

CHAITANYA

(DEEMED TO BE UNIVERSITY)

Learning Outcome based Curriculum Framework (LOCF)

For
PHYSICS

Undergraduate Program (w.e.f academic year 2022-2023).



**DEPARTMENT OF PHYSICS AND ELECTRONICS
CHAITANYA (DEEMED TO BE UNIVERSITY)
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**B.Sc. (MATHS, PHYSICS& COMPUTER SCIENCE), Physics as one of the Core Subject.
LOCF, CBCS, Course structure, Scheme of Instructions and Examinations**

I Semester							
CODE	COURSE TITLE	COUSRE TYPE	HPW	CREDITS	Marks Internal	Marks External	Total Marks
	English	AECC-1	2	2	15	35	50
	Basic Computer Skills	AECC-2	2	2	NA	50	50
	Differential Calculus	CC-1A	4	4	30	70	100
	Mechanics	CC-1B	4	4	30	70	100
	Programming in C	CC-1C	4	4	30	70	100
	Differential Calculus lab	CC-1A-P	3	2	15	35	50
	Mechanics lab	CC-1B-P	3	2	15	35	50
	Programming in C Lab	CC-1C-P	3	2	15	35	50
	Seminar		3	2	15	35	50
	TOTAL		28	24	165	435	600

II Semester							
CODE	COURSE TITLE	COUSRE TYPE	HPW	CREDITS	Marks Internal	Marks External	Total Marks
	English	AECC-3	2	2	15	35	50
	Environmental Science	AECC-4	2	2	NA	50	50
	Differential Equations	CC-2A	4	4	30	70	100
	Thermal Physics	CC-2B	4	4	30	70	100
	Programming in C++	CC-2C	4	4	30	70	100
	Differential Equations lab	CC-2A-P	3	2	15	35	50
	Thermal Physics lab	CC-2B-P	3	2	15	35	50
	Programming in C++ lab	CC-2C-P	3	2	15	35	50
	Seminar		3	2	15	35	50
	TOTAL		28	24	165	435	600

SEMESTER – III							
CODE	COURSE TITLE	COURSE TYPE	HPW	CREDIT S	Internal Marks	External Marks	Total Marks
	Open elective	SEC-I	4	4	30	70	100
	Real Analysis	CC-3A	4	4	30	70	100
	Waves and Optics	CC-3B	4	4	30	70	100
	Data structures using C ⁺⁺	CC-3C	4	4	30	70	100
	Real Analysis lab	CC-3A-P	3	2	15	35	50
	Waves and Optics lab	CC-3B-P	3	2	15	35	50
	Data structures using C ⁺⁺ lab	CC-3C-P	3	2	15	35	50
	Seminar		3	2	15	35	50
	TOTAL		28	24	180	420	600

SEMESTER – IV							
CODE	COURSE TITLE	COURSE TYPE	HPW	CREDITS	Internal Marks	External Marks	Total Marks
	Vector Analysis	SEC-II	4	4	30	70	100
	Higher Algebra	CC-4A	4	4	30	70	100
	Electricity and Magnetism	CC-4B	4	4	30	70	100
	Database Management System	CC-4C	4	4	30	70	100
	Higher Algebra lab	CC-4A-P	3	2	15	35	50
	Electricity and Magnetism lab	CC-4B - P	3	2	15	35	50
	Database Management System lab	CC-4C - P	3	2	15	35	50
	Seminar		3	2	15	35	50
	TOTAL		28	24	180	420	600

SEMESTER – V							
CODE	COURSE TITLE	COURSE TYPE	HPW	CREDITS	Internal Marks	External Marks	Total Marks
	SEC-III B (Applied Optics/ Fundamentals of Nano Science and Nano Technology / Communication System)	SEC-IIIA	4	4	30	70	100
	Core I	DSE1 – A	4	4	30	70	100
	Basic Electronics	DSE1 – B	4	4	30	70	100
	Core III	DSE1 – C	4	4	30	70	100
	Core I Lab	DSE1 - A - P	4	2	15	35	50
	Basic Electronics Lab	DSE1 - B - P	4	2	15	35	50
	Core III Lab	DSE1 - C - P	4	2	15	35	50
	Seminar		3	2	15	35	50
	TOTAL		31	24	180	420	600

SEMESTER – VI							
CODE	COURSE TITLE	COURSE TYPE	HPW	CREDITS	Internal Marks	External Marks	Total Marks
	SEC-IV C	SEC-IVA	4	4	30	70	100
	Core I	DSE2 – A	4	4	30	70	100
	Modern Physics	DSE2 – B	4	4	30	70	100
	Core III	DSE2 – C	4	4	30	70	100
	Core I Lab	DSE2 - A – P	4	2	15	35	50
	Modern Physics Lab	DSE2 - B – P	4	2	15	35	50
	Core III Lab	DSE2 - C – P	4	2	15	35	50
	Seminar		3	2	15	35	50
	TOTAL		31	24	180	420	600

S.No.	SEMESTER	CREDITS	MARKS
1	I	24	600
2	II	24	600
3	III	24	600
4	IV	24	600
5	V	24	600
6	VI	24	600
		144	3600

AECC: Ability Enhancement Compulsory Course	08 credits
SEC: Skill Enhancement Course	16 credits
CC: Core Compulsory	72 credits
DSE: Discipline Specific Elective	36 credits
Seminars	12 credits
Total	144 credits

Non CGPA Courses 12 credits*

NCC	2 credits	NSS	2 credits
Community Service	2 credits	Extra Curricular activities	2 credits
Farming	2 credits	Sports and Games	2 credits

*Non CGPA courses credits are not counted for CGPA calculation. Student should acquire minimum 4 Non CGPA credits to get degree.

Marks Distribution:

Theory:

Internal Marks: 30

First Internal – 10 marks

Second Internal – 10 marks

Assignment – 10 marks

External Marks: 70

Sections – A

12 Shorts questions (3 questions from each chapter)

6 questions to be answered

6 x 5 = 30 marks

Section –B

4 Long questions with internal choice from each chapter

4 x 10 = 40

Practical:

Internal Marks: 15

5 marks for attendance

10 marks for internal exam

External Marks: 35

5 marks for record

5 marks for viva-voce (written or oral)

25 marks for experiment

Course Structure

The B.Sc. program consists of 144 credits in accordance with the Choice Based Credit System (CBCS) approved by the UGC with 1 weekly -contact-hour for each credit for theory/tutorials and 2 weekly-contact-hours for each credit of laboratory work.

1. Credit-wise Distribution - Out of 144 credits, 108 credits are equally divided among three optional subjects, denoted as A, B and C, (36 Credits each). 36 credits for each subject are further distributed as 24 credits for Core Compulsory Courses (CC) and 12 credits for Discipline Specific Electives (DSE). There are 8 credits for Ability Enhancement Compulsory Courses. SEC's will have 16 credits.
2. Course-wise Distribution - There are 4 CC courses for each optional subject. Each CC

course is of 6 credits (4 Theory + 2 Practicum). Similarly, there are 2 DSE papers, each of 6 credits. There are 4 Skill Enhancement Courses (SEC) each of 4 credits with a total of 16 credits. 16 credits of SEC are distributed as 12 credits (3 courses) for optional A, B & C and 4 credits (1 course for open elective). There are four AECC namely, English-I, English-II, Environmental Sciences and Basic computer skills with 2 credits.

3. Semester-wise Distribution – B.Sc. with Optional-A is a 3-Yr program with 6 semesters. In each semester, there will be 22 credits. For each of first four semesters, there will be 3 CC, one each for subjects A, B and C accounting to 18 credits. Similarly, for semesters 5 and 6, there will be 3 DSE in each semester and one DSE for each of three subjects (A, B and C). AECC will be offered in first two semesters. SEC will be offered in semesters 3, 4, 5 and 6 and a student is required to take any one SEC from a pool of options.

A student can take more than 144 credits in total (but not more than 148 credits) to qualify for the grant of the B.Sc. degree after completing them successfully as per rules and regulations of the HEI.