

**SECOND YEAR ELECTRONICS AND COMPUTER ENGINEERING PROGRAM**  
**PROPOSED SCHEME OF INSTRUCTION AND EXAMINATION, REVISED COURSE (2019-2020) Implemented from 2022-23**  
**Semester III**

Course Code	Nomenclature of the Course	Scheme of Instruction			Scheme of Examination						
		Hrs./Week			Duration (Hrs.)	Marks					Credits
		L	T	P#		Th	IA	TW**	P	Total	
ECOMP310	Mathematics-III	3	1	--	3	100	25	25	--	150	4
ECOMP320	Network Analysis and Synthesis	3	1	--	3	100	25	25	--	150	4
ECOMP330	Electronic Devices and Circuits	3	1	--	3	100	25	25	--	150	4
ECOMP340	Digital Electronics	3	1	--	3	100	25	25	--	150	4
ECOMP350	Data Structures and Algorithms using C++	3	--	--	3	100	25	--	--	125	3
ECOMP360	Analog and Digital Electronics Lab	--	--	2	--	--	--	25	25	50	1
ECOMP370	Data Structures and Algorithms using C++ Lab	--	--	2	--	--	--	25	25	50	1
HM012	Technical Writing and Professional Communication	1	1	--	--	--	--	75	--	75	2
AC390	Mathematics -I and II (Bridge Course*)	2	--	--				--	--	--	--

	<b>TOTAL</b>	<b>18</b>	<b>5</b>	<b>4</b>		<b>500</b>	<b>125</b>	<b>225</b>	<b>50</b>	<b>900</b>	<b>23</b>
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**L-Lecture T-Tutorial P-Practical Th-Theory TW-Term Work IA-Internal Assessment**  
**\*Applicable to direct second year /lateral entry students. \*\*Term Work marks are to be awarded through continuous evaluation**

# A candidate is considered to have successfully fulfilled the requirement of a semester, provided he/ she submits to the department a certified journal reporting the experiments conducted during the semester.

**SECOND YEAR ELECTRONICS AND COMPUTER ENGINEERING PROGRAM PROPOSED SCHEME OF INSTRUCTION AND EXAMINATION, REVISED COURSE (2019-2020)**  
**Semester IV**

Course Code	Nomenclature of the Course	Scheme of Instruction			Scheme of Examination						
		L	T	P#	Duration (Hrs.)	Marks					Credits
						Th	IA	TW**	P	Total	
ECOMP410	Mathematics IV	3	1	--	3	100	25	25	--	150	4
ECOMP420	Computer Organization and Architecture	3	1	--	3	100	25	25	--	150	4
ECOMP430	Analog Circuits Design	3	1	--	3	100	25	25	--	150	4
ECOMP440	Database Management Systems	3	--	--	3	100	25	--	--	125	3
ECOMP450	Java Programming	3	--	--	3	100	25	--	--	125	3
ECOMP460	Java&DBMS Lab	--	--	4	--	--	--	25	50	75	2
ECOMP470	Analog Circuits Design Lab	--	--	2	--	--	--	25	25	50	1
HM013	Business Economics and Management	3	--	--	3	100	25	--	--	125	3
	<b>TOTAL</b>	<b>18</b>	<b>3</b>	<b>4</b>	<b>--</b>	<b>600</b>	<b>150</b>	<b>125</b>	<b>75</b>	<b>950</b>	<b>24</b>

**L-Lecture T-Tutorial P-Practical Th-Theory TW-Term Work IA-Internal Assessment**

**\*\*Term Work marks are to be awarded through continuous evaluation**

# A candidate is considered to have successfully fulfilled the requirement of a semester, provided he/ she submits to the department a certified journal reporting the experiments conducted during the semester.

**THIRD YEAR ELECTRONICS AND COMPUTER ENGINEERING PROGRAM PROPOSED SCHEME OF INSTRUCTION AND EXAMINATION, REVISED COURSE (2019-2020) Semester V**

Course Code	Nomenclature of the Course	Scheme of Instruction			Scheme of Examination						
		Hrs./Week			Duration (Hrs.)	Marks					Credits
		L	T	P#		Th	IA	TW**	P	Total	
ECOMP510	Microcontrollers and Interfacing	3	1	--	3	100	25	25	--	150	4
ECOMP520	Operating System	3	1	--	3	100	25	25	--	150	4
ECOMP531	Computer Oriented Numerical Techniques	3	--	--	3	100	25	--	--	125	3
ECOMP532	Software Engineering										
ECOMP533	Soft Computing										
ECOMP534	Design and Analysis of Algorithms										
ECOMP535	Computer Graphics										
ECOMP541	Control System Engineering	3	--	--	3	100	25	--	--	125	3
ECOMP542	Power Electronics										
ECOMP543	Digital Signal Processing										

ECOMP544	Principles of Communication Engineering										
ECOMP545	Consumer Electronics										
ECOMP550	Web Technology Lab	--	--	2	--	--	--	25	25	50	1
ECOMP560	Microcontrollers and Interfacing Lab	--	--	2	--	--	--	25	25	50	1
*	Open Elective	3	--	--	3	100	25	--	--	125	3
HM009	Ethics and Entrepreneurship	3	--	--	3	100	25	--	--	125	3
	<b>TOTAL</b>	<b>18</b>	<b>2</b>	<b>4</b>	<b>--</b>	<b>600</b>	<b>150</b>	<b>100</b>	<b>50</b>	<b>900</b>	<b>22</b>

L-Lecture T-Tutorial P-Practical Th-Theory TW-Term Work IA-Internal Assessment

**\*\*Term Work marks are to be awarded through continuous evaluation**

\* Students may enter the subject code of the open elective selected from the courses of other branch of Engineering.

# A candidate is considered to have successfully fulfilled the requirement of a semester, provided he/ she submits to the department a certified journal reporting the experiments conducted during the semester.

**THIRD YEAR ELECTRONICS AND COMPUTER ENGINEERING PROGRAM PROPOSED SCHEME OF INSTRUCTION AND EXAMINATION, REVISED COURSE (2019-2020)  
Semester VI**

Course Code	Nomenclature of the Course	Scheme of Instruction			Scheme of Examination						
		Hrs./Week			Duration (Hrs.)	Marks					Credits
		L	T	P		Th	IA	TW**	P	Total	
ECOMP610	Fundamentals of VLSI Design	3	1	--	3	100	25	25	--	150	4
ECOMP620	Computer Networks	3	1	--	3	100	25	25	--	150	4

ECOMP631	Artificial Intelligence	3	--	--	3	100	25	--	--	125	3
ECOMP632	Augmented Reality and Virtual Reality										
ECOMP633	Mobile Phone Programming										
ECOMP634	Software Testing and Quality Assurance										
ECOMP635	Introduction to Formal Languages and Automata										
ECOMP641	Digital Image Processing	3	--	--	3	100	25	--	--	125	3
ECOMP642	Information Theory and Coding										
ECOMP643	Advanced Microcontroller										
ECOMP644	Mobile Communication										
ECOMP645	Robotics										
ECOMP650	VLSI Design Lab	--	--	2	--	--	--	25	25	50	1
ECOMP660	Computer Networks Lab	--	--	2	--	--	--	25	25	50	1
*	Open Elective	3	--	--	3	100	25	--	--	125	3
HM006	Cyber Law & IPR	3	--	--	3	100	25	--	--	125	3
<b>TOTAL</b>		<b>18</b>	<b>2</b>	<b>4</b>	<b>--</b>	<b>600</b>	<b>150</b>	<b>100</b>	<b>50</b>	<b>900</b>	<b>22</b>

L-Lecture T-Tutorial P-Practical Th-Theory TW-Term Work IA-Internal Assessment

\*\*Term Work marks are to be awarded through continuous evaluation

\* Students may enter the subject code of the open elective selected from the courses of other branch of Engineering

# A candidate is considered to have successfully fulfilled the requirement of a semester, provided he/ she submits to the department a certified journal reporting the experiments conducted during the semester.

**FOURTH YEAR ELECTRONICS AND COMPUTER ENGINEERING PROGRAM PROPOSED SCHEME OF INSTRUCTION AND EXAMINATION, REVISED COURSE (2019-2020)  
Semester VII**

Course Code	Nomenclature of the Course	Scheme of Instruction Hrs./Week			Scheme of Examination						
		L	T	P#	Duration (Hrs.)	Marks					Credits
						Th	IA	TW**	O	Total	
ECOMP710	Industrial Automation and Instrumentation	3	1	--	3	100	25	25	--	150	4
ECOMP721	Blockchain Technology	3	--	--	3	100	25	--	--	125	3
ECOMP722	Machine Learning										
ECOMP723	Hardware Descriptive Languages										
ECOMP724	Wireless sensor networks										
ECOMP725	Advance Database Systems										
ECOMP730	Industrial Automation and Instrumentation Lab	--	--	2	2	--	--	25	25	50	1
*	Open Elective	3	--	--	3	100	25	--	--	125	3
ECOMP740	Internship	--	--	6	--	--	--	50	50	100	3
ECOMP750	Project Work - Phase I	--	--	6	--	--	--	50	75	125	3
	<b>TOTAL</b>	<b>9</b>	<b>1</b>	<b>14</b>	<b>--</b>	<b>300</b>	<b>75</b>	<b>150</b>	<b>150</b>	<b>675</b>	<b>17</b>

**L-Lecture T-Tutorial P-Practical Th-Theory TW-Term Work IA-Internal Assessment  
O- Oral**

**\*\*Term Work marks are to be awarded through continuous evaluation**

\* Students may enter the subject code of the open elective selected from the courses of other branch of Engineering

# A candidate is considered to have successfully fulfilled the requirement of a semester, provided he/ she submits to the department a certified project report of the work done during the semester1

**FOURTH YEAR ELECTRONICS AND COMPUTER ENGINEERING PROGRAM PROPOSED SCHEME OF INSTRUCTION AND EXAMINATION,  
REVISED COURSE (2019-2020)**

**Semester VIII**

Course Code	Nomenclature of the Course	Scheme of Instruction			Scheme of Examination							Credits
		Hrs./Week			Duration (Hrs.)	Marks						
		L	T	P		Th	IA	TW* *	O	OCS	Total	
ECOMP810	Cryptography and Network Security	3	--	--	3	100	25	--	-	-	125	3
ECOMP821	Compiler Design											
ECOMP822	Digital VLSI											
ECOMP823	Biomedical Electronics & Instrumentation	3	--	--	3	100	25	--	-	-	125	3
ECOMP824	Internet of Things											
ECOMP825	Data Analytics											
ECOMP830	Elective - NPTEL / MOOC/ SWAYAM	3	--	--	3	--	--	25#	-	75#	100	3
ECOMP840	Project Work - Phase II	--	--	18	--	--	--	200	200	-	400	9
	<b>TOTAL</b>	<b>9</b>	<b>0</b>	<b>18</b>	<b>--</b>	<b>200</b>	<b>50</b>	<b>225</b>	<b>200</b>	<b>75</b>	<b>750</b>	<b>18</b>

**\*\*Term Work marks are to be awarded through continuous evaluation**

# Students should mandatorily undertake one NPTEL Course of only 3 credits from the list of approved

Online courses of Goa University to be offered during the V/ VI/VII Semester.

# Online Assignments Score obtained will be considered/scaled accordingly for Term Work (TW) and Proctored Exam Score will be considered/scaled accordingly for Online Course Score (OCS) of NPTEL / MOOC / SWAYAM certification course. The score obtained shall be rounded to near higher integer.

**LEGEND**

<b>Abbreviation</b>	<b>Description</b>
<b>L</b>	<b>Lecture</b>
<b>T</b>	<b>Tutorial</b>
<b>P</b>	<b>Practical</b>
<b>O</b>	<b>Oral</b>
<b>Th</b>	<b>Theory</b>
<b>TW</b>	<b>Term Work</b>
<b>IA</b>	<b>Internal assessment</b>
<b>OCs</b>	<b>Online Course Score</b>