ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ
(ವಿ ಟಿ ಯು ಅಧಿನಿಯಮ ೧೯೯೪ ರ ಅಡಿಯಲ್ಲಿ ಕರ್ನಾಟಕ ಸರ್ಕಾರದಿಂದ ಸ್ಥಾಪಿತವಾದ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾಲಯ)
VISVESVARAYA TECHNOLOGICAL UNIVERSITY
(State University of Government of Karnataka Established as per the VTU Act, 1994)"Jnana Sangama" Belagavi-590018, Karnataka, India)
Prof. B. E. Rangaswamy, Ph.D.
REGISTRAR
Phone: (0831) 2498100
Fax: (0831) 2405467

REF: VTU/BGM/BOS/AEC2021/2023-24/4983 DATE: 19 DEC 2023

CIRCULAR

Subject: 21CSL581 and 21CSL582 change of theory courses as practical courses regarding...

Reference: Chairperson's Board of Studies in CSE VTU Belagavi suggestions dated 31.10.2023
The Hon'ble Vice-Chancellor's approval dated 06.11.2023
Chairperson suggestions dated 15.12.2023
VTU/BGM/BOS/AEC2021/2023-24/3844, Dated: 06.11.2023

The courses **Angular JS and Node JS (21CSL581)** and **C# and.Net Framework (21CSL582)** were practical according to the course code in the 2021 scheme; nevertheless, the L:T:P indicator showed it as 1:0:0 and the syllabus content was in the form of modules. The clarification for this issue was raised by a few of the colleges that were referred to the present Board of Studies in CSE for clarification.

The course title has been changed to **Angular JS** because, although Node JS and Angular JS are parallel technologies, BoS felt that students might study any one of them.Theory course for C# and the.NET Framework while transitioning to a practical course BoS believed that courses on **C# programming** were better suited as practical courses, thus theory modules were changed to reflect this.

The above-mentioned changes apply to following **all CSE and its allied branches**

- Computer Science and Engineering
- Information Science and Engineering
- Artificial Intelligence and Machine Learning
- CSE (Artificial Intelligence and Machine Learning)
- Data Science
- CSE (Data Science)
- Artificial Intelligence and Data Science
- CSE (Artificial Intelligence)
- Computer Science and Business Systems
- CSE (Internet of Things and Cyber Security including Blockchain Technology)
- Computer Science and Design

These courses are also available with course codes **21CBL583** and **21CBL584**, respectively, for the **Computer Science and Business Systems** (CSBS) program.

All the principals of engineering colleges are hereby informed to bring the content of the circular and change of theory courses into the practical course for CSE and CSBS programs to the notice of all concerned.

Sd/-
REGISTRAR

To,

- **Principals of all engineering colleges under the ambit of the university**
- **Chairpersons of the university departments at Kalaburgi, Belagavi, Bengaluru and Mysuru**

Copy to

- The Hon'ble Vice-Chancellor through the Secretary to VC for information
- The Registrar (Evaluation) for information and needful
- The Director, ITI SMU, VTU Belagavi for information and make arrangements for uploading the notification on the VTU web portal.
- The Chairperson and Members BoS in CSE VTU Belagavi for information
- The Special Officer and Caseworker of QPDS, Examination section VTU Belagavi for information and needful
- The office copies

19/12/23

REGISTRAR

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Prof. B. E. Rangaswamy, Ph.D.
REGISTRAR

Phone: (0831) 2498100
Fax: (0831) 2405467

REF: VTU/BGM/BOS/AEC2021/2023-24/ 3841 DATE: 06 NOV 2023

CIRCULAR

Subject: 21CSL581 and 21CSL582 change of theory courses as practical courses regarding...

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The Hon'ble Vice-Chancellor's approval dated 06.11.2023

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06/11/23

REGISTRAR

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Prof. B. E. Rangaswamy, Ph.D.
REGISTRAR

Phone: (0831) 2498100
Fax: (0831) 2405467

REF: VTU/BGM/BOS/AEC2021/2023-24/ 3814 DATE: 6 NOV 2023

CIRCULAR

Subject: 21CSL581 and 21CSL582 change of theory courses as practical courses regarding...

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The Hon'ble Vice-Chancellor's approval dated 06.11.2023

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06/11/23

REGISTRAR

Semester -V

ANGULAR JS			
Course Code	**21CSL581/ 21CBL583**	CIE Marks	50
Teaching Hours/Week (L:T:P: S)	0:0:2:0	SEE Marks	50
Credits	01	Total marks	100
Examination type (SEE)	PRACTICAL		

Course objectives:

- To learn the basics of Angular JS framework.
- To understand the Angular JS Modules, Forms, inputs, expression, data bindings and Filters
- To gain experience of modern tool usage (VS Code, Atom or any other] in developing Web applications

Sl.NO	Experiments
1	Develop Angular JS program that allows user to input their first name and last name and display their full name. **Note**: The default values for first name and last name may be included in the program.
2	Develop an Angular JS application that displays a list of shopping items. Allow users to add and remove items from the list using directives and controllers.**Note**: The default values of items may be included in the program.
3	Develop a simple Angular JS calculator application that can perform basic mathematical operations (addition, subtraction, multiplication, division) based on user input.
4	Write an Angular JS application that can calculate factorial and compute square based on given user input.
5	Develop AngularJS application that displays a details of students and their CGPA. Allow users to read the number of students and display the count. **Note**: Student details may be included in the program.
6	Develop an AngularJS program to create a simple to-do list application. Allow users to add, edit, and delete tasks.**Note**: The default values for tasks may be included in the program.
7	Write an AngularJS program to create a simple CRUD application (Create, Read, Update, and Delete) for managing users.
8	DevelopAngularJS program to create a login form, with validation for the username and password fields.
9	Create an AngularJS application that displays a list of employees and their salaries. Allow users to search for employees by name and salary. **Note**: Employee details may be included in the program.
10	Create AngularJS application that allows users to maintain a collection of items. The application should display the current total number of items, and this count should automatically update as items are added or removed. Users should be able to add items to the collection and remove them as needed. **Note**: The default values for items may be included in the program.
11	Create AngularJS application to convert student details to Uppercase using angular filters. **Note**: The default details of students may be included in the program.
12	Create an AngularJS application that displays the date by using date filter parameters

NOTE: Include necessary HTML elementsand CSS for the above Angular applications.

Course outcomes (Course Skill Set):

At the end of the course the student will be able to:

1. Develop Angular JS programs using basic features
2. Develop dynamic Web applications using AngularJS modules
3. Make use of form validations and controls for interactive applications
4. Appy the concepts of Expressions, data bindings and filters in developing Angular JS programs
5. Make use of modern tools to develop Web applications

Assessment Details (both CIE and SEE)

The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 40% of the **maximum** marks (20 marks). A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each course. The student has to secure not less than 35% (18 Marks out of 50) in the semester-end examination (SEE). The student has to secure a minimum of 40% (40 marks out of 100) in the sum totaloftheCIE(ContinuousInternalEvaluation)andSEE (SemesterEndExamination)takentogether.

Continuous Internal Evaluation (CIE):

CIE marks for the practical course is **50 Marks.**

The split-up of CIE marks for record/ journal and test are in the ratio **60:40.**

- Each experiment to be evaluated for conduction with observation sheet and record write-up. Rubrics for the evaluation of the journal/write-up for hardware/software experiments designed by the faculty who is handling the laboratory session and is made known to students at the beginning of the practicalsession.
- Record should contain all the specified experiments in the syllabus and each experiment write-up will be evaluated for 10marks.
- Total marks scored by the students are scaled downed to 30 marks (60% of maximummarks).
- Weightage to be given for neatness and submission of record/write-up ontime.
- Department shall conduct 02 tests for 100 marks, the first test shall be conducted after the 8$^{t^}$ week of the semester and the second test shall be conducted after the 14$^{'h}$ week of thesemester.
- In each test, test write-up, conduction of experiment, acceptable result, and procedural knowledge will carry a weightage of 60% and the rest 40% forviva-voce.
- The suitable rubrics can be designed to evaluate each student's performance and learning ability. Rubrics suggested in Annexure-II of Regulationbook
- The average of 02 tests is scaled down to **20 marks** (40% of **the maximum**marks).

The Sum of scaled-down marks scored in the report write-up/journal and average marks of two tests is the total CIE marks scored by the student.

Semester End Evaluation (SEE):

- SEE marks for the practical course is 50Marks.
- SEE shall be conducted jointly by the two examiners of the same institute, examiners are appointed by theUniversity
- All laboratory experiments are to be included for practicalexamination.
- (Rubrics) Breakup of marks and the instructions printed on the cover page of the answer script to be strictly adhered to by the examiners. OR based on the course requirement evaluation rubrics shall be decided jointly byexaminers.
- Students can pick one question (experiment) from the questions lot prepared by theinternal/external examiners jointly.
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- General rubrics suggested for SEE are mentioned here, write up -20%, Conduction procedureand result in -60%, Viva-voce 20% of maximum marks. SEE for practical shall be evaluated for 100 marks and scored marks shall be scaled down to 50 marks (however, based on course type, rubrics shall be decided bythe examiners)
- The duration of SEE is 02hours

Rubrics suggested in Annexure-lI of Regulation book

Suggested Learning Resources:

Textbooks

1. ShyamSeshadri, Brad Green —"AngularJS: Up and Running: Enhanced Productivity with Structured Web Apps", Apress, 0'Reilly Media,Inc.
2. AgusKurniawan–"AngularJS Programming by Example", First Edition, PE Press, 2014

Weblinks and Video Lectures (e-Resources):

1. Introduction to Angular JS :https://www.youtube.com/watch?v=HEbphzK-0xE
2. Angular JS Modules :https://www.youtube.com/watch?v=gWm0KmgnQkU
3. https://www.youtube.com/watch?v=zKkUN-mJtPQ
4. https://www.youtube.com/watch?v=ICl7_i2mtZA
5. https://www.youtube.com/watch?v=Y2Few_nkze0
6. https://www.youtube.com/watch?v=QoptnVCQHsU

Activity Based Learning (Suggested Activities in Class)/ Practical Based learning

- Demonstration of simpleprojects/applications (course project)

Semester -V

C# PROGRAMMING			
Course Code	21CSL582/ 21CBL584	CIE Marks	50
Teaching Hours/Week (L:T:P: S)	0:0:2:0/ 24 Hours	SEE Marks	50
Credits	01	Total marks	100
Examination type (SEE)	PRACTICAL		

Course objectives:

- To learn basic features of C# programming
- To understand C# support for OOP with programming examples
- To gain experience of modern tool usage (VS Code, Visual Studio or any other] in developing C# programs

Sl.NO	Experiments
1	Develop a C# program to simulate simple arithmetic calculator for Addition, Subtraction, Multiplication, Division and Mod operations. Read the operator and operands through console.
2	Develop a C# program to print Armstrong Number between 1 to 1000.
3	Develop a C# program to list all substrings in a given string. [Hint: use of Substring() method]
4	Develop a C# program to demonstrate Division by Zero and Index Out of Range exceptions.
5	Develop a C# program to generate and printPascal Triangle using Two Dimensional arrays.
6	Develop a C# program to generate and print Floyds Triangle using Jagged arrays.
7	Develop a C# program to read a text file and copy the file contents to another text file.
8	Develop a C# C# Program to Implement Stack with Push and Pop Operations [Hint: Use class, get/set properties, methods for push and pop and main method]
9	Design a class "Complex" with data members, constructor and method for overloading a binary operator '+'. Develop a C# program to read Two complex number and Print the results of addition.
10	Develop a C# program to create a class named shape. Create three sub classes namely: circle, triangle and square, each class has two member functions named draw () and erase (). Demonstrate polymorphism concepts by developing suitable methods, defining member data and main program.
11	Develop a C# program to create an abstract class Shape with abstract methods calculateArea() and calculatePerimeter(). Create subclasses Circle and Triangle that extend the Shape class and implement the respective methods to calculate the area and perimeter of each shape.
12	Develop a C# program to create an interface Resizable with methods resizeWidth(int width) and resizeHeight(int height) that allow an object to be resized. Create a class Rectangle that implements the Resizable interface and implements the resize methods

Course outcomes (Course Skill Set):

At the end of the course the student will be able to:

1. Develop programs involving basic features of C# programming language
2. Make use of exception handling features to safeguard program against runtime anomalies
3. Apply concepts of OOP in developing solutions to problems
4. Develop programs to illustrate handling of text files
5. Make use of modern tools to develop C# programs and applications

Updated as Practical Course on 03.11.2023

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1. Herbert Schildt, "The Complete Reference: C# 4.0", Tata McGraw Hill, 2012
2. Andrew Troelsen, "Pro C# 2010 and the .NET 4 Platform, Fifth edition, A Press, 2010.

Weblinks and Video Lectures (e-Resources):

1. Introduction to C#: https://www.youtube.com/watch?v=ItoIFCT9P90
2. .NET FRAMEWORK: https://www.youtube.com/watch?v=h7huHkvPoEE
3. https://www.tutorialsteacher.com/csharp
4. https://www.w3schools.com/cs/index.php
5. https://www.javatpoint.com/net-framework

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