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CIRCULAR

Subject: BIS657E-Software Testing Automation added to the CSE, CC, CE and ISE branches of CSE stream regarding

Reference:

1. Email from the Chairoperson Board of Studies in CSE dated 30.01.2025.
2. The Hon'ble Vice-Chancellor's approval dated: 31.01.2025

This is in reference to the subject mentioned above. To utilize the free software for the course, a new course titled **BIS657E - Software Testing Automation** has been introduced for the following CSE branches:

- Computer Science and Engineering
- Information Science and Engineering
- Computer Engineering
- Computer & Communication Engineering

The syllabus for the course is attached to this circular for your reference and is also available on the official website under the syllabus section at https://vtu.ac.in/en/b-e-scheme-syllabus/#menu07.

All principals of engineering colleges are kindly requested to inform the relevant departments about the content of this circular.

Encl: BIS657E Syllabus

REGISTRAR

To,

The principals, of all Engineering Colleges under the ambit of the university, Belagavi

Copy to

1. The Registrar (Evaluation) VTU Belagavi for information
2. The Director, ITI SMU VTU Belagavi, for information and to make arrangements to upload the circular on the VTU web portal for stakeholders' reference.
3. The Special Officer, QPDS section for information and needful
4. Office Copy.

Software Testing Automation		Semester	VI
Subject Code	BIS657E	CIE Marks	50
Teaching Hours/Week(L:T:P:S)	0:0:2:0	SEE Marks	50
Credits	01	Exam Hours	100
Examination type (SEE)		Practical	

Course Objectives:
- To introduce the features, components, and benefits of the Katalon and Selenium Studio
- To understand the Test case design, Test execution and Test data management
- To understand the concepts of Test automation
- To understand the Test scenario development

Sl. No.	Experiments
1	**Installation of Katalon Studio:** Installation and Setup, Web Locators & Techniques, Selectors Hub and browsers dev tools
2	**Automation Modes in Katalon Studio :** Katalon Studio record mode, Katalon Studio manual mode, Katalon Studio Keywords and Katalon Studio script mode
3	**Exploring Katalon Recorder Tool:** Recorder for Chrome browser, Firefox, Explorer, Play testcases in recorder
4	**Exploring Web Spy & Web Object Repository:** web spy & object repository, spy on a web object in a browser, Object locators & strategies
5	**Exploring the Predefined pre-Defined Web UI Keyboards:** browser keywords, windows keywords, checkbox keywords, combo box, textbox, file upload, screenshot, scroll down and scroll up button related, alerts frames, mouse hover, drag and drop and keystroke keywords.
6	**Installation of Selenium:** Setting up Selenium RC and Selenium Web Driver.
7	**Designing Testcases:** Test Case design and Conversion of Mapping and Templates using selenium tool and Manual test cases mapping with Selenium test cases.
8	**Using Selenium IDE:** Develop a test suite containing minimum 4 test cases.
9	**Test Suite:** Conduct a test suite for any two web sites
10	**Test Scripts:** Develop and test a program to login a specific web page using selenium test scripts
11	**Test Scripts:** Develop and test a program to provide total number of objects present available on the page using selenium test scripts
12	**Practical Exercise and Wrap-Up:** Build Test suit with suitable application and complete end to end automation process, Discussion on Best Practices and Q&A

Course outcomes (Course Skill Set):
On completion of the course students will be able to:
1) Demonstrate Katalon Studio and Selenium architecture and key features of the Katalon Studio and Selenium automation tool.
2) Develop test scenarios that can be run automatically.
3) Develop test cases and modules in the automation tool.
4) Use selenium to build test Suits and run tests in different browsers.

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 out of 50) and for the SEE minimum passing mark is 35% of the maximum marks (18 out of 50 marks). A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course if the student secures a minimum of 40% (40 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together.

Continuous Internal Evaluation (CIE):

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

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

- Each experiment is to be evaluated for conduction with an observation sheet and record write-up. Rubrics for the evaluation of the journal/write-up for hardware/software experiments are designed by the faculty who is handling the laboratory session and are made known to students at the beginning of the practical session.
- Record should contain all the specified experiments in the syllabus and each experiment write-up will be evaluated for 10 marks.
- Total marks scored by the students are scaled down to **30 marks** (60% of maximum marks).
- Weightage to be given for neatness and submission of record/write-up on time.
- Department shall conduct a test of 100 marks after the completion of all the experiments listed in the syllabus.
- In a test, test write-up, conduction of experiment, acceptable result, and procedural knowledge will carry a weightage of 60% and the rest 40% for viva-voce.
- The suitable rubrics can be designed to evaluate each student's performance and learning ability.
- The marks scored shall be scaled down to **20 marks** (40% of the maximum marks). The Sum of scaled-down marks scored in the report write-up/journal and marks of a test is the total CIE marks scored by the student.

Semester End Evaluation (SEE):

- SEE marks for the practical course are 50 Marks.
- SEE shall be conducted jointly by the two examiners of the same institute, examiners are appointed by the Head of the Institute.
- The examination schedule and names of examiners are informed to the university before the conduction of the examination. These practical examinations are to be conducted between the schedule mentioned in the academic calendar of the University.
- All laboratory experiments are to be included for practical examination.
- (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 by examiners.
- Students can pick one question (experiment) from the questions lot prepared by the examiners jointly.
- Evaluation of test write-up/ conduction procedure and result/viva will be conducted jointly by examiners.
- General rubrics suggested for SEE are mentioned here, writeup-20%, Conduction procedure and 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 by the examiners)
- Change of experiment is allowed only once and 15% of Marks allotted to the procedure part are to be made zero.
- The minimum duration of SEE is 02 hours