



ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ

("ವಿ ಟಿ ಯು ಅಧಿನಿಯಮ 1994"ರ ಅಡಿಯಲ್ಲಿ ಕರ್ನಾಟಕ ಸರ್ಕಾರದಿಂದ ಸ್ಥಾಪಿತವಾದ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾಲಯ)

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

(State University of Government of Karnataka Established as per the VTU Act, 1994)

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

REF: VTU/BGM/BOS/PG Scheme 2022/2024-25/ 774

Date: 21 MAY 2024

NOTIFICATION

Sir,

Subject: The 2022 scheme's 4th Semester AEC's SEE Details regarding...

Reference: VTU/BGM/BOS/AEC-SEE Details/AY2023-24/6884, Dated:
26.03.2024.

VTU/BGM/.../2024-25/601, Dated: 11.05.2024

Annexure I and II, which are attached, include information about the **fourth-semester** Ability Enhancement Courses' SEE (Semester End Examinations) details for the 2022 Scheme.

This notice serves as an official notice to all principals of engineering colleges under the purview of the university, to instruct all teachers concerned to strictly adhere to the course type and SEE details as listed in Annexure I and II.

Please take note that principals have until May 23, 2024, to email the undersigned a scanned copy of the notification that has been signed by every teacher concerned.

Encl: Annexure-I and II

Sd/-
REGISTRAR

To,

- 1. The Principals of Affiliated, Constituent Engineering Colleges under the ambit of the university**
- 2. The Chairpersons/Program coordinators of the University departments at Kalaburgi, Belagavi, Mysuru, and Bengaluru**
- 3. The Director, ITI SMU VTU Belagavi**

Copy to.

1. To the Hon'ble Vice-Chancellor through the secretary to VC, VTU Belagavi for information
2. The Registrar(Evaluation) VTU Belagavi for information and needful
3. The Special Officer(QPDS) for information and needful
4. The Director, ITI SMU, VTU Belagavi for information and arrange for uploading the circular on the VTU web portal
5. The Special Officer Academic Section VTU Belagavi
6. Office Copy

R. S. Rangaswamy
21/05/24
REGISTRAR
R.

2022 SCHEME
Ability Enhancement Course / Skill Enhancement Course 2022 SCHEME

4th SEM

| S.NO. | Subject Code in Scheme | Subject Code in Syllabus | To be read as | Subject Title | SEE Options | SEE Duration | REMARKS |
|-------|------------------------|--------------------------|---------------|---|-------------|--------------|---------|
| | | | | Civil Engineering | | | |
| 1 | BVCL456A | BCVL456A | BVCL456A | Building Information Modelling In Civil Engineering - Basic | Practical | 2 Hour | |
| 2 | BCV456B | BCVL456B | BCVL456B | GIS with Quantum GIS(Lab) | Practical | 2 Hour | |
| 3 | BCV456C | BCV456C | | Electronic Waste Management - Issues and Challenges | MCQ | 1 Hour | |
| 4 | BCV456D | BCV456D | | Technical Writing Skills | MCQ | 1 Hour | |
| | | | | Mining Engineering | | | |
| 1 | BMIN456A | BMIN456A | | Finance for Professionals | MCQ | 1 Hour | |
| 2 | BMIN456B | BMIN456B | BMIN456B | Programming in Python | Practical | 2 Hours | |
| 3 | BMIN456C | BMIN456C | BMIN456C | Quantum GIS | Practical | 2 Hours | |
| 4 | BMIN456D | BMIN456D | | Technical Writing Skills | MCQ | 1 Hour | |
| | | | | Computer Science & Engineering | | | |
| 1 | BCS456A | BCS456A | | Green IT and Sustainability | MCQ | 1 Hour | |
| 2 | BCS456B | BCS456B | | Capacity Planning for IT | MCQ | 1 Hour | |
| 3 | BCS456C | BCS456C | | UI/UX | MCQ | 1 Hour | |
| 4 | BCSL456D | BCSL456D | | Technical writing using LATEX | Practical | 2 Hour | |
| | | | | Computer Engineering | | | |
| 1 | BCS456A | BCS456A | | Green IT and Sustainability | MCQ | 1 Hour | |
| 2 | BCS456B | BCS456B | | Capacity Planning for IT | MCQ | 1 Hour | |
| 3 | BDSL456C | BDSL456C | | MERN (0:0:2) | Practical | 2 Hours | |
| 4 | BCSL456D | BCSL456D | | Technical writing using LATEX (0:0:2) | Practical | 2 Hours | |
| | | | | Artificial Intelligence & Data Science | | | |
| 1 | BDSL456A | BDSL456A | | Scala (0:0:2) | Practical | 2 Hours | |
| 2 | BDSL456B | BDSL456B | | MangoDB (0:0:2) | Practical | 2 Hours | |
| 3 | BDSL456C | BDSL456C | | MERN (0:0:2) | Practical | 2 Hours | |
| 4 | BDSL456D | BDSL456D | BDSL456D | Julia (0:0:2) | Practical | 2 Hours | |
| | | | | Artificial Intelligence and Machine Learning | | | |
| 1 | BDSL456A | BDSL456A | | Scala (0:0:2) | Practical | 2 Hours | |
| 2 | BDSL456B | BDSL456B | | Mango DB (0:0:2) | Practical | 2 Hours | |
| 3 | BDSL456C | BDSL456C | | MERN (0:0:2) | Practical | 2 Hours | |
| 4 | BDSL456D | BDSL456D | BDSL456D | Julia (0:0:2) | Practical | 2 Hours | |



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| | | | | | Biotechnology | | | | |
| 1 | BBT456A | BBT456A | | | Hydroponics, Aquaponics and Aeroponics | MCQ | 1 Hour | | |
| 2 | BBTL456B | BBTL456B | | | Water Analysis Lab | Practical | 2 Hours | | |
| 3 | BBTL456C | BBTL456C | | | Extraction methods and herbal products lab | Practical | 2 Hours | | |
| 4 | BBT456D | BBT456D | | | Biopesticides and Biofertilizers | MCQ | 1 Hour | | |
| | | | | | Computer & Communication Engineering | | | | |
| 1 | BCS456A | BCS456A | | | Green IT and Sustainability | MCQ | 1 Hour | | |
| 2 | BCS456B | BCS456B | | | Capacity Planning for IT | MCQ | 1 Hour | | |
| 3 | BCML456C | BCML456C | | | System Programming | Practical | 2 Hours | | |
| 4 | BCSL456D | BCSL456D | | | Technical writing using LATEX | Practical | 2 Hours | | |
| | | | | | Computer Science & Business System | | | | |
| 1 | BCS456A | BCS456A | | | Green IT and Sustainability | MCQ | 1 Hour | | |
| 2 | BCS456B | BCS456B | | | Capacity Planning for IT | MCQ | 1 Hour | | |
| 3 | BCS456C | BCS456C | | | UI/UX | MCQ | 1 Hour | | |
| 4 | BCB456D | BCB456D | | | Business Communication | MCQ | 1 Hour | | |
| | | | | | Computer Science & Design | | | | |
| 1 | BCGL456A | BCGL456A | | | JavaScript and JQuery: Interactive Front-End Web Development | Practical | 2 Hours | | |
| 2 | BCGL456B | BCGL456B | | | Responsive Web design with Bootstrap 5.0 | Practical | 2 Hours | | |
| 3 | BCGL456C | BCGL456C | | | Mobile First Web design with W3 CSS | Practical | 2 Hours | | |
| 4 | BCSL456D | BCSL456D | | | Technical writing using LATEX | Practical | 2 Hours | | |
| | | | | | Computer Science & Engineering (IoT) | | | | |
| 1 | BCO456A | BCO456A | | | Data Analytics for IOT | MCQ | 1 Hour | | |
| 2 | BCS456B | BCS456B | | | Capacity Planning for IT | MCQ | 1 Hour | | |
| 3 | BDSL456C | BDSL456C | | | MERN | Practical | 2 Hours | | |
| 4 | BCS456D | BCSL456D | | | Technical writing using LATEX | Practical | 2 Hours | | |
| | | | | | CSE (Artificial Intelligence & Machine Learning) | | | | |
| 1 | BDSL456A | BDSL456A | | | Scala (0:0:2) | Practical | 2 Hours | | |
| 2 | BDSL456B | BDSL456B | | | MangoDB (0:0:2) | Practical | 2 Hours | | |
| 3 | BDSL456C | BDSL456C | | | MERN (0:0:2) | Practical | 2 Hours | | |
| 4 | BCSL456D | BCSL456D | | | Technical writing using LATEX (0:0:2) | Practical | 2 Hours | | |
| | | | | | CSE (Artificial Intelligence) | | | | |
| 1 | BDSL456A | BDSL456A | | | Scala (0:0:2) | Practical | 2 Hours | | |
| 2 | BDSL456B | BDSL456B | | | MangoDB (0:0:2) | Practical | 2 Hours | | |
| 3 | BDSL456C | BDSL456C | | | MERN (0:0:2) | Practical | 2 Hours | | |
| 4 | BCSL456D | BCSL456D | | | Technical writing using LATEX (0:0:2) | Practical | 2 Hours | | |





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| | | | | CSE (Cyber Security) | | | | |
| | | | | Workplace security practices | | | | MCQ 1 Hour |
| 1 | BCY456A | BCY456A | | Managed Detection and Resolution (MDR) in Cyber Security | | | | MCQ 1 Hour |
| 2 | BCY456B | BCY456B | | Problem management in Cyber Security | | | | MCQ 1 Hour |
| 3 | BCY456C | BCY456C | | Technical writing using LATEX (0:0:2) | | | | Practical 2 Hours |
| 4 | BCSL456D | BCSL456D | | | | | | |
| | | | | CSE (Data Science) | | | | |
| | | | | Scala (0:0:2) | | | | Practical 2 Hours |
| 1 | BDSL456A | BDSL456A | | MangoDB (0:0:2) | | | | Practical 2 Hours |
| 2 | BDSL456B | BDSL456B | | MERN (0:0:2) | | | | Practical 2 Hours |
| 3 | BDSL456C | BDSL456C | | Julia (0:0:2) | | | | Practical 2 Hours |
| 4 | BDSL456D | BDSL456D | | | | | | |
| | | | | CSE (IoT & Cyber Security including Block Chain Technology) | | | | |
| | | | | Data Analytics for IOT | | | | MCQ 1 Hour |
| 1 | BCO456A | BCO456A | | Embedded C | | | | Practical 2 Hours |
| 2 | BICL456B | BICL456B | | Problem Management in Cyber Security | | | | MCQ 1 Hour |
| 3 | BCY456C | BCY456C | | Technical writing using LATEX (0:0:2) | | | | Practical 2 Hours |
| 4 | BCSL456D | BCSL456D | | | | | | |
| | | | | Data Science | | | | |
| | | | | Scala (0:0:2) | | | | Practical 2 Hours |
| 1 | BDSL456A | BDSL456A | | MangoDB (0:0:2) | | | | Practical 2 Hours |
| 2 | BDSL456B | BDSL456B | | MERN (0:0:2) | | | | Practical 2 Hours |
| 3 | BDSL456C | BDSL456C | | Julia (0:0:2) | | | | Practical 2 Hours |
| 4 | BDSL456D | BDSL456D | | | | | | |
| | | | | Information Science & Engineering | | | | |
| | | | | Green IT and Sustainability | | | | MCQ 1 Hour |
| 1 | BCS456A | BCS456A | | Capacity Planning for IT | | | | MCQ 1 Hour |
| 2 | BCS456B | BCS456B | | UI/UX | | | | MCQ 1 Hour |
| 3 | BCS456C | BCS456C | | Technical Writing using LaTeX | | | | Practical 2 Hours |
| 4 | BCSL456D | BCSL456D | | | | | | |
| | | | | Computer Science | | | | |
| | | | | Green IT and Sustainability | | | | MCQ 1 Hour |
| 1 | BCS456A | BCS456A | | Capacity Planning for IT | | | | MCQ 1 Hour |
| 2 | BCS456B | BCS456B | | UI/UX | | | | MCQ 1 Hour |
| 3 | BCS456C | BCS456C | | Technical writing using LATEX (0:0:2) | | | | Practical 2 Hours |
| 4 | BCSL456D | BCSL456D | | | | | | |
| | | | | Electronics & Communication Engg | | | | |
| | | | | Microcontrollers Lab | | | | Practical 2 Hours |
| 1 | BEC456A | BEC456A | | | | | | |

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|--|----------|----------|----------|---|-----------|---------|
| 2 | BEC456B | | | Programmable Logic Controllers | MCQ | 1 Hopur |
| 3 | BEC456C | BECL456C | | Octave Programming | Practical | 2 Hours |
| 4 | BEC456D | BECL456D | | Data Structures Lab Using C | Practical | 2 Hours |
| Biomedical Engineering | | | | | | |
| 1 | BBM456A | BBM456A | | Programming in MATLAB | Practical | 2 Hours |
| 2 | BBM456B | BBM456B | | Bioinstrumentation Techniques | MCQ | 1 Hours |
| 3 | BBM456C | BBM456C | | Signal Conditioning Lab using Pspice / MultiSIM | Practical | 2 Hours |
| 4 | BBM456D | BBM456D | | Python Programming for Instrumentation | Practical | 3 Hours |
| Electrical & Electronics Engineering | | | | | | |
| 1 | BEEL456A | BEE456A | | Basics of VHDL Lab | Practical | 2 Hours |
| 2 | BEEL456B | BEEL456B | | Sci Lab / MATLAB for Electrical and Electronic Measurements | Practical | 2 Hours |
| 3 | BEEL456C | BEEL456C | | PCB Design Laboratory | Practical | 2 Hours |
| 4 | BEEL456D | BEEL456D | | Aurdino & Rasberry PI Based Projects | Practical | 2 Hours |
| Electronics & Instrumentation Engineering | | | | | | |
| 1 | BEI456A | BEI456A | | Programming in MATLAB / SCILAB | Practical | 2 Hours |
| 2 | BEI456B | BEI456B | | Virtual Instrumentation using LabView | Practical | 2 Hours |
| 3 | BEI456C | BEI456C | | Python Programming for Instrumentation | Practical | 2 Hours |
| 4 | BEI456D | BEI456D | | Arduino UNO Programming | Practical | 2 Hours |
| Electronics & Telecommunication Engg | | | | | | |
| 1 | BEC456A | BECL456A | | Microcontrollers Lab | Practical | 2 Hours |
| 2 | BEC456B | BEC456B | | Programmable Logic Controllers (PLC) | MCQ | 1 Hopur |
| 3 | BEC456C | BECL456C | | Octave Programming | Practical | 2 Hours |
| 4 | BEC456D | BECL456D | | Data Structures Lab Using C | Practical | 2 Hours |
| Electronics Engg (VLSI Design and Technology) | | | | | | |
| 1 | BVL456A | BVL456A | BVLL456A | Microcontroller Lab | Practical | 2 Hours |
| 2 | BVL456B | BVL456B | | Programming Logic Controllers | MCQ | 1 Hour |
| 3 | BVL456C | BVL456C | BVLL456C | Octave Programming | Practical | 2 Hours |
| 4 | BVL456D | BVL456D | BVLL456D | Data Structure Lab using C | Practical | 2 Hours |
| Electronics and Communication (Advanced Communication Technology)(EA) | | | | | | |
| 1 | BEC456A | BECL456A | | Microcontrollers Lab | Practical | 2 Hours |
| 2 | BEC456B | | | Programmable Logic Controllers | MCQ | 1 Hopur |
| 3 | BEC456C | BECL456C | | Octave Programming | Practical | 2 Hours |
| 4 | BEC456D | BECL456D | | Data Structures Lab Using C | Practical | 2 Hours |

Title is missing in Syllabus



Same as ECE Syllabus

| | | Electronics and Computer Engineering | | | |
|---------------------------------|-----------------|---|--|-----------|---------|
| 1 | BUEL456A | BUEL456A | Software Tools and Technologies | Practical | 2 Hours |
| 2 | BUEL456B | BUEL456B | Electronic Circuit Application Lab | Practical | 2 Hours |
| 3 | BUEL456C | BUEL456C | Introduction to Raspberry Pi | Practical | 2 Hours |
| 4 | BUEL456D | BUEL456D | Octave /Scilab for Signals | Practical | 2 Hours |
| Aeronautical Engineering | | | | | |
| 1 | BAEL456A | BAEL456A | Fundamentals on Spreadsheet | Practical | 2 Hours |
| 2 | BAS456B | | DRONE Pilot Training | MCQ | 1 Hour |
| 3 | BAE456C | | Concept of Augmented Reality | MCQ | 1 Hour |
| 4 | BAE456D | BAEL456D | Introduction to programming with MATLAB and Python | Practical | 2 Hours |
| Aerospace Engineering | | | | | |
| 1 | BAS456A | BAS456A | Introduction to Programming in Matlab | Practical | 2 Hours |
| 2 | BAS456B/BAE456B | | DRONE Pilot Training | MCQ | 1 Hour |
| 3 | BAS456C | | High Temperature and Smart Materials | MCQ | 1 Hour |
| 4 | BAS456D | BAS456D | Engineering and Society | MCQ | 1 Hour |
| Agricultural Engineering | | | | | |
| 1 | BAG456A | BAG456A | Simulation and Analysis using Ansys workbench | Practical | 2 Hours |
| 2 | BAG456B | BAG456B | Economics for Engineers | MCQ | 1 Hour |
| 3 | BAG456C | BAG456C | Introduction to Data Analytics | Practical | 2 Hours |
| 4 | BAG456D | BAG456D | Human Engineering & Safety | MCQ | 1 Hour |
| Automation and Robotics | | | | | |
| 1 | | | Refer Robotics and Automation Syllabus | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| Automobile Engineering | | | | | |
| 1 | BAU456A | BAU456A | Theory and Applications of Sensors and Actuators | MCQ | 1 Hour |
| 2 | BAU456B | BAUL456B | MATLAB for Engineers (Lab) | Practical | 2 Hours |
| 3 | BAU456C | | Autonomous vehicles | MCQ | 1 Hour |
| 4 | BAU456D | BAU456D | Drive Cycles of Electric Vehicles | MCQ | 1 Hour |
| Chemical Engineering | | | | | |
| 1 | BCH456A | BCH456A | Data Analytics | MCQ | 1 Hours |

In Syllabus wrongly written as Theory (SEE-Practical)



in SEE MCQ wrongly typed

General Question paper
pattern
General Question paper
pattern

| | | | | | |
|--|----------|----------|---|-----------|---------|
| 2 | BCH456B | BCH456B | Entrepreneurship Development | Theory | 2 Hours |
| 3 | BCH456C | BCH456C | Basics of Accounting and Taxation | Theory | 2 Hours |
| 4 | BCH456D | BCH456D | Energy and Environmental Auditing | MCQ | 1 Hours |
| Industrial & Production Engineering | | | | | |
| 1 | BIP456A | BIP456A | Essentials of New Product Development | MCQ | 1 Hours |
| 2 | BIP456B | BIP456B | An overview of Quality Improvement Tools | MCQ | 1 Hours |
| 3 | BIP456C | BIP456C | Basics of Financial Management | MCQ | 1 Hours |
| 4 | BIPL456D | BIPL456D | Basics of MATLAB (Laboratory) | Practical | 2 hours |
| Marine Engineering | | | | | |
| 1 | BMR456A | BMR456A | Advanced Programming in Python (0-0-2-0) | Practical | 2 Hours |
| 2 | BMR456B | BMR456B | PLC and SCADA (1:0-0) | MCQ | 1 Hour |
| 3 | BMR456C | BMR456C | Maritime law (1-0-0-0) | MCQ | 1 Hour |
| 4 | BMR456D | BMR456D | Fundamentals of Virtual Reality (1-0-0-0) | MCQ | 1 Hour |
| Mechanical & Smart Manufacturing | | | | | |
| 1 | BMM456A | BMM456A | Quality Engineering | MCQ | 1 Hour |
| 2 | BMM456B | BMM456B | Mechanical Design Concepts | MCQ | 1 Hour |
| 3 | BMM456C | BMM456C | Special Manufacturing Processes | MCQ | 1 Hour |
| 4 | BMM456D | BMM456D | | | |
| Mechanical Engineering | | | | | |
| 1 | BME456A | BME456A | Introduction to AI & ML [0-0-2] | Practical | 2 Hours |
| 2 | BME456B | BME456B | Digital Marketing [0-2-0] | MCQ | 1 Hour |
| 3 | BME456C | BME456C | Introduction to Data Analytics [0-0-2] | Practical | 2 Hours |
| 4 | BME456D | BME456D | Introduction to Programming in C++ [0-0-2] | Practical | 2 Hours |
| Mechatronics | | | | | |
| 1 | BMT456A | BMT456A | Mechanism Design and Animation (0-0-2) | Practical | 2 Hours |
| 2 | BMT456B | BMT456B | 3-D Printing Technology (0-0-2) | Practical | 2 Hours |
| 3 | BMT456C | BMT456C | CNC programming and simulation (0-0-2) | Practical | 2 Hours |
| 4 | BMT456D | BMT456D | IoT (0-0-2) | Practical | 2 Hours |
| Robotics & Automation | | | | | |
| 1 | BRA456A | BRA456A | Introduction to AI and ML | MCQ | 1 Hour |
| 2 | BRA456B | BRA456B | Embedded C Basics | Practical | 2 Hours |
| 3 | BRA456C | BRA456C | Supervisory Control & Data Acquisition System (SCADA) | MCQ | 1 Hour |



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|---|----------|----------|----------|---|-----------|---------|
| 4 | BRA456D | BRA456D | BRAL456D | Introduction to Raspberry Pi Controllers | Practical | 2 Hours |
| | | | | Robotics and Artificial Intelligence | | |
| 1 | BR1456A | BR1456A | BR1456A | Spread Sheets for Engineers (0:0:2:0) | Practical | 2 Hour |
| 2 | BR1456B | BR1456B | BR1456B | Embedded C Basics (0:0:2:0) | Practical | 2 Hour |
| 3 | BR1456C | BR1456C | | Supervisory Control and Data Acquisition System (SCADA) (1:0:0:0) | MCQ | 1 Hour |
| 4 | BR1456D | BR1456D | BR1456D | Applications of Raspberry Pi Controllers (0:0:2:0) | Practical | 2 Hour |
| | | | | Silk Technology | | |
| 1 | BTX456A | BTX456A | | Processing of MMFs and Blends | Theory | 2 Hour |
| 2 | BTX456B | BTX456B | | Textured yarn Technology | Theory | 2 Hours |
| 3 | BTX456C | BTX456C | | Eco-friendly process of Textiles | Theory | 2 Hours |
| 4 | BTXL456D | BTXL456D | | Evaluation of textiles fibres using modern tools -lab | Practical | 2 hours |
| | | | | Textile Technology | | |
| 1 | BTX456A | BTX456A | | Processing of MMFs and Blends | Theory | 2 Hour |
| 2 | BTX456B | BTX456B | | Textured yarn Technology | Theory | 2 Hours |
| 3 | BTX456C | BTX456C | | Eco-friendly process of Textiles | Theory | 2 Hour |
| 4 | BTXL456D | BTXL456D | | Evaluation of textiles fibers using modern tools -lab | Practical | 2 hours |
| | | | | Smart Agritech | | |
| 1 | BSAL456A | BSAL456A | | Mastering MS - Office (MS Word, Excel, PPT, Outlook) | Practical | 2 Hours |
| 2 | BSAL456B | BSAL456B | | Animation in agriculture | Practical | 2 Hours |
| 3 | BSAL456C | BSAL456C | | Principles of Soil Science | Practical | 2 Hours |
| 4 | BSA456D | BSA456D | | Technical writing skills | MCQ | 1 Hour |

General question paper
Refer Textile Syllabus
General question paper

General question paper
General question paper
General question paper

