at the end of the course work. | | |
| Mid semester Test Multiple Choice Test in first two and half Units is conducted for 10 Marks | 10 Marks | |

| Mid semester Test Multiple Choice Test in second two and half Units is conducted for 10 Marks. | | | | | |
|--|-----------|--|--|--|--|
| Total (Formative) | 30 Marks | | | | |
| SUMMATIVE ASSESMENT | | | | | |
| End Semester Examination in all units is conducted for 70 Marks | 70 marks | | | | |
| Grand Total | 100 Marks | | | | |

IV. Course Objectives:

- 1. Describe how the Internet is changing the world.
- 2. Demonstrate the ability to use the World Wide Web.
- 3. Understand how Web pages are designed and created.
- 4. Learning how to create a dynamic project
- 5. Understand the use of servlets and JSP

V. Course Outcomes:

- 1. Create web pages using HTML and Cascading Styles sheets.
- 2. Build dynamic web pages using JavaScript (client & server side programming).
- 3. Build interactive Java and web applications using JSP & Servlets.
- 4. Create XML documents & XML Schema.
- 5. Developing a J2EE & dynamic web project

VI. Program outcomes:

- a An ability to apply knowledge of computing, mathematical foundations, algorithmic principles, and computer science and engineering theory in the modeling and design of computer-based systems to real-world problems (fundamental engineering analysis skills)
- b An ability to design and conduct experiments, as well as to analyze and interpret data (information retrieval skills)
- c An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs, within realistic constraints such as economic, environmental, social, political, health and safety, manufacturability, and sustainability (Creative Skills)
- d An ability to function effectively on multi-disciplinary teams (team work)
- e An ability to analyze a problem, identify, formulate and use the appropriate computing and engineering requirements for obtaining its solution (engineering problem solving skills)
- f An understanding of professional, ethical, legal, security and social issues and responsibilities (professional integrity)
- g An ability to communicate effectively both in writing and orally (speaking / writing skills)

- h The broad education necessary to analyze the local and global impact of computing and engineering solutions on individuals, organizations, and society (engineering impact assessment skills)
- i Recognition of the need for, and an ability to engage in continuing professional development and life-long learning (continuing education awareness)
- j A Knowledge of contemporary issues (social awareness)
- k An ability to use current techniques, skills, and tools necessary for computing and engineering practice (practical engineering analysis skills)
- 1 An ability to apply design and development principles in the construction of software and hardware systems of varying complexity (software hardware interface)
- m An ability to recognize the importance of professional development by pursuing postgraduate studies or face competitive examinations that offer challenging and rewarding careers in computing (successful career and immediate employment).

VII. Syllabus:

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTHAPURAMU

COLLEGE OF ENGINEERING (AUTONOMOUS):: PULIVENDULA

Regulation –**R15**

B.Tech. II Year -II Sem(C.S.E)

L T P C 3 1 0 3

INTERNET TECHNOLOGIES

UNIT – I

Generics: What are generics, A simple generic example, a generic class with two type parameters, the general form of a generic class. Java Collections Framework: Collection Overview, The collection interfaces – The collection interfaces, the list interface, the set interface, the socket set interface. The collection classes – The arraylist class, the linked list class, the hashset class, the linked hashset class, the treeset class. Accessing a collection via an iterator using an iterator, the for-each alternative to iterative. Working with maps – The map interfaces, the map classes. Using a comparator.

UNIT – II

Java Beans: What is a java beans, advantages of java beans, introspection, java beans API, A bean example.

JDBC Objects: The concept of JDBC, JDBC Driver Types, JDBC Packages, A brief overview of the JDBC Process, Database Connection, Associating the JDBC/ODBC Bridge with the database, Statement Objects, Resultset, Transaction Processing, Metadata, Model Programs, Tables, and Indexing, Inserting data into tables, selecting data from a table, updating tables, deleting data from a table.

UNIT – III

HTML, XML and XHTML: HTML – Basic Concepts of HTML, The Skeleton of a web page, creating a form, tables, XML, XHTML. Parsing XML.

Java Servlets: Java servlets and common gateways interface programming, A simple java servlet, anatomy of a java servlet.

Java Server Pages: JSP – Installation, JSP Tags – Variables and objects, methods, control statements, loops, Tomcat, Request String, User sessions, Cookies, Session objects.

UNIT – IV

Java Script: Introduction to Java Script – What is dynamic HTML? Java Script, JavaScript Basics, Variables, String Manipulation, Mathematical functions, statements, operators, arrays, functions.

Objects in Java Script: Data and objects in java scripts, Regular expressions, exception handling, built-in objects, cookies, events. Dynamic HTML with JavaScript: Data Validation, Opening a new window, messages and confirmation, the statusbar, writing to a different frame, rollover buttons, moving images, multiple pages in a single download, a text only menu system, floating logo.

UNIT – V

Accessing a Database: Accessing a database from a JSP page – Application architecture example, table example, the data source interface and jdbc drivers reading and storing information in a database, generating html from a query result, searching for rows based on partial information, deleting database information, displaying data over multiple pages, validation complex input without a bean, using transactions, application specific database actions.

VIII. List of Text Books / References / Websites / Journals / Others

Text Books:

1. Java The complete Reference, Herbert Schildt, 9th Edition, Oracle Press (Unit No: 1)

2. The Complete Reference J2EE, Jim Keogh, McGraw-Hill/Osborne. (Unit No: 2, 3)

3. Web Programming: Building Internet Applications, Chris Bates, 3rd Edition, Welly – 2006. (Unit No: 4)

4. JavaServer Pages, Hans Bergsten, 2nd Edition, O'Reilly Media – 2002 (Unit No: 5)

Reference Books:

1. J2SE Core Java, A.R.Kishore Kumar.

Web Reference:

- 1. <u>https://www.tutorialspoint.com/jsp/jsp_pdf_version.htm</u>
- 2. <u>http://sccecse.ucoz.com/INTRODUCTION_TO_JAVA_BEANS.pdf</u>

Others:

- Software Engineering Foundation, Trainee Guide
 HTML & CSS notes prepared by me

IX. Course Plan:

The course plan is meant as a guideline. There may probably be changes.

| Lecture | Date | Course Learning Outcomes | Topics to be covered | Reference | | | |
|---------|-------------------------------------|--|---|------------------------------|--|--|--|
| INO. | | | | | | | |
| 1-3 | 28-11-2019 2-12-2019 | Working with Generics | What are generics, A simple generic example, a generic class with two type parameters, the general form of a generic class. | T1: 337 – 362 R1: 71 – 74 | | | |
| 4-8 | 4-12-2019 6-12-2019 9-12-2019 | Learning about Collection Framework | Collection framework, collection Interfaces and Collection classes | T1: 497 – 544 R1: 75 - 89 | | | |
| | | | PART – II | | | | |
| 9-13 | 11-12-2019 | Designing a website with style | Basic Concepts of HTML, The | 01, 02 | | | |
| | 13-12-2019 | | Skeleton of a web page, | | | | |
| | 16-12-2019 | | HTML5 & CSS3) | | | | |
| | 18-12-2019 | | | | | | |
| 14-19 | 20-12-2019 23-12-2019 | Developing XML and XHTML | XML, XHTML. Parsing XML. | 02 | | | |
| | 27-12-2019 | | | | | | |
| | 30-12-2019 | | | | | | |
| 20-21 | 3-1-2020 | | Practical session | | | | |
| | | | PART - III | | | | |
| 22-24 | 6-1-2020 | Basics of Java script | JavaScript Basics, Variables | T3: 97 -139 | | | |
| | 8-1-2020 | | String Manipulation, Mathematical functions, statements, operators, arrays, functions. | 01 | | | |
| 25.07 | 10.1.2020 | | Data and abjects in issue | T2. 140 172 | | | |
| 25-27 | 10-1-2020 | Object in Java script | scripts, Regular expressions, | | | | |

| | | | exception handling, built-in | |
|---------|-----------|----------------------------------|---------------------------------|---------------|
| | | | objects, cookies, events. | |
| 28-31 | 17-1-2020 | | Data Validation, Opening a | T3: 179 - 208 |
| | | | new window, messages and | |
| | 22-1-2020 | Dynamic HTML with | confirmation, the status bar, | |
| | | JavaScript | writing to a different frame, | |
| | 24-1-2020 | Ĩ | rollover buttons, moving | |
| | | | images, multiple pages in a | |
| | | | single download, a text only | |
| | | | menu system, floating logo. | |
| 33-34 | 27-1-2020 | | Practical Sessions | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| 27.25 | | PART – | | |
| 35-36 | 29-1-2020 | Learning how to use servlets | Servlets and CGI, A simple | W1:405 – 417 |
| | 21 1 2020 | and running websites at | java servlet, anatomy of a java | TT4 00 00 |
| | 31-1-2020 | server side | serviet. | 14: 20-23 |
| | | | | 01 |
| 37-38 | 03-2-2020 | | Practical sessions | 01 |
| 57 50 | 05 2 2020 | | | |
| | | | | |
| | | | | |
| 20 12 | 05.0.0000 | | | |
| 39 – 42 | 05-2-2020 | Developing WebPages that include | JSP – Installation, JSP Tags – | |
| | 07.0.0000 | dynamic content | Variables and objects, | XX/1 0 00 |
| | 07-2-2020 | | methods, control statements, | W1: 2-22, |
| | 10.0.000 | | loops, Tomcat, Request String, | 64-73 |
| | 10-2-2020 | | User sessions, Cookies, | 01 |
| | | | Session objects. | 01 |
| | | | | |
| 43-44 | 12-2-2020 | Pr | ractical Session | |
| 10 11 | 12 2 2020 | | | |
| | 14-2-2020 | | | |
| | | | PART – V | |
| 45-46 | 17-2-2020 | Development of Java beans | Java beans, Introspection, java | W2 |
| | | | beans API | |
| | 19-2-2020 | | | |
| 17.50 | | | | 24 |
| 47-50 | 21-2-2020 | Creating Java Database | JDBC driver, database | R1 |
| | | connectivity | connection, statement objects, | 01 |
| | 24-2-2020 | | result set, tables and Indexing | 01 |
| | | | | |
| | 26-2-2020 | | | |
| | 28-2-2020 | | | |

| 51-52 | 2-3-2020 | | Practical Sessions | |
|-------|-----------|----------------------------------|----------------------------------|---------------|
| 53-57 | 4-3-2020 | | Accessing a database from a | |
| | | | JSP page - the data source | |
| | 6-3-2020 | | interface and jdbc drivers | |
| | | | reading and storing | |
| | 9-3-2020 | Creating JSP pages to access the | information in a database, | T4: 109 - 129 |
| | | information in database | generating html from a query | |
| | 11-3-2020 | | result searching for rows based | |
| | 12 2 2020 | | on partial information, deleting | |
| | 13-3-2020 | | diabase information, | |
| | | | pages validation complex | |
| | | | input without a bean using | |
| | | | transactions, application | |
| | | | specific database actions. | |
| 58-60 | 16-3-2020 | | Practical sessions | |
| | | | | |
| | 18-3-2020 | | | |
| | | | | |
| | 19-3-2020 | | | |

X. Mapping course outcomes leading to the achievement of the program outcomes:

| Course Outcomes | Program Outcomes | | | | | | | | | | | | |
|--------------------|------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| | a | В | С | d | e | f | G | h | i | j | k | L | m |
| 1 | | | Н | | | | | | | | | | |
| 2 | | | S | | | | | | | | | | |
| 3 | | Н | S | | | | | | | | S | | |
| 4 | | Η | Н | | | | S | | | | | | S |
| 5 | S | Η | Н | Η | Н | | | | | | Н | Н | Н |

S = **Supportive**

Justification of Course syllabus covering Course Outcomes:

By covering the syllabus a student can understand the real world problem and analysis the best solution to it. Student is able to develop Dynamic Projects using various technologies (HTML, CSS, JDBC, XML, JSP and Servlets).

Justification of CO's –PO's Mapping Table:

By mapping CO-1 to the PO's C, which are related to the course CO1: The student is able to design and Implement Problems.

H = Highly Related

By mapping CO-2 to the PO's C, which are related to the course CO2: The student is able to develop creative skills in programming.

By mapping CO-3 to the PO's B, C and K, which are related to the course CO3: The student is able to analyze, design and implement the problems by using current techniques.

By mapping CO-4 to the PO's B, C, G and M, which are related to the course CO4: The student is able to create web pages and document them.

By mapping CO-3 to the PO's A, B, C, D, E, K, L and M, which are related to the course CO3: The student is able to create a dynamic web application by using J2EE.

HCSED