Curriculum and Credit Framework for Undergraduate Programmes(CCFUGP)

For

B.Sc. Physics Honours(Single Major)/B.Sc. Physics Honours with Research (Single Major)

(1st -8th Semesters)

(Four Year Undergraduate Programme)

For batch w.e.f. academic session2024-25

Chaudhary Devi Lal University

Sirsa-125055, Haryana

Table 1: Course code and Title alongwith credits details, levels, marks B.Sc. Physics Honours(Single Major)/B.Sc. Physics Honours with Research (Single Major)

Sr. No.	Course category	CourseCode	Course		Credits			Marks		
				Level	Lecture+ Tutorial	Practical	Total	Int.	Ext.	Total
			Semester-I							
1.	DSC	BSc/Phy/SM/1/DSC/101	Mechanics	100	3	-	3	25	50	75
2.		BSc/Phy/SM/1/DSC/102	Physics Lab.-I	100		1	1	-	25	25
3.		BSc/Phy/SM/1/DSC/103	Electricity & Magnetism	100	3	-	3	25	50	75
4.		BSc/Phy/SM/1/DSC/104	Physics lab.-II	100		1	1	-	25	25
5.	MIC	BSc/Phy/SM/1/MIC/101	Elements of Modern Physics	100	4	-	4	30	70	100
6.	MDC	To be opted by student from the pool of MDC		100			3	25	50	75
7.	AEC	To be opted by student from the pool of AEC		100			2	15	35	50
8.	SEC	CDLU/Phy/1/SEC/101	Electrical Circuits & Networks	100	3		3	25	50	75
9.	VAC	CDLU/Phy/1/VAC/101	To be opted by student from the pool of VAC	100	2		2	15	35	50
			Totals				**22**			**550**
			Semester-II							
1.	DSC	BSc/Phy/SM/2/DSC/105	Thermal Physics	100	3	-	3	25	50	75
2.		BSc/Phy/SM/2/DSC/106	Physics Lab.-III	100		1	1	-	25	25
3.		BSc/Phy/SM/2/DSC/107	Wave & Optics	100	3	-	3	25	50	75
4.		BSc/Phy/SM/2/DSC/108	Physics Lab.-IV	100		1	1	-	25	25
5.	MIC	BSc/Phy/SM/2/MIC/102	Electromagnetic Theory	100	4	-	4	30	70	100
6.	MDC	To be opted by student from the pool of MDC					3	25	50	75
10.	AEC	To be opted by student from the pool of AEC		100			2	15	35	50
7.	SEC	CDLU/Phy/2/SEC/102	Physics Lab.-V, Electrical Circuits & Networks Lab.	100		3	3	25	50	75
8.	VAC	CDLU/Phy/2/VAC/102	To be opted by student from the pool of VAC	100	2		2	15	35	50
			Total				**22**			**550**

Table 2: Course code and Title alongwith credits details, levels, marks B.Sc. Physics Honours(Single Major)/B.Sc. Physics Honours with Research (Single Major)

Sr.No.	Course category	Course Code	Course		Credits			Marks		
				Level	Lecture+ Tutorial	Practical	Total	Int.	Ext.	Total
Semester-III
1.	DSC	BSc/Phy/SM/3/DSC/201	Mathematical Physics-I	200	4	-	4	30	70	100
3.		BSc/Phy/SM/3/DSC/202	Physics Lab.-VI	200	-	2	2	-	50	50
4.		BSc/Phy/SM/3/DSC/203	Physics lab.-VI	200	-	2	2	-	50	50
5.		BSc/Phy/3/MIC/201	Solid State Physics	200	4	-	4	30	70	100
6.	MDC		To be opted by student from the pool of MDC	200			3	25	50	75
7.	SEC	CDLU/Phy/3/SEC/201	To be opted by student from the pool of SEC	200	2		2	15	35	50
8.		CDLU/Phy/3/SEC/202	. To be opted by student from the pool of SEC	200		1	1		25	25
9.	AEC		To be opted by student from the pool of MDC	200	2		2	15	35	50
10.	VAC		To be opted by student from the pool of VAC	200			2			50
	**Totals**			22			550
Semester-IV
1.	DSC	BSc/Phy/SM/4/DSC/204	Physics of Semiconductor Devices	200	4	-	4	30	70	100
2.		BSc/Phy/SM/4/DSC/205	==Classical and Statistical Physics==	200	4	-	4	30	70	100
3.		BSc/Phy/SM/4/DSC/206	Physics Lab.-VIII	200	-	2	2	-	50	50
4.		BSc/Phy/SM/4/DSC/207	Physics Lab.-IX	200	-	2	2	-	50	50
6.		BSc/Phy/SM/4/DSC/208	Basics of Lasers	200	4		4	30	70	100
5.	MIC	BSc/Phy/SM/4/MIC/202	Computational Physics : Fortran Programming	200	4	-	4	30	70	100

Sr. No.	Course category	CourseCode	Course	Level	Lecture+ Tutorial	Practical	Total	Int.	Ext.	Total
7.	AEC		To be opted by student from the pool of AEC	200	2		2	15	35	50
8.	VAC		To be opted by student from the pool of VAC	200			2			50
			Total				**24**			**600**

Table 3: Course code and Title alongwith credits details, levels, marks B.Sc. Physics Honours(Single Major)/B.Sc. Physics Honours with Research (Single Major)

Sr. No.	Course category	CourseCode	Course	Credits				Marks		
				Level	Lecture+ Tutorial	Practical	Total	Int.	Ext.	Total
			Semester-V							
1.	DSC	BSc/Phy/SM/5/DSC/301	Mathematical Physics-II	300	4	-	4	30	70	100
2.		BSc/Phy/SM/5/DSC/302	Basic Quantum Physics	300	4	-	4	30	70	100
3.		BSc/Phy/SM/5/DSC/303	Atomic and Molecular Spectroscopy	300	4	-	4	30	70	100
4.		BSc/Phy/SM5//DSC/304	Analog Systems and Applications	300	4		4	30	70	100
5.		BSc/Phy/SM/5/MIC/301	Physics Lab.-X	300	-	2	2		50	50
6.		BSc/Phy/SM/5/MIC/302	Physics lab.-XI	300	-	2	2		50	50
7s.		BSc/Phy/SM/5/INT/301	Internship	300		4	4			100
							24			**600**
			Semester-VI							
1.	DSC	BSc/Phy/SM/6/DSC/305	Nuclear Physics	300	4	-	4	30	70	100
2.		BSc/Phy/SM/6/DSC/306	Basic Classical Mechanics	300	4	-	4	30	70	100
3.		BSc/Phy/SM/6/DSC/307	Digital Systems and Applications	300	4	-	4	30	70	100
4.		BSc/Phy/SM/6//DSC/308	Introduction to Materials	300	4	-	4	30	70	100

5.		CDLU/Phy/6/MIC/303	Physics Lab. -XII	300		2	2		50	50
6.		CDLU/Phy6//MIC/304	Physics Lab. –XIII	300		2	2		50	50
7.	SEC	CDLU/Phy/6/SEC/301	To be opted by student from pool of SEC	300	2		2	15	35	50
			Total				**22**			**550**

Table 4: Course code and Title alongwith credits details, levels, marks B.Sc. Physics Honours(Single Major)/B.Sc. Physics Honours with Research (Single Major)

Sr. No.	Course Code	Course Title		Credits		
Semester VII			**Theory**	**Practical**	**MM**	**Total**
1.	BSc/H/Phy/7/DSC/401	Mathematical Physics	4	-	100	4
2.	BSc/H/Phy/7/DSC/402	Research Methodology	4	-	100	4
3.	BSc/H/Phy/7/DSC/403	Fundamentals of Electronics	4	-	100	4
4.	BSc/H/Phy/7/DSC/404	Quantum Mechanics-I	4	-	100	4
5.	BSc/H/Phy/7/DSC/405	Physics Lab-XIV(General)	-	4	100	4
6.	BSc/H/Phy/7/MIC/401	Physics Lab-XV (Electronics)	-	4	100	4
		Total	**16**	**8**	**600**	**24**
	Semester VIII[for B.Sc. Physics Honours (Single Major)]					
2.	BSc/H/Phy/8/DSC/406	Classical Electrodynamics	4	-	100	4
3.	BSc/H/Phy/8/DSC/407	Condensed Matter Physics	4	-	100	4
	BSc/H/Phy/8/DSC/408	Electronic Devices and Fabrication of Electronics circuits and Systems	4		100	4
4.	BSc/H/Phy/8/DSC/409	Quantum Mechanics-II	4	-	100	4
5.	BSc/H/Phy/8/DSC/410	Physics Lab-XVI (General)	-	4	100	4
6.	BSc/H/Phy/8/MIC/402	Physics Lab-XVII (Electronics)	-	4	100	4
		Total	**16**	**8**	**600**	**24**

	Semester VIII[for B.Sc. Physics Honours with Research (Single Major)]					
1.	BSc/H/Phy/8/DSC/406	Classical Electrodynamics	4	-	100	4
2.	BSc/H/Phy/8/DSC/407	Condensed Matter Physics	4	-	100	4
3.	BSc/H/Phy/8/MIC/402	Physics Lab-XVII (Electronics)	-	4	100	4
4.	BSc/H/Phy/8/RP/401	Research Project		12	300	12

Total	**8**	**16**	**600**	**24**

Notes:
1. Experiments in the Laboratory Courses may be added/removed from time to time as per requirement/availability/necessity of them under theprogramme. Experiments may be performed physically or virtually as per availability/necessity/requirement.
2. MDC, AEC, VAC and SEC courses opted by students from pool of courses MDC, AEC, VAC and SEC courses respectively.

Abbreviations:
DSC-Discipline Specific Courses(DSC)
MIC-Minor Courses(MIC)
SEC-Skill Enhancement Course(SEC)
MDC-Multidisciplinary Course
AEC- Ability Enhancement
Course
VAC-Value Added
Courses(VAC)