

ANNEXURE I

GOA UNIVERSITY

FIRST YEAR OF BACHELOR'S DEGREE COURSE IN ENGINEERING
(Revised in 2007-08)

SCHEME OF INSTRUCTION AND EXAMINATION

SEMESTER I (Common for all branches of Engineering)

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
1.1	Applied Mathematics I	4	-	-	3	100	25	-	-	125
1.2	Applied Sciences I (Physics & Chemistry)	4	-	2	3	100	50	-	-	150
1.3	Basic Civil Engineering and Engineering Mechanics.	4	-	2	3	100	25	-	-	125
1.4	Basic Electrical Engineering	3	-	2	3	100	25	-	-	125
1.5	Engineering Graphics	2	-	4	4	100	50	-	-	150
1.6	Communication Skills	3	-	-	3	100	25	-	-	125
1.7	Workshop Practice - I	-	-	4	-	-	50	-	-	50
	TOTAL	20		14	-	600	250	-	-	850

L: Lectures, T: Tutorials, P: Practicals.

Th. Dur.:Duration of Theory Paper

Th: Theory, S : Sessional, P : Practical, O : Oral.

Anilk
5/11/14

Assistant Registrar (Academic)

Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa-403 401.

**FIRST YEAR OF BACHELOR'S DEGREE COURSE IN ENGINEERING
(Revised in 2007-08)**

SCHEME OF INSTRUCTION AND EXAMINATION

SEMESTER II: (Common for all branches of Engineering)

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
2.1	Applied Mathematics II	4	-	-	3	100	25	-	-	125
2.2	Applied Sciences II (Physics & Chemistry)	4	-	2	3	100	50	-	-	150
2.3	Information Technology	4	-	2	3	100	25	-	-	125
2.4	Basic Mechanical Engineering	3	-	2	3	100	25	-	-	125
2.5	Basic Electronic Engineering	3	-	2	3	100	25	-	-	125
2.6	Environmental and Social Sciences	4	-	-	3	100	50	-	-	150
2.7	Workshop Practice II Modern	-	-	4	-	-	50	-	-	50
	TOTAL	22	-	12	-	600	250	-	-	850

L: Lectures, T : Tutorials, P : Practicals.

Th. Dur. : Duration of Theory Paper

Th : Theory, S : Sessional, P : Practical, O : Oral.

Principal
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa - 403 401

[Signature]
5/11/14
Assistant Registrar (Academic)
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa-403 401.

**SECOND YEAR OF BACHELOR'S DEGREE COURSE IN
ELECTRONICS AND TELECOMMUNICATION ENGINEERING
(REVISED COURSE-2007)
SCHEME OF INSTRUCTION AND EXAMINATION**


SEMESTER III

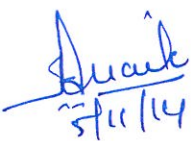
Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
3.1	Applied Mathematics-III	4	0	-	3	100	25	-	-	125
3.2	Digital System Design	4	0	2	3	100	25	50	-	175
3.3	Network Analysis and Synthesis	3	1	2	3	100	25	-	-	125
3.4	Electronic Devices and Circuits	3	1	2	3	100	25	50	-	175
3.5	Managerial Economics	4	0	-	3	100	25	-	-	125
3.6	Computer Oriented Numerical Techniques	4	0	2	3	100	25	-	-	125
	TOTAL	22	2	8	-	600	150	100	-	850

L – Lectures, T-Tutorials, P-Practicals.

Th. Dur. – Duration of Theory Paper

Th – Theory, S – Sessional, P– Practical, O – Oral.


Principal
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa - 403 401


Assistant Registrar
Goa College of Engineering (Govt. of Goa,
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**SECOND YEAR OF BACHELOR'S DEGREE COURSE IN
ELECTRONICS AND TELECOMMUNICATION ENGINEERING
(REVISED COURSE-2007)
SCHEME OF INSTRUCTION AND EXAMINATION**

SEMESTER IV

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
4.1	Applied Mathematics- IV	4	0	-	3	100	25	-	-	125
4.2	Signals and Systems	3	1	2	3	100	25	-	50	175
4.3	Electrical Technology	4	0	2	3	100	25	-	-	125
4.4	Electro magnetic Fields and Waves	3	1	-	3	100	25	-	-	125
4.5	Linear Integrated Circuits	4	0	2	3	100	25	50	-	175
4.6	Data structures using C ⁺⁺	4	0	2	3	100	25	-	-	125
	TOTAL	22	2	8	-	600	150	100	50	850

L – Lectures, T-Tutorials, P-Practicals.

Th. Dur. – Duration of Theory Paper

Th – Theory, S – Sessional, P– Practical, O – Oral.

Principal
Goa College of Engineering (Govt. of Goa)
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Assistant Registrar (Academic),
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa-403 401.

**THIRD YEAR OF BACHELOR'S DEGREE COURSE IN
ELECTRONICS AND TELECOMMUNICATION ENGINEERING
(REVISED COURSE-2007)
SCHEME OF INSTRUCTION AND EXAMINATION**


SEMESTER V

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
5.1	Probability Theory and Random Processes	4	0	-	3	100	25	-	-	125
5.2	Control System Engineering	4	0	2	3	100	25	-	-	125
5.3	Communication Engineering - I	4	0	2	3	100	25	-	50	175
5.4	Microprocessors	4	0	2	3	100	25	-	50	175
5.5	Digital Signal Processing	4	0	2	3	100	25	-	-	125
5.6	Transmission Lines and Waveguides	4	0	-	3	100	25	-	-	125
	TOTAL	24	0	8	-	600	150	-	100	850

L – Lectures, T-Tutorials, P-Practicals.

Th. Dur. – Duration of Theory Paper

Th – Theory, S – Sessional, P– Practical, O – Oral.


Principal
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Farmagudi, Ponda-Goa - 403 401


Assistant Registrar (Academic)
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa-403 401.

**THIRD YEAR OF BACHELOR'S DEGREE COURSE IN
ELECTRONICS AND TELECOMMUNICATION ENGINEERING
(REVISED COURSE-2007)
SCHEME OF INSTRUCTION AND EXAMINATION**

SEMESTER VI

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
6.1	Communication Engineering -II	4	0	0	3	100	25	-	50	175
6.2	Peripheral Devices and Interfacing	4	0	2	3	100	25	-	-	125
6.3	Power Electronics	4	0	2	3	100	25	-	-	125
6.4	Antenna and Wave Propagation	4	0	0	3	100	25	-	-	125
6.5	Electronic Instrumentation	4	0	2	3	100	25	-	-	125
6.6	VLSI Technology and Design	4	0	2	3	100	25	-	50	175
	TOTAL	24	0	8	-	600	150	-	100	850

L – Lectures, T-Tutorials, P-Practicals.

Th. Dur. – Duration of Theory Paper

Th – Theory, S – Sessional, P– Practical, O – Oral.

Principal
Goa College of Engineering (Govt. of Goa)
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Signature
5/11/14

Assistant Registrar (Academic)
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa-403 401.

**FOURTH YEAR OF BACHELOR'S DEGREE COURSE IN
ELECTRONICS AND TELECOMMUNICATION ENGINEERING
(REVISED COURSE-2007)
SCHEME OF INSTRUCTION AND EXAMINATION**

SEMESTER VIII

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
8.1	Satellite & Television Engineering	4	0	2	3	100	25	-	50	175
8.2	Elective - III	4	0	2	3	100	25	-	50	175
8.3	Elective - IV	4	0	2	3	100	25	-	50	175
8.4	Wireless Communications	4	0	0	3	100	25	-	50	175
8.5	Project	0	0	10	-	-	50	-	100**	150
	TOTAL	16	0	16	-	400	150	-	300	850

L – Lectures, T-Tutorials, P-Practicals.

Th. Dur. – Duration of Theory Paper

Th – Theory, S – Sessional, P– Practical, O – Oral.

**Seminars, demonstrations & Oral

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Goa College of Engineering (Govt. of Goa)
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3/11/14

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Goa College of Engineering (Govt. of Goa,
Farmagudi, Ponda-Goa-403 401.

Elective	Subject Code	Subject Name
I	7.4.1	Embedded Systems
	7.4.2	Operating Systems
	7.4.3	Hardware Description Language
	7.4.4	Virtual Instrumentation
	7.4.5	Wavelets and Multirate Digital Signal Processing
	7.4.6	Electronic Circuits: Design, Simulation and Testing
	7.4.7	Introduction to Java and J2EE
	7.4.8	Optical Computing
	7.4.9	Process Control Instrumentation
II	7.5.1	Mobile Communication Systems
	7.5.2	Artificial Neural Network
	7.5.3	Secure Communications
	7.5.4	Nanoelectronics
	7.5.5	Optical Networking
	7.5.6	Adaptive Signal Processing
III	8.2.1	Consumer Electronics
	8.2.2	Speech Signal Processing
	8.2.3	Mobile Computing
	8.2.4	Introduction to Robotics
	8.2.5	ASIC Design and FPGA
	8.2.6	Microwave Networks and Applications
	8.2.7	Error Control Coding
IV	8.3.1	E-Commerce
	8.3.2	Bio-medical Electronics and Instrumentation
	8.3.3	Digital Image Processing
	8.3.4	Electromagnetic Interference/Electromagnetic Compatibility
	8.3.5	Ad-hoc Wireless Networks
	8.3.6	Global System for Mobile Communication
	8.3.7	Mobile Phone Programming

Principal
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Assistant Registrar (Academics)

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ANNEXURE I

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FIRST YEAR OF BACHELOR'S DEGREE COURSE IN ENGINEERING
(Revised in 2007-08)

SCHEME OF INSTRUCTION AND EXAMINATION

SEMESTER I (Common for all branches of Engineering)

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
1.1	Applied Mathematics I	4	-	-	3	100	25	-	-	125
1.2	Applied Sciences I (Physics & Chemistry)	4	-	2	3	100	50	-	-	150
1.3	Basic Civil Engineering and Engineering Mechanics.	4	-	2	3	100	25	-	-	125
1.4	Basic Electrical Engineering	3	-	2	3	100	25	-	-	125
1.5	Engineering Graphics	2	-	4	4	100	50	-	-	150
1.6	Communication Skills	3	-	-	3	100	25	-	-	125
1.7	Workshop Practice - I	-	-	4	-	-	50	-	-	50
	TOTAL	20		14	-	600	250	-	-	850

L: Lectures, T: Tutorials, P: Practicals.

Th. Dur.: Duration of Theory Paper

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[Signature]
24/4/15

Assistant Registrar (Academic)
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa-403 401.
Monday, February 04, 2013

**FIRST YEAR OF BACHELOR'S DEGREE COURSE IN ENGINEERING
(Revised in 2007-08)**

SCHEME OF INSTRUCTION AND EXAMINATION


SEMESTER II: (Common for all branches of Engineering)

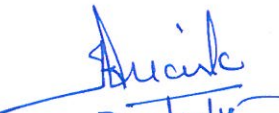
Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
2.1	Applied Mathematics II	4	-	-	3	100	25	-	-	125
2.2	Applied Sciences II (Physics & Chemistry)	4	-	2	3	100	50	-	-	150
2.3	Information Technology	4	-	2	3	100	25	-	-	125
2.4	Basic Mechanical Engineering	3	-	2	3	100	25	-	-	125
2.5	Basic Electronic Engineering	3	-	2	3	100	25	-	-	125
2.6	Environmental and Social Sciences	4	-	-	3	100	50	-	-	150
2.7	Workshop Practice II Modern	-	-	4	-	-	50	-	-	50
	TOTAL	22	-	12	-	600	250	-	-	850

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 24/4/13

Assistant Registrar (Academic)
 Goa College of Engineering (Govt. of Goa)
 Farmagudi, Ponda-Goa-403 401.

**SECOND YEAR OF BACHELOR'S DEGREE COURSE IN
ELECTRONICS AND TELECOMMUNICATION ENGINEERING
(REVISED COURSE-2007)
SCHEME OF INSTRUCTION AND EXAMINATION**

SEMESTER IV

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
4.1	Applied Mathematics- IV	4	0	-	3	100	25	-	-	125
4.2	Signals and Systems	3	1	2	3	100	25	-	50	175
4.3	Electrical Technology	4	0	2	3	100	25	-	-	125
4.4	Electro magnetic Fields and Waves	3	1	-	3	100	25	-	-	125
4.5	Linear Integrated Circuits	4	0	2	3	100	25	50	-	175
4.6	Data structures using C ⁺⁺	4	0	2	3	100	25	-	-	125
	TOTAL	22	2	8	-	600	150	100	50	850

L – Lectures, T-Tutorials, P-Practicals.
Th. Dur. – Duration of Theory Paper
Th – Theory, S – Sessional, P– Practical, O – Oral.

Anand
24/4/15

Assistant Registrar (Academic)
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa-403 401

Principal
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa - 403 401

**THIRD YEAR OF BACHELOR'S DEGREE COURSE IN
ELECTRONICS AND TELECOMMUNICATION ENGINEERING
(REVISED COURSE-2007)
SCHEME OF INSTRUCTION AND EXAMINATION**

SEMESTER V

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
5.1	Probability Theory and Random Processes	4	0	-	3	100	25	-	-	125
5.2	Control System Engineering	4	0	2	3	100	25	-	-	125
5.3	Communication Engineering - I	4	0	2	3	100	25	-	50	175
5.4	Microprocessors	4	0	2	3	100	25	-	50	175
5.5	Digital Signal Processing	4	0	2	3	100	25	-	-	125
5.6	Transmission Lines and Waveguides	4	0	-	3	100	25	-	-	125
	TOTAL	24	0	8	-	600	150	-	100	850

L – Lectures, T-Tutorials, P-Practicals.

Th. Dur. – Duration of Theory Paper

Th – Theory, S – Sessional, P– Practical, O – Oral.

Academic
24/1/13

Assistant Registrar (Academic)
Goa College of Engineering (Govt. of Goa)
Fernagudi, Ponda-Goa-403 401

Principal
Goa College of Engineering (Govt. of Goa)
Fernagudi, Ponda-Goa - 403 401

**THIRD YEAR OF BACHELOR'S DEGREE COURSE IN
ELECTRONICS AND TELECOMMUNICATION ENGINEERING
(REVISED COURSE-2007)
SCHEME OF INSTRUCTION AND EXAMINATION**

SEMESTER VI

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
6.1	Communication Engineering -II	4	0	0	3	100	25	-	50	175
6.2	Peripheral Devices and Interfacing	4	0	2	3	100	25	-	-	125
6.3	Power Electronics	4	0	2	3	100	25	-	-	125
6.4	Antenna and Wave Propagation	4	0	0	3	100	25	-	-	125
6.5	Electronic Instrumentation	4	0	2	3	100	25	-	-	125
6.6	VLSI Technology and Design	4	0	2	3	100	25	-	50	175
	TOTAL	24	0	8	-	600	150	-	100	850

L – Lectures, T-Tutorials, P-Practicals.
Th. Dur. – Duration of Theory Paper
Th – Theory, S – Sessional, P– Practical, O – Oral.

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24/2/13

Assistant Registrar (Academic)
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa-403 401.

Principal
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa - 403 401

**FOURTH YEAR OF BACHELOR'S DEGREE COURSE IN
ELECTRONICS AND TELECOMMUNICATION ENGINEERING
(REVISED COURSE-2007)
SCHEME OF INSTRUCTION AND EXAMINATION**

SEMESTER VIII

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
8.1	Satellite & Television Engineering	4	0	2	3	100	25	-	50	175
8.2	Elective - III	4	0	2	3	100	25	-	50	175
8.3	Elective - IV	4	0	2	3	100	25	-	50	175
8.4	Wireless Communications	4	0	0	3	100	25	-	50	175
8.5	Project	0	0	10	-	-	50	-	100**	150
	TOTAL	16	0	16	-	400	150	-	300	850

L – Lectures, T-Tutorials, P-Practicals.

Th. Dur. – Duration of Theory Paper

Th – Theory, S – Sessional, P– Practical, O – Oral.

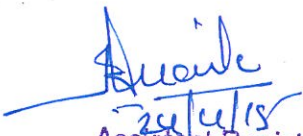
** Seminars, demonstrations & Oral

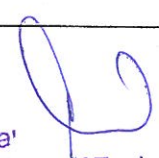
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24/4/15

Assistant Registrar (Academic)
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa-403 401.

[Handwritten Signature]
Principal
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa - 403 401

Elective	Subject Code	Subject Name
I	7.4.1	Embedded Systems
	7.4.2	Operating Systems
	7.4.3	Hardware Description Language
	7.4.4	Virtual Instrumentation
	7.4.5	Wavelets and Multirate Digital Signal Processing
	7.4.6	Electronic Circuits: Design, Simulation and Testing
	7.4.7	Introduction to Java and J2EE
	7.4.8	Optical Computing
	7.4.9	Process Control Instrumentation
II	7.5.1	Mobile Communication Systems
	7.5.2	Artificial Neural Network
	7.5.3	Secure Communications
	7.5.4	Nanoelectronics
	7.5.5	Optical Networking
	7.5.6	Adaptive Signal Processing
III	8.2.1	Consumer Electronics
	8.2.2	Speech Signal Processing
	8.2.3	Mobile Computing
	8.2.4	Introduction to Robotics
	8.2.5	ASIC Design and FPGA
	8.2.6	Microwave Networks and Applications
	8.2.7	Error Control Coding
IV	8.3.1	E-Commerce
	8.3.2	Bio-medical Electronics and Instrumentation
	8.3.3	Digital Image Processing
	8.3.4	Electromagnetic Interference/Electromagnetic Compatibility
	8.3.5	Ad-hoc Wireless Networks
	8.3.6	Global System for Mobile Communication
	8.3.7	Mobile Phone Programming


 Assistant Registrar (Academic)
 Goa College of Engineering (Govt. of Goa)
 Farmagudi, Ponda, Goa-403 401


 Principal
 Goa College of Engineering (Govt. of Goa)
 Farmagudi, Ponda-Goa - 403 401

SCHEME OF INSTRUCTIONS AND EXAMINATION For F. E. (Semester I and II)

Semester I (Civil, Mechanical, Electronics & Tele-Comm. and Computer Engg.)

Sr No.	Subject	Department to teach	Teaching Schedule			Examination Scheme					
			L	T	P	Dur-ation	T h e o r e t i c a l	Pr a c t i c a l	T W O r a t i o n	T O T A L	
1.	Applied Maths I	Mathematics	3	1	—	3	100	—	—	—	100
2.	Applied Physics	Physics	3	1	2	3	100	—	25	—	125
3.	Applied Chemistry	Chemistry	3	1	2	3	100	—	25	—	125
4.	Communication skills	English	1	—	3	2	75	—	25	—	100
5.	Engineering Graphics I	Mechanical	2	—	6	4	100	—	50	—	150
6.	Basic Electrical Engineering	Electrical	3	1	2	3	100	—	25	—	125
7.	Basic Civil Engineering	Civil	3	1	2	3	100	—	25	—	125
8.	Work Shop Practicals	Mech. Workshop	—	—	5	—	—	—	50	—	50
Total			18	5	22	—	675	—	225	—	900

Principal *[Signature]*
 Goa College of Engineering (Govt. of Goa)
 Farnagudi, Ponda-Goa - 403 401

[Signature]
 2/1/14
 Assistant Registrar (Academic)
 Goa College of Engineering (Govt. of Goa)
 Farnagudi, Ponda-Goa-403 401.

SCHEME OF INSTRUCTIONS AND EXAMINATION
For F. E. (Semester I and II)
Semester II (Civil, Mechanical, Electrical, Electronics
& Tele-Comm. and Computer Engg.)

Sr No.	Subject	Department to teach	Teaching Schedule			Dur-ati-on	Examination Scheme				
			L	T	P		T	W	O	T	T
1.	Applied Maths II	Mathematics	3	1	—	3	100	—	—	—	100
2.	Engg. Mechanics	Civil	3	1	2	3	100	—	25	—	125
3.	Intr. to Computer Programming & Problem Solving	Computer	3	1	3	3	100	—	25	—	125
4.	Basic Mechanical Engg.	Mechanical	3	1	2	3	100	—	25	—	125
5.	Basic Electronics & Telecomm.	Electronics & Telecomm.	3	1	2	3	100	—	25	—	125
6.	Engineering Graphics II	Mechanical	2	0	6	4	100	—	50	—	150
7.	Work shop Practice	Mech. workshop	—	0	6	—	—	—	50	—	50
Total			17	5	21		600	—	200	—	800

16

Amal
2/1/14
Assistant Registrar (Academic)
 Goa College of Engineering (Govt. of Goa)
 Farmagudi, Ponda-Goa-403 401.

Principa
Principal
 Goa College of Engineering (Govt. of Goa)
 Farmagudi, Ponda-Goa-403 401

16

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 Goa College of Engineering (Govt. of Goa)
 Farmagudi, Ponda-Goa - 403 401

[Signature]
 Assistant Registrar (Academic)
 Goa College of Engineering (Govt. of Goa)
 Farmagudi, Ponda-Goa-403 401.

SEMESTER VI NICS & TELECOMMUNICATION ENGG.

(B.E. Syllabus) IV

SEMESTER III

ELECTRONIC

Sr. No.	Subjects	Department	L	T	P	Duration of Paper (hrs)	T	Practical	O	TOTAL
1.	Applied Mathematics III	Mathematics	4	1	—	3	100	—	—	100
2.	Electronics Material Science	Electronics & Telecomm.	4	1	—	3	100	—	—	100
3.	Electrical Engg.	Electrical	4	1	3	3	100	25	—	125
4.	Electrical measurements & instruments	Electrical	4	1	3	3	100	25	—	125
5.	Networks theory	Electronics & telecomm.	4	1	3	3	100	25	—	125
6.	Electronic devices & circuits I	-do-	4	1	3	3	100	25	—	125
			24	06	12		600	100		700

SEMESTER IV

1.	Applied Mathematics IV	Mathematics	3	1	—	3	100	—	—	100
2.	Electromagnetic Field & Waves.	Electronics & Telecomm.	4	1	3	3	100	25	—	125

1

3. Pulse and Digital Techniques	-do-	4	1	3	3	100	25	50	175
4. Electronic Devices & Circuits II	-do-	4	1	3	3	100	25	50	175
5. Communication Engg. I	-do-	4	1	3	3	100	25	50	175
6. Signals & Systems	-do-	4	1	3	3	100	25	50	175
		23	06	15		600	125	100	925

SEMESTER V

1. Probability Theory & Random processes	Mathe- matics	3	1	—	3	100	—	—	100
2. Control system Analysis	Electro- nics & Telecomm.	4	1	3	3	100	25	—	125
3. Transmission Line and waveguides	-do-	4	1	3	3	100	25	50	125
4. Communication Engg. II	-do-	4	1	3	3	100	25	50	175
5. Introduction to Digital System	-do-	4	1	3	3	100	25	50	175
6. Programming for Digital numerical Computer methods.	Computer	3	1	4	3	100	25	—	125
		22	06	16		600	125	150	775

SEMESTER VI

1. Antenna and Wave propogation	Electr- onics & Telecom.	4	1	—	3	100	—	—	100
2. Communi- cation Engg. III	-do-	4	1	3	3	100	25	50	175
3. Power Electronics	-do-	4	1	3	3	100	25	50	175
4. Computer Organisation & Design	-do-	4	1	3	3	100	25	50	175
5. Ecconomics & Principles of Management Humanities	-do-	3	1	—	3	100	—	—	100
6. System Design using Integrated Circuits	-do-	4	1	3	3	100	25	50	175
7. Electronic Workshop	-do-	—	—	4	—	—	25	50	75
		23	6	16		600	125	100	975

SEMESTER - III

3.1 APPLIED MATHEMATICS III
(One paper - 3 hours - 100 marks)

1. Matrices : Types of matrices - Adjoint, Inverse, Elementary transformation. Rank of matrix : Reduction to normal form, Linear independent solutions of the matrix equation $AX=0$. Consistency of the system $AX=B$. Eigen values and eigen vectors.

Anil
Assistant Registrar (Academic)
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa-403 401.

Principa
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa - 403 401

REFERENCES

1. Introduction to system design using Integrated Circuits B. S. Sonde, wiley, Eastern Ltd.
2. Integrated Circuits - K. R. Botkar, Khanna Publications.
3. Integrated Electronic - Analog and digital circuit and systems - Millman and Halkias - McGraw Hill Publication.
4. Opamp and linear Integraed Circuits - Ramakant Gayakwad PHI Ltd.
5. Digital Electronic - Theory and Experimentation - Fredrick W. Hughes - PHI Ltd.
6. Digital concepts using Standard Ics Richard S. Sandings.

6.7 ELECTRONIC WORKSHOP

(TW - 25 marks, Practical -50 marks; Practical - 4 periods)

Electrical wiring, Inductance and Transformer winding, soldering of electronic components, PCB design, layout printing and artworks, photoprinting; Screen printing, electroplating, sheetmetal works, Fabrication of chassis, racks and control panels for instrumentation systems, maintenance and servicing of electronic instruments.

TERM WORK

Term work consists of a minimum of six jobs based on the above. A report of such work shall be recorded in a journal and submitted to the examiners & allotted marks upto a min. of 25.

38

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Subjects	Department	* L	T	P	Duration of Theory	T h e o r y	T W e e k	O r a n a l	S e m i n a r	T e r m i n a l	T O T A L
Advanced communication system	Electronics & Telcomm.	4	1	3	3	100	25	50	—	175	
Digital Signal Processing	-do-	4	1	3	3	100	25	—	—	125	
Microprocessor and Applications	-do-	4	1	3	3	100	25	50	—	175	
Elective I	-do-	4	1	3	3	100	25	50	—	175	
Electronic Instruments	-do-	4	1	3	3	100	25	50	—	175	
Project				5						50	
		20	5	20		500	125	200	50	875	

ELECTIVE I

(Only one to be chosen from the following list)

1. Acoustic Engineering
2. Network Synthesis
3. Speech Signal analysis and Synthesis.
4. Image Processing
5. Bio-medical Electronics
6. Solid State Devices.
7. Electronic Control of Drives.
8. Advanced Control theory.

Assistant Registrar (Academic)
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa-403 401.

Assistant Registrar (Academic)
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa-403 401.

9. Design and Technology of Electronic Devices
10. Active Network Synthesis.
11. Information theory and Coding.
12. Programming Languages.
13. Reliability Engineering.
14. VLSI Technology.
15. Radar Engineering.

SEMESTER VIII

Sr. No.	Subjects	Department	* L T P			Duration of Theory	T h e o r e t i c a l	T W	P r a c t i c a l	O r a l	T o t a l
			L	T	P						
1.	Microwave Engineering	Electro. & Telecom.	4	1	4	3	100	25	—	50	175
2.	Radio & Television Engineering	-do-	4	1	4	3	100	25	—	50	175
3.	Elective II	-do-	5	1	4	3	100	50	—	50	200
4.	Project*	-do-	—	—	15	—	—	50	—	50	100
			13	3	27		300	150	—	200	650

Elective II

(Only one to be chosen from the following list)

1. Optical Communication
2. Satellite Communication
3. Data communication
4. Industrial Instrumentation
5. Microprocessor Based Instrumentation
6. Microwave Integrated circuits.

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 of Engineering (Govt. of Goa)
 Goa - 403 401

Arvind
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 Assistant Registrar (Acad.)
 Goa College of Engineering (Govt.)
 Farmagudi, Ponda-Goa

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GOA UNIVERSITY
FIRST YEAR OF BACHELOR'S DEGREE COURSE IN
ENGINEERING
(Revised in 2007-08)
SCHEME OF INSTRUCTION AND EXAMINATION

SEMISTER I: (Common for all branches of Engineering)

Sub Code	Subjects	Scheme of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th.Dur (Hrs)	Marks				
						Th.	S	P	O	Total
1.1	Applied Mathematics I	4	-	-	3	100	25	-	-	125
1.2	Applied Science-1 (Physics & Chemistry)	4	-	2	3	100	50	-	-	150
1.3	Basic Civil Engineering and Engineering Mechanics.	4	-	2	3	100	25	-	-	125
1.4	Basic Electrical Engineering	3	-	2	3	100	25	-	-	125
1.5	Engineering Graphics	2	-	4	4	100	50	-	-	150
1.6	Communication Skills	3	-	-	3	100	25	-	-	125
1.7	Workshop Practice-I	-	-	4	-	-	50	-	-	50
	TOTAL	20		14		600	250			850

L-Lectures-Tutorials-Practicals.

Th.dur-Duration of Theory Paper

Th-Theory, S-Sessional, P-Practical, O-Oral.

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Goa College of Engineering (Govt. of Goa)
Mangaluru, Ponda-Goa - 403 401

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(Revised in 2007-08)
SCHEME OF INSTRUCTION AND EXAMINATION

SEMISTER II: (Common for all branches of Engineering)

Sub Code	Subjects	Scheme of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th.Dur (Hrs)	Marks				
						Th.	S	P	O	Total
2.1	Applied Mathematics II	4	-	-	3	100	25	-	-	125
2.2	Applied Science-II (Physics & Chemistry)	4	-	2	3	100	50	-	-	150
2.3	Information Technology	4	-	2	3	100	25	-	-	125
2.4	Basic Mechanical Engineering	3	-	2	3	100	25	-	-	125
2.5	Basic Electronic Engineering	3	-	2	3	100	25	-	-	125
2.6	Environmental and Social Sciences	4	-	-	3	100	50	-	-	150
2.7	Workshop Practice-II	-	-	4	-	-	50	-	-	50
TOTAL		22		12	-	600	250	-	-	850

L-Lectures-Tutorials-Practicals.
Th.dur-Duration of Theory Paper
Th-Theory, S-Sessional, P-Practical, O-Oral.

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Prof-in-Charge
Academic Section
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232

GOA UNIVERSITY

**SECOND / THIRD YEAR OF BACHELOR'S DEGREE COURSE IN
ENGINEERING (REVISED COURSE-2007-08)
SCHEME OF INSTRUCTION AND EXAMINATION**

SEMESTER III

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Th. Dur (Hrs)	Scheme Of Examination				
		L	T	P		Marks				
						Th.	S	P	O	Total
3.1	Applied Mathematics-III	4	0	-	3	100	25	-	-	125
3.2	Digital System Design	4	0	2	3	100	25	50	-	175
3.3	Network Analysis and Synthesis	3	1	2	3	100	25	-	-	125
3.4	Electronic Devices and Circuits	3	1	2	3	100	25	50	-	175
3.5	Managerial Economics	4	0	-	3	100	25	-	-	125
3.6	Computer Oriented Numerical Techniques	4	0	2	3	100	25	-	-	125
Total		22	2	8		600	150	100		850

- Lectures, T-Tutorials, P-Practicals.
Th. Dur. - Duration of Theory Paper
Th - Theory, S - Sessional, P- Practical, O - Oral.

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Academic Section
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa - 403 401

SEMESTER IV,

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
4.1	Applied Mathematics-IV	4	0	-	3	100	25	-	-	125
4.2	Signals and Systems	3	1	2	3	100	25	-	50	175
4.3	Electrical Technology	4	0	2	3	100	25	-	-	125
4.4	Electro magnetic Fields and Waves	3	1	-	3	100	25	-	-	125
4.5	Linear Integrated circuits	4	0	2	3	100	25	50	-	175
4.6	Data structures using C++	4	0	2	3	100	25	-	-	125
	Total	22	2	8		600	150	50	50	850

L - Lectures, T-Tutorials, P-Practicals.

Th. Dur. - Duration of Theory Paper,

Th - Theory, S - Sessional, P- Practical, O - Oral.

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Principal
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa - 403 401

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Prof. in Charge
Academic Section
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa - 403 401

GOA UNIVERSITY
THIRD YEAR OF BACHELOR'S DEGREE COURSE IN ELECTRONICS
AND TELECOMMUNICATION ENGINEERING
(REVISED COURSE-2007)
SCHEME OF INSTRUCTION AND EXAMINATION

SEMESTER V,

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
5.1	Probability Theory and Random Processes	4	0	-	3	100	25	-	-	125
5.2	Control System Engineering	4	0	2	3	100	25	-	-	125
5.3	Communication Engineering-I	4	0	2	3	100	25	-	50	175
5.4	Microprocessors	4	0	2	3	100	25	-	50	175
5.5	Digital Signal Processing	4	0	2	3	100	25	-	-	125
5.6	Transmission Lines and Waveguides	4	0	-	3	100	25	-	-	125
Total		24	0	8		600	150		100	850

SEMESTER VI,

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
6.1	Communication Engineering-II	4	0	0	3	100	25	-	50	175
6.2	Peripheral Devices and Interfacing	4	0	2	3	100	25	-	-	125
6.3	Power Electronics	4	0	2	3	100	25	-	-	125
6.4	Antenna and Wave Propagation	4	0	-	3	100	25	-	-	125
6.5	Electronic Instrumentation	4	0	2	3	100	25	-	-	125
6.6	VLSI Technology and Design	4	0	2	3	100	25	-	50	175
Total		24	0	8		600	150		100	850

L – Lectures, T-Tutorials, P-Practicals. Th. Dur. – Duration of Theory Paper
 Th – Theory, S – Sessional, P – Practical, O – Oral.

ANNEXURE I

Syllabus

GOA UNIVERSITY

FOURTH YEAR OF BACHELOR'S DEGREE COURSE IN ELECTRONICS
AND TELECOMMUNICATION ENGINEERING
(REVISED COURSE-2007)
SCHEME OF INSTRUCTION AND EXAMINATION

SEMESTER VII:

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
7.1	Data Communication	4	0	2	3	100	25	-	50	175
7.2	Microwave and Radar Engineering	4	0	2	3	100	25	-	50	175
7.3	Optical Fiber Communication	4	0	2	3	100	25	-	-	125
7.4	Elective-I	4	0	2	3	100	25	-	50	175
7.5	Elective-II	4	0	0	3	100	25	-	-	125
7.6	Project Seminar	0	0	4	-	-	25	-	50*	75
	Total	20	0	12	-	500	150	-	200	850

* Seminar & orals

SEMESTER VIII:

Sub code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th.	S	P	O	Total
8.1	Satellite & Television Engineering	4	0	2	3	100	25	-	50	175
8.2	Elective-III	4	0	2	3	100	25	-	50	175
8.3	Elective-IV	4	0	2	3	100	25	-	50	175
8.4	Wireless Communications	4	0	0	3	-	50	-	100**	150
8.5	Project	0	0	10	-	-	-	-	300	850
	Total	16	0	16	-	400	150	-	300	850

** Seminar, demonstration and Oral.
L - Lectures, T-Tutorials, P-Practicals.
Th. Dur. - Duration of Theory Paper

Principal
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa - 403 401

Prof. in Charge
Academic Section
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa - 403 401

Prof. in Charge
Academic Section
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa - 403 401

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Elective	Subject Code	Subject Name
I	7.4.1	Embedded Systems
	7.4.2	Operating Systems
	7.4.3	Hardware Description Language
	7.4.4	Virtual Instrumentation
	7.4.5	Wavelets and Multirate Digital Signal Processing
	7.4.6	Electronic Circuits: Design, Simulation and Testing
	7.4.7	Introduction to Java and J2EE ✓
	7.4.8	Optical Computing
	7.4.9	Process Control Instrumentation
II	7.5.1	Mobile Communication Systems
	7.5.2	Artificial Neural Network ✓
	7.5.3	Secure Communications
	7.5.4	Nanoelectronics
	7.5.5	Optical Networking
	7.5.6	Adaptive Signal Processing
III	8.2.1	Consumer Electronics ✓
	8.2.2	Speech Signal Processing
	8.2.3	Mobile Computing
	8.2.4	Introduction to Robotics
	8.2.5	ASIC Design and FPGA
	8.2.6	Microwave Networks and Applications
	8.2.7	Error Control Coding
IV	8.3.1	E-Commerce
	8.3.2	Bio-medical Electronics and Instrumentation
	8.3.3	Digital Image Processing ✓
	8.3.4	Electromagnetic Interference/Electromagnetic Compatibility
	8.3.5	Ad-hoc Wireless Networks
	8.3.6	Global System for Mobile Communication
	8.3.7	Mobile Phone Programming

Principal
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa - 403 401

Prof. in Charge
Academic Section
Goa College of Engineering (Govt. of Goa)
Farmagudi, Ponda-Goa - 403 401

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