

**GOVERNMENT COLLEGE OF ENGINEERING
AMRAVATI**



**B. TECH. FIRST YEAR
CURRICULUM**

2020-21

Semester I

Teaching Scheme							Evaluation Scheme						Credits
Category	Course Code	Course Title	Theory	Tutorial	Practical		Theory			Practical		Total	
			Hrs/week	Hrs/week	Hrs/week	Total	MSE	TA	ESE	ICA	ESE		
MC	SHU100	Induction Program	Two weeks mandatory audit course									0	
BSC	SHU121	Physics	3	1	---	4	30	10	60	---	---	100	4
BSC	SHU122	Calculus and Linear Algebra	3	1	---	4	30	10	60	---	---	100	4
ESC	EEU121	Basic Electrical Engineering	3	---	---	3	30	10	60	---	---	100	3
ESC	CEU121	Engineering Mechanics	3	---	---	3	30	10	60	---	---	100	3
HSMC	SHU123	English	2	---	---	2	---	---	60	---	---	60	2
BSC/LC	SHU124	Physics Lab	---	---	2	2	---	---	---	50	---	50	1
ESC/LC	EEU122	Basic Electrical Engg Lab	---	---	2	2	---	---	---	50	---	50	1
ESC/LC	CEU122	Engineering Mechanics Lab	---	---	2	2	---	---	---	50	---	50	1
HSMC/LC	SHU125	English Lab	---	---	2	2	---	---	---	50	---	50	1
ESC/LC	MEU121	Workshop Practice I	---	---	2	2	---	---	---	50	---	50	1
Total			14	2	10	26	120	40	300	250	0	710	21

Semester II

Teaching Scheme							Evaluation Scheme						Credits
Category	Course Code	Course Title	Theory	Tutorial	Practical		Theory			Practical		Total	
			Hrs/week	Hrs/week	Hrs/week	Total	MSE	TA	ESE	ICA	ESE		
BSC	SHU221	Chemistry	4	--	---	4	30	10	60	---	---	100	4
BSC	SHU222	Integral calculus and differential equations	3	1	---	4	30	10	60	---	---	100	4
ESC	CSU221	Programming for Problem solving	3	---	---	3	30	10	60	---	---	100	3
ESC	MEU221	Engineering Graphics	2	---	---	2	30	10	60	---	---	100	2
ESC	MEU222/ ETU221	Basic Mechanical Engineering/ Basic Electronics Engineering	2	---	---	2	30	10	60	---	---	100	2
BSC/LC	SHU223	Chemistry Lab	---	---	2	2	---	---	---	50	---	50	1
ESC/LC	CSU222	Programming for Problem solving Lab	---	---	4	4	---	---	---	50	---	50	2
ESC/LC	MEU223	Engineering Graphics Lab	---	---	4	4	---	---	---	50	---	50	2
ESC/LC	MEU224	Workshop Practice II	---	---	2	2	---	---	---	50	---	50	1
Total			14	1	12	27	150	50	300	200	0	700	21

TA: Teacher Assessment MSE: Mid Semester Examination ESE: End Semester Examination ICA: Internal Continuous Assessment

MSE Duration: 1.30 Hrs all courses

Important Note:

MEU222 for only Electrical, Electronics & TC, Computer Science, Information Technology and Instrumentation Engineering branch
 ETU221 for only Civil and Mechanical Engineering branch

In Semester I, the students of Civil, Mechanical, Electrical & Instrumentation Engineering shall be offered group A courses, and that of Electronics & TC, Computer Science and Information Technology shall be offered group B courses. In Semester II, vice versa.

In addition following courses are offered

SHU122 and MEU121 for all students in Semester I. SHU222 and MEU224 for all students in Semester II.

MEU222 shall be offered in Semester I for Electronics & TC, Computer Science, Information Technology branch. And it shall be offered in Semester II for Electrical and Instrumentation Engineering branch

ETU221 shall be offered in Semester II for Civil and Mechanical Engineering branch.

There should be direct correspondence of group A and group B courses.

Sr. No.	Group A Courses		Group B Courses	
	Course Code	Title of Course	Course Code	Title of Course
1	SHU121	Physics	SHU221	Chemistry
2	EEU121	Basic Electrical Engineering	CSU221	Programming for Problem solving
3	CEU121	Engineering Mechanics	MEU221	Engineering Graphics
4	SHU123	English	SHU223	Chemistry Lab
5	SHU124	Physics Lab	CSU222	Programming for Problem solving Lab
6	EEU122	Basic Electrical Engineering Lab	MEU223	Engineering Graphics Lab
7	CEU122	Engineering Mechanics Lab		
8	SHU125	English Lab		

SSR

P. S. S. S.

Category of Course	Definition	Credits
BSC	Basic Science Courses	18
ESC	Engineering Science Courses	21
HSMC	Humanities and Social Sciences including Mgt.Courses	3
		Total Credits
		42

SHU100 INDUCTION PROGRAM

Teaching Scheme: Two weeks mandatory course

Credit: 00

Government College of Engineering, Amravati propose a 2-week long induction program for the UG students entering the institution, right at the beginning of first semester. It will be helpful to students to adjust the new environment and inculcate the spirit of vision and mission of the institution. All students admitted to the B.Tech programme will have to take Induction program as an additional requirement with minimum 75% attendance and be completed within first four semesters.

2 weeks duration

- Physical activity
- Creative Arts
- Universal Human Values
- Literary
- Proficiency Modules
- Lectures by Eminent People
- Visits to local Areas
- Familiarization to Dept./Branch & Innovations

SHU121 PHYSICS

Teaching Scheme : 03 L + 01T

Total: 04

Credit : 04

Evaluation Scheme : 30 MSE + 10 TA + 60 ESE

Total marks : 100

Duration of ESE : 2 Hrs 30 min.

Course Objectives:

- I. To provide exposure about the basic principles of Physics along with the possible applications.
- II. To develop an insight that provide necessary foundation for scientific thinking and innovation.
- III. To create awareness about vital role played by science & recent advancements in technology.

Wave Optics: *Interference:* Interference at parallel thin film, interference at wedge shaped film, Newton's rings, application of interference in measurement of refractive index, testing of optical flatness of surface, anti-reflection coating.

Diffraction: Fraunhofer diffraction at single and double slit, the Rayleigh criterion for limit of resolution and its application to vision, diffraction gratings and their resolving power

Polarization: Polarization by double refraction, quarter wave plate and half wave plate, production of circularly and elliptically polarized light.

Signature

Signature