

K.S.INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
(Approved by A.I.C.T.E affiliated to VTU Belgaum)
 #14, Raghuvanahalli, kanakapura main road, Bangalore-560109

Programme: U.G. (ECE)

New facilities created during the last three years for strengthening the curriculum and/or meeting the POs:

ANNEXURE 6.2

S l N o	Na me of the Lab oratory	Facility Name	Details	Reasoning(s) for creating facility	Utili zati on	Areas in which students are expected to have enhanced learning	Projects done by students using facilities														
1	VLSI	MATLAB	Helps researchers and students to develop applications	Provides platform for Researchers and Students to work on Applications	Research scholars, UG students	Helps students to ease the application development															
		Projectors and WiFi	EPSON projectors and Internet facility with speed of 50 Mbps	Teaching Veracity	Research scholars, UG students	Better presentation and easy Understanding.															
		Arduino	Arduino is an open-source electronics platform based on easy-to-use hardware and software. It's intended for anyone making interactive projects.	Arduino Education is focused on creating the next generation of STEAM programs — integrating Science, Technology, Engineering, Arts and Math — while supporting the needs of teachers and students throughout the educational journey.	Research scholars, UG students	Arduino senses the environment by receiving inputs from many sensors, and affects its surroundings by controlling lights, motors, and other actuators.	Wireless notice board using Bluetooth HC-05 <table border="1" style="margin-top: 10px;"> <tr> <td>1KS20EC026</td> <td>Eshwar Biradar</td> </tr> <tr> <td>1KS20EC048</td> <td>Kiran Dev D</td> </tr> <tr> <td>1KS20EC052</td> <td>Kusuma VR</td> </tr> <tr> <td>1KS20EC055</td> <td>Mahesh Biradar</td> </tr> </table> IOT based automation for smart home <table border="1" style="margin-top: 10px;"> <tr> <td>1KS20EC032</td> <td>Harini k</td> </tr> <tr> <td>1KS20EC034</td> <td>Harshitha B L</td> </tr> <tr> <td>1KS20EC035</td> <td>Harshitha J</td> </tr> <tr> <td>1KS20EC036</td> <td>Harshitha N</td> </tr> </table>	1KS20EC026	Eshwar Biradar	1KS20EC048	Kiran Dev D	1KS20EC052	Kusuma VR	1KS20EC055	Mahesh Biradar	1KS20EC032	Harini k	1KS20EC034	Harshitha B L	1KS20EC035	Harshitha J
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		raspberry pi	Unlike Arduino, Raspberry Pi has its own operating system and thanks to that, it can carry out complex operations like robot control, monitoring weather and many others.	To learn programming skills, build hardware projects, do home automation, implement Kubernetes clusters and Edge computing, and even use them in industrial applications.	Research scholars, UG students	Students can control electronic components for physical computing and explore the Internet of Things (IoT).	Home Automation for disabled person using voice tag <table border="1"> <tr> <td>1KS20EC004</td> <td>Ajay B G</td> </tr> <tr> <td>1KS20EC006</td> <td>Akash M</td> </tr> <tr> <td>1KS20EC016</td> <td>Chaya.S</td> </tr> <tr> <td>1KS20EC009</td> <td>Bharat M</td> </tr> </table> IOT based automation for smart home <table border="1"> <tr> <td>1KS20EC032</td> <td>Harini k</td> </tr> <tr> <td>1KS20EC034</td> <td>Harshitha B L</td> </tr> <tr> <td>1KS20EC035</td> <td>Harshitha J</td> </tr> <tr> <td>1KS20EC036</td> <td>Harshitha N</td> </tr> </table>	1KS20EC004	Ajay B G	1KS20EC006	Akash M	1KS20EC016	Chaya.S	1KS20EC009	Bharat M	1KS20EC032	Harini k	1KS20EC034	Harshitha B L	1KS20EC035	Harshitha J	1KS20EC036	Harshitha N
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2	Advanced Communication Lab	LabView	Laboratory Virtual Instrument Engineering Workbench (LabVIEW) is a system-design platform and development environment for a visual programming language from National Instruments.	LabVIEW offers a graphical programming approach that helps to visualize every aspect of application, including hardware configuration, measurement of data, and debugging.	Research scholars, UG students	LabVIEW simplifies the design of distributed test, measurement, and control systems.	Secured Communication <table border="1"> <tr> <td>1KS20EC039</td> <td>Jamuna S G</td> </tr> <tr> <td>1KS20EC040</td> <td>Janhavi R</td> </tr> <tr> <td>1KS20EC056</td> <td>Manaswini K M</td> </tr> </table> Anti smuggling alarm system for trees in forest <table border="1"> <tr> <td>1KS20EC062</td> <td>NEHA N AIRANI</td> </tr> <tr> <td>1KS20EC080</td> <td>RAMYA T</td> </tr> <tr> <td>1KS20EC112</td> <td>VARSHA N</td> </tr> </table>	1KS20EC039	Jamuna S G	1KS20EC040	Janhavi R	1KS20EC056	Manaswini K M	1KS20EC062	NEHA N AIRANI	1KS20EC080	RAMYA T	1KS20EC112	VARSHA N				
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		Arduino	Arduino is an open-source electronics platform based on easy-to-use hardware and software. It's intended for anyone making interactive projects.	Arduino Education is focused on creating the next generation of STEAM programs — integrating Science, Technology, Engineering, Arts and Math — while supporting the needs of teachers and students throughout the educational journey.	Research scholars, UG students	Arduino senses the environment by receiving inputs from many sensors, and affects its surroundings by controlling lights, motors, and other actuators.	Wireless notice board using Bluetooth Arduino <table border="1"> <tr> <td>1KS20EC024</td> <td>Dhruva Kumar S</td> </tr> <tr> <td>1KS20EC028</td> <td>Gagan HC</td> </tr> <tr> <td>1KS20EC033</td> <td>Harshith AR</td> </tr> <tr> <td>1KS20EC041</td> <td>Jayanth H</td> </tr> </table> Distance based collision avoidance using Arduino UNO <table border="1"> <tr> <td>1KS20EC037</td> <td>Inchara P</td> </tr> <tr> <td>1KS20EC038</td> <td>Chaithanya J</td> </tr> <tr> <td>1KS20EC045</td> <td>Kavana G S</td> </tr> </table>	1KS20EC024	Dhruva Kumar S	1KS20EC028	Gagan HC	1KS20EC033	Harshith AR	1KS20EC041	Jayanth H	1KS20EC037	Inchara P	1KS20EC038	Chaithanya J	1KS20EC045	Kavana G S		
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		Cadence Software	Cadence is a leading EDA and System Design Enablement provider delivering tools, software, and IP which help to build products that connect the world.	To train students to design and test digital/analog circuits.	Research scholars	Cadence Software products primarily target SoC design engineers, and are used to move a design into packed silicon, with products for custom and analog design, digital design, mixed signal design, verification, and package/PCB design, as well as a broad selection of IP, and also hardware for emulation and FPGA prototyping	Density based on Traffic signal system <table border="1"> <tr> <td>1KS20EC053</td> <td>M.Archana</td> </tr> <tr> <td>1KS20EC014</td> <td>C.Sai srujitha</td> </tr> <tr> <td>1KS20EC047</td> <td>Keerthana B.S</td> </tr> </table>	1KS20EC053	M.Archana	1KS20EC014	C.Sai srujitha	1KS20EC047	Keerthana B.S
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	Proteus	Proteus is a Virtual System Modelling and circuit simulation application. The suite combines mixed mode SPICE circuit simulation, animated components and microprocessor models to facilitate co-simulation of complete microcontroller based designs.	Circuit simulation gives students a fast and fun practical learning tool. A software solution allows instructors to prepare and re-use virtual labs.	Research scholars, UG students	Proteus is used in colleges and Universities across the world for teaching electronics, embedded design and PCB layout	<p>Home Automation for disabled person using voice tag</p> <table border="1" data-bbox="1043 286 1461 470"> <tr> <td>1KS20EC004</td> <td>Ajay B G</td> </tr> <tr> <td>1KS20EC006</td> <td>Akash M</td> </tr> <tr> <td>1KS20EC016</td> <td>Chaya.S</td> </tr> <tr> <td>1KS20EC009</td> <td>Bharat M</td> </tr> </table>	1KS20EC004	Ajay B G	1KS20EC006	Akash M	1KS20EC016	Chaya.S	1KS20EC009	Bharat M				
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4	R&D	Spectrum Analyzer	1Ghz Spectrum Analyzer with tracking generator	Facility for Research work in RF applications and Academic Projects	Research scholars, UG students	Research scholars, UG and PG students in Communication System																	
		Ardui no	Research scholars, UG students Education is focused on creating the next generation of STEAM programs — integrating Science, Technology, Engineering, Arts and Math — while supporting the needs of teachers and students	Arduino senses the environment by receiving inputs from many sensors, and affects its surroundings by controlling lights, motors, and other actuators.	Arduino	Arduino is an open-source electronics platform based on easy-to-use hardware and software. It's intended for anyone making interactive projects.	<p>Line follower Robot with obstacle avoidance</p> <table border="1"> <tr> <td>1KS20EC084</td> <td>Sachin N M</td> </tr> <tr> <td>1KS20EC087</td> <td>Sandeep YH</td> </tr> <tr> <td>1KS20EC109</td> <td>Ujjwal naidu</td> </tr> <tr> <td>1KS20EC114</td> <td>Vinay SP</td> </tr> </table>	1KS20EC084	Sachin N M	1KS20EC087	Sandeep YH	1KS20EC109	Ujjwal naidu	1KS20EC114	Vinay SP								
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		MATLAB 6.1	Helps researchers and students to develop applications	MATLAB provides a high-level language and development tools that let you quickly develop and analyze algorithms and applications. MATLAB provides a range of numerical computation methods for analyzing data, developing algorithms, and creating models.	Research scholars, UG students	Helps students to ease the application development	Color segregator using 4axis Robotic Arm <table border="1"> <tr> <td>1KS20EC105</td> <td>Tarun prasanna</td> </tr> <tr> <td>1KS20EC103</td> <td>Sumukha S</td> </tr> <tr> <td>KS20EC106</td> <td>Tejas N reddy</td> </tr> <tr> <td>1KS20EC073</td> <td>Rahul krishnan N</td> </tr> </table>	1KS20EC105	Tarun prasanna	1KS20EC103	Sumukha S	KS20EC106	Tejas N reddy	1KS20EC073	Rahul krishnan N
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			Workbench (LabVIEW) is a system-design platform and development environment for a visual programming language from National Instruments.	approach that helps to visualize every aspect of application, including hardware configuration , measurement of data, and debugging.	UG students	distributed test, measurement, and control systems.	
5	Common to all Labs	Projectors and WiFi	EPSON projectors and Internet facility with speed of 50 Mbps	Teaching Veracity	Research scholars, UG students	Better presentation and easy Understanding	
		Department Library	Program Specific text books and reference books, previous year question papers, Career guidance	To provide additional support for students	Research scholars, UG students	Electronics and communication Engineering books	
6	ED & I Lab	Arduino	Arduino is an open-source electronics platform based on easy-to-use hardware and software. It's intended for anyone making interactive projects.	Arduino Education is focused on creating the next generation of STEAM programs — integrating Science, Technology, Engineering, Arts and Math — while supporting the needs of teachers and students throughout the educational journey.	Based on requirement	Some of the areas are as mentioned below: Drones, Line follower Robot, Internet of Things(IoT), Security devices for home, Automatic Opening Dustbin with Ultrasonic Sensor. To measure Temperature. Mini Stereo Radio with RDA5807	

	Proteus	Proteus is a Virtual System Modelling and circuit simulation application. The suite combines mixed mode SPICE circuit simulation, animated components and microprocessor models to facilitate co-simulation of complete microcontroller based designs.	Circuit simulation gives students a fast and fun practical learning tool. A software solution allows instructors to prepare and re-use virtual labs.	Based on requirement	<p>Some of the areas are as mentioned below:</p> <p>oscilloscope, logic analyzer, frequency meter, SPI and I2C debugger, generator, AC and DC voltage and ammeter</p> <p>schematic layout, PCB layout, circuit simulation and other features</p> <p>microcontroller</p>	<p>Arduino based Fire Fighting Robot</p> <table border="1" data-bbox="1045 246 1476 425"> <tr> <td>1KS20EC023</td> <td>Dhamini.J</td> </tr> <tr> <td>1KS20EC025</td> <td>Divya.N</td> </tr> <tr> <td>1KS21EC401</td> <td>Sudeep.V.Reddy</td> </tr> <tr> <td>1KS20EC010</td> <td>Bhavitha.B</td> </tr> </table>	1KS20EC023	Dhamini.J	1KS20EC025	Divya.N	1KS21EC401	Sudeep.V.Reddy	1KS20EC010	Bhavitha.B
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	Masm /Tasm	Turbo Assembler (TASM) is a computer assembler (software for program development) developed by Borland which runs on and produces code for 16- or 32-bit x86 DOS or Microsoft Windows .	To train students to write the code in Assembly level and high level	Based on requirement	Some of the areas are as mentioned below: Interfacing of Keyboard, interfacing with (keypad, Dc motor, Stepper motor, Seven segment LED display, LCD).									
	Pspice	Pspice is a powerful general purpose analog circuit simulator that is used to verify circuit designs and to predict the circuit behavior. This is of particular importance for integrated circuits	open-source analog electronic circuit simulator . It is a program used in integrated circuit and board-level design	Based on requirement	Some of the areas are as mentioned below: Simulation of circuits, calculation of electric characteristics, graphing purpose measurement, and control systems.	Electric power Generation using piezo electric transducers <table border="1" data-bbox="1043 864 1474 1093"> <tr> <td>1KS20EC070</td> <td>Priyanka K</td> </tr> <tr> <td>1KS20EC083</td> <td>S Arun kumar</td> </tr> <tr> <td>1KS20EC085</td> <td>Sadhana srinivas</td> </tr> <tr> <td>1KS20EC092</td> <td>Shakti Anbazhagan</td> </tr> </table>	1KS20EC070	Priyanka K	1KS20EC083	S Arun kumar	1KS20EC085	Sadhana srinivas	1KS20EC092	Shakti Anbazhagan
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	Multisim	Multisim is an electronic schematic capture and simulation program which is part of a suite of circuit design programs. Multisim is widely used in academia and industry for circuits education, electronic schematic design and	Multisim software provides SPICE simulation, analysis, and printed circuit board (PCB) tools to help you quickly iterate through designs and improve prototype performance. Move from schematic to layout seamlessly to	Based on requirement	Some of the areas are as mentioned below: Simulation of circuits, aerospace and national research applications including avionics equipment for data acquisition, communication applications, and the									

			SPICE simulation.	save time and reduce prototype iterations.		design of electronics for defense systems.																	
		Intel Galileo	Galileo is a microcontroller board based on the Intel® Quark SoC X1000 Application Processor, a 32-bit Intel Pentium-class system on a chip	Intel Galileo is the first Arduino Certified board that provides a mini PCI Express (mPCIe) slot. This allows you to connect standard mPCIe modules like Wi-Fi, Bluetooth, and SIM card adapters for cell phones. Synchronize data between modules using the boards-integrated Real Time Clock	Based on requirement	Some of the areas are as mentioned below: Drones, Line follower Robot, Internet of Things(IoT), Security devices for home, Automatic Opening Dustbin with Ultrasonic Sensor. To measure Temperature.	Mobile Jammer circuit <table border="1"> <tr> <td>1KS20EC063</td> <td>Vasanth kumar</td> </tr> <tr> <td>1KS20EC067</td> <td>Praveen</td> </tr> <tr> <td>1KS20EC064</td> <td>Pavan C</td> </tr> <tr> <td>1KS20EC107</td> <td>Thummala Girish</td> </tr> </table>	1KS20EC063	Vasanth kumar	1KS20EC067	Praveen	1KS20EC064	Pavan C	1KS20EC107	Thummala Girish								
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1KS21EC401	Sudeep.V.Reddy																						
1KS20EC010	Bhavitha.B																						

	Proteus	<p>Proteus is a Virtual System Modelling and circuit simulation application. The suite combines mixed mode SPICE circuit simulation, animated components and microprocessor models to facilitate co-simulation of complete microcontroller based designs.</p>	<p>Circuit simulation gives students a fast and fun practical learning tool. A software solution allows instructors to prepare and re-use virtual labs.</p>	<p>Based on requirement</p>	<p>Some of the areas are as mentioned below: oscilloscope , logic analyzer, frequency meter, SPI and I2C debugger, generator, AC and DC voltage and ammeter schematic layout, PCB layout, circuit simulation and other features microcontroller</p>	
	LabView	<p>Laboratory Virtual Instrument Engineering Workbench (LabVIEW) is a system-design platform and development environment for a visual programming language from National Instruments.</p>	<p>LabVIEW offers a graphical programming approach that helps to visualize every aspect of application, including hardware configuration , measurement of data, and debugging.</p>	<p>Based on requirement</p>	<p>Some of the areas are as mentioned below: <u>Automated Manufacturing test</u> of a component /sub-system/system. <u>Automated Product design validation</u> of a component /sub-system/system. <u>Control and/or monitoring</u> of a machine/piece of</p>	

					industrial equipment /process. <u>Condition monitoring</u> of a machine/ piece of industrial equipment.									
	Masm /Tasm	Turbo Assembler (TASM) is a computer assembler (software for program development) developed by Borland which runs on and produces code for 16- or 32-bit x86 DOS or Microsoft Windows .	To train students to write the code in Assembly level and high level	Based on requirement	Some of the areas are as mentioned below: Interfacing of Keyboard, interfacing with (keypad, Dc motor, Stepper motor, Seven segment LED display, LCD).									
	Pspice	Pspice is a powerful general purpose analog circuit simulator that is used to verify circuit designs and to predict the circuit behavior. This is of particular importance for integrated circuits	<u>open-source analog electronic circuit simulator</u> . It is a program used in <u>integrated circuit</u> and board-level design	Based on requirement	Some of the areas are as mentioned below: Simulation of circuits, calculation of electric characteristics, graphing purpose measurement, and control systems.	Automatic plant watering system <table border="1"> <tr> <td>1KS20EC091</td> <td>sanjana t gadikar</td> </tr> <tr> <td>1KS20EC089</td> <td>Sanjana g</td> </tr> <tr> <td>1KS20EC102</td> <td>Sumana N</td> </tr> <tr> <td>1KS20EC110</td> <td>Vaishnavi A</td> </tr> </table>	1KS20EC091	sanjana t gadikar	1KS20EC089	Sanjana g	1KS20EC102	Sumana N	1KS20EC110	Vaishnavi A
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1KS20EC110	Vaishnavi A													
	Multisim	Multisim is an electronic schematic capture and simulation program which is part of a suite of circuit	Multisim software provides SPICE simulation, analysis, and printed circuit board (PCB) tools to help you	Based on requirement	Some of the areas are as mentioned below: Simulation of circuits, aerospace and national	Mobile Jammer circuit <table border="1"> <tr> <td>1KS20EC063</td> <td>Vasanth kumar</td> </tr> <tr> <td>1KS20EC067</td> <td>Praveen</td> </tr> <tr> <td>1KS20EC064</td> <td>Pavan C</td> </tr> <tr> <td>1KS20EC107</td> <td>Thummala Girish</td> </tr> </table>	1KS20EC063	Vasanth kumar	1KS20EC067	Praveen	1KS20EC064	Pavan C	1KS20EC107	Thummala Girish
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			design programs. Multisim is widely used in academia and industry for circuits education, electronic schematic design and SPICE simulation.	quickly iterate through designs and improve prototype performance. Move from schematic to layout seamlessly to save time and reduce prototype iterations.		research applications including avionics equipment for data acquisition, communication applications, and the design of electronics for defense systems.							
		Intel Galileo	Galileo is a microcontroller board based on the Intel® Quark SoC X1000 Application Processor, a 32-bit Intel Pentium-class system on a chip	Intel Galileo is the first Arduino Certified board that provides a mini PCI Express (mPCIe) slot. This allows you to connect standard mPCIe modules like Wi-Fi, Bluetooth, and SIM card adapters for cell phones. Synchronize data between modules using the boards-integrated Real Time Clock	Based on requirement	<p>Some of the areas are as mentioned below: Drones, Line follower Robot, Internet of Things(IoT), Security devices for home, Automatic Opening Dustbin with Ultrasonic Sensor. To measure Temperature.</p>	<p>Bluetooth control Robot using smart phone</p> <table border="1"> <tr> <td>1KS20EC015</td> <td>C.Umadevi</td> </tr> <tr> <td>1KS20EC050</td> <td>K.Prathima</td> </tr> <tr> <td>1KS19EC026</td> <td>Eram Fathima</td> </tr> </table>	1KS20EC015	C.Umadevi	1KS20EC050	K.Prathima	1KS19EC026	Eram Fathima
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