UG REVISED SYLLABUS

EFFECTIVE FROM 2020-2021 ONWARDS

Programme: B.Sc., Physics

SEMESTER I

Part	Course Type	Course Code	Title of the Course	Hrs/ Week	Credits	Exam hrs	Marks		
							CIA	ESE	Total
I	LC	U211T1	Tamil	6	3	3	25	75	100
II	ELC	U211E1	English	6	3	3	25	75	100
III	CC- I	U21PHC101	Properties of Matter & Sound	6	5	3	25	75	100
III	CC- II	U21PHC102P	Major Practical -I	3	2	3	40	60	100
III	AC – I	U211AM1	Mathematics	5	4	3	25	75	100
III	AC –II	U212AM2	Mathematics	2	-	-	-	-	-
IV	AEC	U211VE	Value Education	2	2	3	25	75	100
			TOTAL	**30**	**19**	**-**	-	**-**	**600**

SEMESTER II

Part	Course Type	Course Code	Title of the Course	Hrs/ Week	Credits	Exam hrs	Marks		
							CIA	ESE	Total
I	LC	U212T2	Tamil	6	3	3	25	75	100
II	ELC	U212E2	English	4	3	3	25	75	100
III	CC- III	U21PHC203	Mechanics & Relativity	6	5	3	25	75	100
III	CC- IV	U21PHC204P	Major Practical -II	3	2	3	40	60	100
III	AC –II	U212AM2	Mathematics	2	4	3	25	75	100
III	AC –III	U212AM3	Mathematics	5	4	3	25	75	100
IV	AEC	U212ES	Environmental Studies	2	2	3	25	75	100
IV	Nanmut halvan course	U23NM2LP	Language Proficiency for Employability	2	2				
			TOTAL	**30**	**23**	**-**	**-**	**-**	**700**

SEMESTER III

Part	Course Type	Course Code	Title of the Course	Hrs/ Week	Credits	Exam hrs	Marks		
							CIA	ESE	Total
I	LC	U213T3	Tamil	6	3	3	25	75	100
II	ELC	U213E3	English	6	3	3	25	75	100
III	CC – V	U21PHC305	Thermal and Statistical Physics	6	5	3	25	75	100
III	CC – VI	U21PHC306P	Major Practical-III	3	2	3	40	60	-
III	AC – IV	U213ACH1	Chemistry	5	4	3	25	75	100
III	AC - V	U214ACH2P	Chemistry Practical	2	-	-	-	-	-
IV	NMEC - I	U21PH3NME1:1	Physics Made Easy	2	2	3	25	75	100
		U21PH3NME1:2	Energy Physics						
TOTAL				**30**	**19**	**-**	**-**	**-**	**600**
	SSC - I	U213SS1	Mathematics Aptitude for Recruitment Board Examinations	-	2	2	-	100	100

SEMESTER IV

Part	Course Type	Course Code	Title of the Course	Hrs/ Week	Credits	Exam hrs	Marks		
							CIA	ESE	Total
I	LC	U214T4	Tamil	6	3	3	25	75	100
II	ELC	U214E4	English	6	3	3	25	75	100
III	CC - VII	U21PHC407	Optics	4	4	3	25	75	100
III	CC – VIII	U21PHC408P	Major Practical-IV	3	2	3	40	60	100
III	AC - V	U214ACH2P	Chemistry Practical	2	4	3	40	60	100
III	AC - VI	U214ACH3	Chemistry	3	3	3	25	75	100
IV	NMEC - II	U21PH4NME2:1	Simple Appliances	2	2	3	25	75	100
		U21PH4NME2:2	Photography						
IV	SEC - I	U214PHSE1	Electrical Appliances -Theory	2	2	3	25	75	100
IV	Nanmuthal van course	U23NM4DS	Digital skills for Employability	2	2	-	--	-	-
			TOTAL	**30**	**25**				**800**
	SSC - II	U214SS2	Social Study for Competitive Examinations	-	2	2	-	100	100

SEMESTER V

Part	Course Type	Course Code	Title of the Course	Hrs/ Week	Cre dits	Exam hrs	Marks		
							CIA	ESE	Total
III	CC – IX	U21PHC509	Electricity and Magnetism	5	5	3	25	75	100
III	CC - X	U21PHC510	Atomic Physics	5	5	3	25	75	100
III	CC - XI	U21PHC511	Basic Electronics	5	5	3	25	75	100
III	CC- XII	U21PHC512P	Major Practical-V	6	4	3	40	60	100
III	MBEC – I	U21PH5MBE1:1	Spectroscopy and Laser Physics	5	5	3	25	75	100
		U21PH5MBE1:2	Biophysics and Biomedical Applications						
		U21PH5MBE1:3	Materials Science						
IV	SEC -II	U214PHSE2	Medical Physics – Theory	2	2	3	25	75	100
IV	SEC -III	U214PHSE3	Audio and Video Systems - Theory	2	2	3	25	75	100
			TOTAL	**30**	**28**	**-**	**-**	**-**	**700**

SEMESTER VI

Part	Course Type	Course Code	Title of the Course	Hrs/ Week	Cre dits	Exam hrs	Marks		
							CIA	ESE	Total
III	CC - XIV	U21PHC614	Solid State Physics	6	5	3	25	75	100
III	CC – XV	U21PHC615P	Major Practical-VI	6	4	3	40	60	100
III	MBEC – II	U21PH6MBE2:1	Integrated Electronics	6	5	3	25	75	100
		U21PH6MBE2:2	Electronic Communications						
		U21PH6MBE2:3	Opto Electronics and Fibre Optics						
III	MBEC – III	U21PH6MBE3:1	Computer Programming-C Language	5	5	3	25	75	100
		U21PH6MBE3:2	C++ Programming						
		U21PH6MBE3:3	Networking in Computer						
V	AEC	U216GS	Gender Studies	1	1	3	25	75	100
V		U21EA	Extension Activities	-	1	-	-	-	-
			Total						

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS) KUMBAKONAM-612001
(Curriculum – M.Sc., PHYSICS – 2020 – 2021)
Department: PHYSICS Programme Code : PSPH

SEMESTER - I									
Course Type		**Course Code**	**Title of the Course**	**Hrs/ Week**	**Credits**	**Exam Hrs**	**Marks**		
							CIA	**ESE**	**Total**
Core - I		P21PHC101	Classical Dynamics & Relativity	6	5	3	25	75	100
Core - II		P21PHC102	Mathematical Physics	6	5	3	25	75	100
Core- III		P21PHC103	Numerical Methods	5	5	3	25	75	100
Core -IV		P21PHC104P	General Experiments	6	3	4	40	60	100
Major Based Elective - I	Choice I	P21PH1MBE1:1	1.Analog Electronics, Microprocessor and Microcontroller	5	4	3	25	75	100
	Choice II								
	Choice III	P21PH1MBE1:2	2.Advanced Microprocessor and its Applications						
		P21PH1MBE1:3	3. Digital Electronics and Basic of microprocessors						
Skill Enhancement (Theory)		P21PH1SE1	Document Preparation System - Latex (Theory)	2	2	2	25	75	100
Total				**30**	**24**				**600**
SEMESTER - II									
Course Type		**Course Code**	**Title of the Course**	**Hrs/ Week**	**Credits**	**Exam Hrs**	**Marks**		
							CIA	**ESE**	**Total**
Core - V		P21PHC205	Statistical Mechanics	5	5	3	25	75	100
Core - VI		P21PHC206	Quantum Mechanics	5	5	3	25	75	100
Core - VII		P21PHC207	Programming in C++	5	5	3	25	75	100
Core - VIII		P21PHC208P	Electronic Experiments	6	3	4	40	60	100
Major Based Elective - II	Choice I	P21PH2MBE2:1	1. Experimental Techniques and Instrumentation	5		3	25	75	100
	Choice II	P21PH2MBE2:2							
	Choice III	P21PH2MBE2:3	2. Data Acquisition and control Systems						
			3. Advanced Measurement and Instrumentation						
Extra Disciplinary Course (EDC)		P21PH2ED	Reactor Physics	2	2	3	25	75	100
Skill Enhancement (Practical)		P21PH2SE2P	Document Preparation System - Latex (Practical)	2	1	2	40	60	100
Self study Course – I		P212SS1	General Studies for Research Fellowships and Lectureship	-	2	2	-	100	100
			Total	**30**	**25**				**800**
NCGPA (Internship)		INT			**2**		-	-	-

SEMESTER - III

Course Type		Course Code	Title of the Course	Hrs/ Week	Credits	Exam Hrs	Marks		
							CIA	ESE	Total
Core - IX		P21PHC309	Atomic and Molecular Spectroscopy	6	5	3	25	75	100
Core - X		P21PHC310	Electromagnetic Theory	6	5	3	25	75	100
Core - XI		P21PHC311	Nuclear and Particle Physics	6	5	3	25	75	100
Core - XII		P21PHC312P	Digital Electronics - I	6	3	4	40	60	100
Major Based Elective - III	Choice I	P21PH3MBE3:1	1. Communication Electronics	6	4	3	25	75	100
	Choice II	P21PH3MBE3:2	2. Integrated Electronics						
	Choice III	P21PH3MB3:3	3. Antenna theory and Radio wave propagation						
			Total	**30**	**22**				**500**
Self study Course – II		P21PH3SS2	Any Course on MOOC/NPTEL/ CSIR Physical Sciences For JRF And Lectureship	-	2	2	-	100	100

SEMESTER - IV

Course Type		Course Code	Title of the Course	Hrs/ Week	Credits	Exam Hrs	Marks		
							CIA	ESE	Total
Core - XIII		P21PHC413	Condensed Matter Physics	6	6	3	25	75	100
Core - XIV		P21PHC414P	Program with Microprocessor, Microcontroller and C++ Program	6	3	4	40	60	100
Core - XV		P21PHPW415	Project	12	6	-	25	75	100
Major Based Elective - IV	Choice I	P21PH4MBE4:1	1. Crystal Growth, Thin film and Nanoscience	6	4	3	25	75	100
	Choice II	P21PH4MBE4:2	2. Thin film science and Technology						
	Choice III	P21PH4MBE4:3	3. Nano photonics						
			Total	**30**	**19**				**400**

UG REVISED SYLLABUS 2018-2019

SEMESTER	COURSE TITTLE	COURSE CODE	TITLE OF THE PAPER	INSTRU. HRS	CREDIT	MARKS
I	Part-I Language	17GT1	Tamil	6	3	100
	Part-II Language	17GE1	English	6	3	100
	Part- III Core Course- I	18PHC101	Properties of Matter	6	5	100
	Part- III Core Course- II	18PHC202P1	Major Practical -I	3	-	-
	Part- III – Allied Course -I	171AM1	Mathematics	5	4	100
	Part- III – Allied Course -II	172AM2	Mathematics	4	3	-
			TOTAL	**30**	**18**	**400**
II	Part-I Language	17GT2	Tamil	6	3	100
	Part-II Language	17GE2	English	6	3	100
	Part- III Core Course- III	18PHC203	Mechanics& Relativ	5	5	100
	Part- III Core Course- II	18PHC202P1	Major Practical I	3	4	100
	Part- III – Allied Course -II	172AM2	Mathematics	2	3	100
	Part-III – Allied Course -III	172AM3	Mathematics	4	4	100
	Part-IV	UGCES	Environmental Stud	2	2	100
	Part-IV	18UVE	Value Education	2	2	100
			TOTAL	**30**	**26**	**800**
III	Part-I Language	17GT3	Tamil	6	3	100
	Part-II Language	17GE3	English	6	3	100
	Part- III Core Course- IV	18PHC304	Thermal and statisticalphysics	6	5	100

	Part- III Core Course-V	18PHC405P2	Major Practical-II	3	-	-
	Part- III – Allied Course-IV	183CH1	Chemistry	5	4	100
	Part- III – Allied Course -V	183CH2P	Allied Practical	2	-	-
	Part-IV- Non–MajorElective Course-I	18PH3NMEC1	Physics made easy	2	2	100
			TOTAL	**30**	**17**	**500**
IV	Part-I Language	17GT4	Tamil	6	3	100
	Part-II Language	17GE4	English	6	3	100
	Part- III Core Course-V	18PHC405P2	Major Practical-II	3	4	100
	Part- III Core Course-VI	18PHC406	Optics	4	5	100
	Part- III – Allied Course –V	184ACH2P	ChemistryPractical	3	4	100
	Part- III – Allied Course-VI	184ACH3	Chemistry	4	4	100
	Part –IV-Non-Major Elective Course-II	18PH4NMEC2	Simple Appliances	2	2	100
	Part-IV-Skill Based Elective Course -I	SBEA	Electrical Appliances	2	2	100
	TOTAL			**30**	**27**	**800**

V	Core Course- VII	18PHC507	Electricity And Magnetism	5	5	100
	Core Course- VIII	18PHC508	Atomic Physics	5	5	100
	Core Course- IX	18PHC509	Basic Electronics	5	5	100
	Core Course- X	18PHC510P3	Major Practical-III	6	4	100
	Major Based Elective- I	18PH5EC3:1 **18PH5EC3:2**	1.Spectroscopy And Laser Physics 2.Solid state and material science	5	4	100
	Part-IV-Skill Based Elective Course -II	SBMP	Medical Physics	2	2	100
	Part-IV-Skill Based Elective Course -III	SBAV	Audio and Video Systems	2	2	100
			TOTAL	**30**	**27**	**700**
VI	Core Course- XI	18PHC611	Wave Mechanics & Nuclear Physics	6	5	100
	Core Course- XII	18PHC612	Solid State Physics	6	5	100
	Core Course- XIII	18PHC613P4	Major Practical-IV	6	4	100
	Major Based Elective- II	18PH6EC4:1 **18PH6EC4:2**	1.Integrated Electronics 2.Electrical and electronics instrumentation	5	4	100
	Major Based Elective- III	18PH6EC5:1 18PH6EC5:2	**1.**Computer Programming-C Language **2.**Microprocessor and Microcontroller	6	5	100
	Extension Activities		-	-	1	-
	Part-V	18UGS	Gender Studies	1	1	100
	PART-III	U23NM6ER	Naan mudhalvan course-Employability Readiness	2	2	100
			TOTAL	**30**	**25**	**700**
			GRAND TOTAL	**182**	**142**	**3900**

P.G. – Revised Course Structure under CBCS

(For the Candidates admitted from the Academic year 2018 -19 onwards)

Semester	Course	COURSE CODE	Course Title	Ins. Hrs./ Week	Credit	Exam Hrs	Marks		Total
							Int.	Ext.	
I	CC -I	P18PHC101	Classical Dynamics And Relativity	6	5	3	25	75	100
	CC-II	P18PHC102	Mathematical Physics	6	5	3	25	75	100
	CC III	P18PHC103	Statistical Mechanics	6	5	3	25	75	100
	CC IV	P18PHC104P1	General Experiments	6	4	6	40	60	100
	EC-I	P18PH1EC1:1	1. Advanced Electronics	6	4	3	25	75	100
		P18PH1EC1:2	2. Advanced Microprocessor and its Apllications						
			Total	**30**	**23**				
II	CC-V	P18PHC205	Numerical Methods	6	5	3	25	75	100
	CC-VI	P18PHC206	Quantum Mechanics	6	5	3	25	75	100
	CC-VII	P18PHC207P2	Electronics Experiments	6	5	6	40	60	100
	CC-VIII	P18PHC208	Programming in C++	6	5	3	25	75	100
	EC-II	P18PH2EC2:1	Experimental Techniques and Instrumentation	6	4	3	25	75	100
		P18PH2EC2:2	Data Acquisition and Control systems						
			Total	**30**	**24**				
III	CC-IX	P18PHC309	Atomic and Molecular Physics	6	5	3	25	75	100
	CC-X	P18PHC310	Electromagnetic Theory	6	5	3	25	75	100
	CC-XI	P18PHC311	Nuclear and Particle Physics	6	5	3	25	75	100
	CC-XII	P18PHC312P3	Advanced Electronics-I	6	4	6	40	60	100
	EC-III	P18PH3EC3:1	1. Communication Electronics	6	4	3	25	75	100

		P18PH3EC3:2	2.Integrated Electronics						
			Total	**30**	**23**				
IV	CC-XIII	P18PHC413	Condensed Matter Physics	6	5	3	25	75	100
	CC-XIV	P18PHC414P4	Advanced Electronics II	6	5	6	40	60	100
	CC-XV	P18PWPH415	Project	12	6				100
	EC-IV	P18PH4EC4:1	1Crystal Growth, Thin flim and Nano Science	6	4	3	25	75	100
		P18PH4EC4:2	Thinfilm Science and Technology						
			Total	**30**	**20**				
			Grand Total	**120**	**90**				**1900**