

# GOVERNEMENT COLLEGE (AUTONOMOUS) RAJAHMUNDRY

## COURSE STRUCTURE

(ADMITTED BATCH 2019-20)

Program: B.Sc. M.P.REM

Program code: 2218

I Year: Semester I

S. No.	Course/ Subject Code	Course/Subject	THEORY		PRACTICAL		Credits
			No. of Hrs	Total Marks	No. of Hrs	Total Marks	
1.	ENG121	English –I(General English)	4	100	-	-	3
2.	SECOND LANGUAGE	Telugu –I/Hindi-I/Sanskrit –I	4	100	-	-	3
3.	FC106	Foundation Course –I HVPE (Human Values & Professional Ethics	2	50	-	-	2
4.	FC110	Foundation Course –II Communication & soft skills	2	50	-	-	2
5.	MAT109	Mathematics –I (Differential Equations)	6	100			5
6.	PHY110	Physics-I(Mechanics & Properties Of Matter)	4	100	3	50	5(3+2)
7	REM-101	Renewable Energy Management-I(Basics Of Fluid Mechanics)	4	100	2	50	5(3+2)
		Total Credits					25

I Year: Semester II

S. No.	Course/ Subject Code	Course/Subject	THEORY		PRACTICAL		Credits
			No. of Hrs	Total Marks	No. of Hrs	Total Marks	
1.	ENG122	English –II(General English)	5	100	-	-	3
2.	SECOND LANGUAGE	Telugu –I I/Hindi-II/Sanskrit -II	4	100	-	-	3

3.	FC104	Foundation Course –III Environmental Studies	2	50	-	-	2
4.	FC111	Foundation Course –IV ICT-1 (Information & Communication Technology)	2	50	-	-	2
5.	MAT110	Mathematics –II (solid analytical geometry)	6	100	-	-	5
6.	PHY102	Physics–II(Waves & Oscillations)	4	100	3	50	5
7	REM-102	Renewable Energy Management- II Thermodynamics And Heat Transfer	4	100	2	50	5
		Total Credits					25

### II Year: Semester III

S. No.	Course/ Subject Code	Course/Subject	THEORY		PRACTICAL		Credits
			No. of Hrs	Total Marks	No. of Hrs	Total Marks	
1.	ENG123	English –III(General English)	4	100	-	-	3
2.	SECOND LANGUAGE	Telugu –III/Hindi-III/Sanskrit –III	4	100	-	-	3
3.	FC117	Foundation Course –V ICT-II (Information & Communication Technology)	2	50	-	-	2
4.	FC113	Foundation Course –VI Communication & Soft Skills-2	2	50	-	-	2
5.	MAT113	Mathematics –III(group theory)	(5+1) 6	100			5
6.	PHY103	Physics–III(Optics)	4	100	2	50	5(3+2)
7	REM-103	Renewable Energy Management –III Electronics And Instrumentation	4	100	2	50	5(3+2)
		Total Credits					25

II Year: Semester IV

S. No.	Course/ Subject Code	Course/Subject	THEORY		PRACTICAL		Credits
			No. of Hrs	Total Marks	No. of Hrs	Total Marks	
1.	FC114	Foundation Course –VII Communication & Soft Skills-3	2	50	-	-	2
2.	FC115	Foundation Course –VIII Analytical Skills	2	50	-	-	2
3.	FC116	Foundation Course –IX Leadership Education	2	50	-	-	2
4.	FC112	Foundation Course –X Entrepreneurship Education	2	50	-	-	2
5.	MAT115	Mathematics –IV (real analysis)	6	100			5
6.	PHY104	Physics–IV(Thermodyna mics)	4	100	2	50	5(3+2)
7	REM104	Renewable Energy Management -IV Renewable Energy	4	100	2	50	5(3+2)
		Total Credits					23

III Year: Semester V

S. No.	Course/ Subject Code	Course/Subject	THEORY		PRACTICAL		Credits
			No. of Hrs	Total Marks	No. of Hrs	Total Marks	
1.	MAT118	Mathematics-V(Linear Algebra)	5	100	-	-	5
2.	MAT106	Mathematics-VI (Numerical Analysis)	5	100	-	-	5
3.	PHY-109	Physics–V(Electricity & Electromagnetism)	4	100	3	50	5

4.	PHY-106	Physics–VI(Modern Physics & Quantum Mechanics)	4	100	3	50	5
5.	REM-105	Renewable Energy Management– V (Bio Energy Conversion)	4	100	2	50	5
6.	REM-106	Renewable Energy Management-VI (Ocean Energy & Thermoelectric Power)	4	100	2	50	5
		Total Credits					30

### III Year: Semester VI

S. No.	Course/ Subject Code	Course/Subject	THEORY		PRACTICAL		Credits
			No. of Hrs	Total Marks	No. of Hrs	Total Marks	
		Mathematics-VII (Anyone A/B/C)	5	100	-	-	5
1.	MAT114	Elective: A Ring Theory & Vector Calculus					
	MAT116	Elective: B Graph Theory					
	MAT121	Elective: C Integral Transforms					
		Physics –VII (Anyone A/B/C)	3	100	2	50	5(3+2)
2.	PHY-121	Elective :A Analog and digital Electronics					
	PHY-122	Elective B: Material Science					
	PHY-123	Elective C: Renewable Energy					
		Renewable Energy – VII (Anyone A/B/C)	3	100	2	50	5(3+2)
3.	REM-107	Elective: A Energy Storage					

		Devices					
4.	<b>Cluster Electives (any one)</b>						
	<b>Mathematics</b>						
	<b>Physics</b>						
	<b>Renewable Energy Management</b>						

### Course wise clusters (choose any one)

S.No	Course/ Subject Code	Course/ Subject	THEORY		PRACTICAL		Credits
			No. of Hrs	Total Marks	No. of Hrs	Total Marks	
1.		Mathematics – CL A(VIII to X)					
	MAT 117	A1: Advance Numerical Analysis	5	100	-	-	5
	MAT 118	A2: Laplace Transforms	5	100	-	-	5
		Mathematics – CL B(VIII to X)					
	MAT 119	B1: Discrete Mathematics	5	100	-	-	5
	MAT 120	B2: Special Functions	5	100	-	-	5
		Mathematics – CL C(VIII to X)					
	MAT 122	C1: Principles of Mechanics	5	100	-	-	5
	MAT 123	C2: Fluid Mechanics	5	100	-	-	5
2.		Physics- CL A(VIII to X)					
	PHY-124	A1: Introduction To Microprocessors And Microcontrollers	3	100	2	50	5(3+2)
	PHY-125	A2: Computational Methods And Programming	3	100	2	50	5(3+2)
	PHY-126	A3: Electronic Instrumentation	3	100	2	50	5(3+2)
		Physics- CL B(VIII to X)					
	PHY-127	B1: Fundamental OF Nano Science	3	100	2	50	5(3+2)
	PHY-128	B2: Synthesis And	3	100	2	50	5(3+2)

		Characterization Of Nanomaterial					
	PHY129	B3: Applications Of Nanomaterial's And Devices	3	100	2	50	5(3+2)
		Physics- CL C(VIII to X)					
	PHY130	C1: Solar Thermal & Photovoltaic Aspects	3	100	2	50	5(3+2)
	PHY131	C2: Wind, Hydro & Ocean Energies	3	100	2	50	5(3+2)
	PHY132	C3: Energy Storage Devices	3	100	2	50	5(3+2)
3.		Renewable Energy Management- CL A(VIII to X)					
	REM-108	A1: Solar Thermal Energy Conversion	3	100	3	50	5(3+2)
	REM-109	A2: Solar Photovoltaic Conversion	3	100	3	50	5(3+2)
	REM-110	A3: Wind Energy Conversion	3	100	3	50	5(3+2)
		Total Credits					

**ALLOCATION OF CREDITS FOR B.SC. (UNDER CBCS)**

**ADMITTED BATCH 2019-20**

Program Code	Program Name	Year	Semester	Total Credits
2218	B.Sc. (M.P.REM)	I	I	25
			II	25
		II	III	25
			IV	23
		III	V	30

			VI	30
			Total Credits	<b>158</b>

For Syllabus Visit <http://gcrij.ac.in/departments.php>