

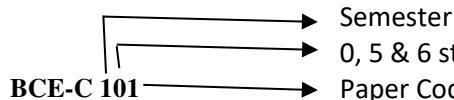
GURUKULA KANGRI (Deemed to be University), HARIDWAR
Faculty of Engineering & Technology
Computer Science & Engineering

B.Tech. I Year
Semester - I

DSC/ SEC/ AECC	Subject	Periods			Evaluation Scheme			Total Marks	Credits
					Continuous Internal Assessment		CIA Total	ESE	
		L	T	P	CT	TA			
THEORY									
BAC-C102/ BAC-C202	Engineering Chemistry	3	1	0	20	10	30	70	100
BEM-C102	Engineering Mathematics – I	3	1	0	20	10	30	70	100
BCE-C102/ BCE-C202	Programming for Problem Solving	3	1	0	20	10	30	70	100
BME-C103	Basic Mechanical Engineering	3	1	0	20	10	30	70	100
BEN-A103	Environmental Studies	2	0	0	20	10	30	70	100
	Induction Program	Only for first 3 weeks							
PRACTICAL									
BAC-C151/ BAC-C251	Engineering Chemistry Lab	0	0	2	10	5	15	35	50
BCE-C151 BCE-C251	Programming for Problem Solving Lab	0	0	2	10	5	15	35	50
BME-C153/ BME-C253	Engineering Graphics and Design Lab	0	0	2	10	5	15	35	50
BEG-A151/ BEG-A251	Technical Communication	0	0	2	10	5	15	35	50
	TOTAL	14	4	8	140	70	210	490	700
									21

Coding:

BCE : Computers	BET : Electronics	BEM : Mathematics
BEE : Electricals	BHU : Humanities	BME : Mechanical
BAC : Chemistry	BAP : Physics	BEN : Environment
C : Discipline Specific Course	A : Ability Enhancement	S : Skill Enhancement Course
Compulsory Course		
E : Discipline Elective Course	G : Generic Elective	ESE : End Semester Examination


 BCE-C 101 → Paper Code

 → Semester

 → 0, 5 & 6 stands for Theory, Practical & Seminar / Project respectively

L- LECTURE; T- TUTORIAL; P- PRACTICAL; CT-CUMULATIVE TEST;
 TA- TEACHER ASSESSMENT; ESE-ENDSEMESTER EXAMINATION





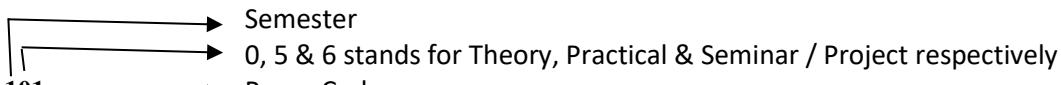
GURUKULA KANGRI (Deemed to be University), HARIDWAR
Faculty of Engineering & Technology
Computer Science & Engineering

B. Tech. I Year
Semester - II

Subject code	Subject	Periods			Evaluation Scheme			Total marks	Credit
					Continuous Internal Assessment	CIA Total	ESE		
		L	T	P	CT	TA			
THEORY									
BAP-C202	Engineering Physics	3	1	0	20	10	30	70	100
BEM-C202	Engineering Mathematics-II	3	1	0	20	10	30	70	100
BEE-C202	Basic Electrical Engineering	3	1	0	20	10	30	70	100
BET-C202	Electronic Devices	3	1	0	20	10	30	70	100
BHU-S202	Vedic Science & Engineering	3	1	0	20	10	30	70	100
	Summer Training and Internship	A training or internship is to be pursued after II sem, and the credits will be given in III sem after submitting the training certificate followed by presentation							
PRACTICAL									
BAP-C251	Engineering Physics Lab	0	0	2	10	5	15	35	50
BEE-C251	Basic Electrical Engineering Lab	0	0	2	10	5	15	35	50
BET-C251	Electronic Devices Lab	0	0	2	10	5	15	35	50
BME-C152/ BME-C252	Workshop Practice	0	0	2	10	5	15	35	50
BSP-S251	Physical Training & Yoga	0	0	2	0	0	50	0	50
	TOTAL	15	5	10	140	70	260	490	750
									20

Coding

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E	: Discipline Elective Course	Compulsory Course		End Semester Examination	
		Generic Elective		ESE	


 BCE-C 101 → Paper Code
 → 0, 5 & 6 stands for Theory, Practical & Seminar / Project respectively

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GURUKULA KANGRI (Deemed to be University), HARIDWAR
Faculty of Engineering & Technology
Computer Science & Engineering

B.Tech. II Year
Semester - III

DSC/ SEC/ AECC	Subject	Periods			Evaluation Scheme			Total Marks	Credits		
		Continuous Internal Assessment			CIA Total	ESE					
		L	T	P							
THEORY											
BEM-C302	Engineering Mathematics- III	3	1	0	20	10	30	70	100		
BET-C306	Digital System Design	3	0	0	20	10	30	70	100		
BCE-C307	Python Programming	3	0	0	20	10	30	70	100		
BCE-C305/ BCE-C405	Data Structure-I	3	0	0	20	10	30	70	100		
BCE-C306	Computer Architecture & Organization	3	0	0	20	10	30	70	100		
PRACTICAL											
BCE-C355	Digital System Design Lab	0	0	2	10	5	15	35	50		
BCE-C354	Python Programming lab	0	0	2	10	5	15	35	50		
BCE-C355/ BCE-C454	Data Structure-I Lab	0	0	2	10	5	15	35	50		
BEM-C356	Presentation	0	0	2	10	5	15	35	50		
	TOTAL	15	1	8	140	70	210	490	700		
									20		

Coding:

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Compulsory Course		
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BCE-C 101 → Semester
 BCE-C 101 → 0, 5 & 6 stands for Theory, Practical & Seminar / Project respectively
 BCE-C 101 → Paper Code

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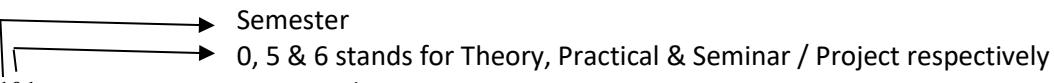
GURUKULA KANGRI (Deemed to be University), HARIDWAR
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Computer Science & Engineering

B. Tech. II Year
Semester - IV

Subject code	Subject	Periods		Evaluation Scheme				Total marks	Credit
				Continuous Internal Assessment		CIA Total	ESE		
		L	T	P	CT	TA			
THEORY									
BEM-C403	Discrete Mathematics	3	1	0	20	10	30	70	100
BCE-C408	Database Management System	3	0	0	20	10	30	70	100
BCE-C406	Object Oriented Programming using Java	3	0	0	20	10	30	70	100
BCE-C407	Operating System	3	0	0	20	10	30	70	100
BET-C411	Microprocessor and Interfacing	3	0	0	20	10	30	70	100
BKT-A403	Bhartiya Gyan Parampara (IKT)	2	0	0	20	10	30	70	100
	Summer training and Internship	To be pursued during summer vacations, certificate of completion to be submitted in the department							
PRACTICAL									
BCE-C455	DBMS Lab	0	0	2	10	5	15	35	50
BCE-C456	Object Oriented Programming using Java Lab	0	0	2	10	5	15	35	50
BET-C461	Microprocessor and Interfacing Lab	0	0	2	10	5	15	35	50
BCE-A460	MOOC (Soft Skills)	0	0	2	10	5	15	35	50
	TOTAL	17	1	8	160	80	240	560	800
									20

Coding

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			Compulsory Course		
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BCE-C 101 → Paper Code

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GURUKULA KANGRI (Deemed to be University), HARIDWAR
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Computer Science & Engineering

B. Tech. Third Year
Syllabus in accordance with AICTE Model Curriculum

SEMESTER-V

DSC/SEC/DS E/AEC	SUBJECT	PERIODS			EVALUATION SCHEME			Subject Total	Credits
					SESSIONAL EVALUATION				
		L	T	P	CT	TA	Total		
THEORY									
BCE-C511	Computer Network	3	1	0	20	10	30	70	100
BCE-C512	Advance Data Structure	3	1	0	20	10	30	70	100
BCE-C513	Design & Analysis of Algorithm	3	1	0	20	10	30	70	100
BCE-C514	Cloud Computing	3	1	0	20	10	30	70	100
BCE-M001	Universal Human Values	3	0	0	20	10	30	70	100
BCE-P5XX	Program Elective - I	3	0	0	20	10	30	70	100
BCE-O5XX	Open Elective - I	3	0	0	20	10	30	70	100
PRACTICAL									
BCE-C561	Advance Data Structure Lab	0	0	2	10	5	15	35	50
BCE-C562	Cloud Computing Lab	0	0	2	10	5	15	35	50
BCE-S570	Summer Training and Internship Program-II Presentation*	0	0	2	10	5	15	35	50
TOTAL		21	04	06	170	85	255	595	850
									25

*For the Summer Training and Internship program done in summer break after IV semester examination, A certificate of completion to be submitted along with the presentation in the department. In case a student is unable to do an internship in some company, he may do any one extra online skill enhancement course.

Program Elective - I

BCE-P515	Object Oriented Programming Using CPP
BCE-P516	Computer Graphics
BCE-P517	Machine Learning – I
BCE-P518	Software Engineering
BCE-P519	Data Analytics -1
BCE-P520	Complexity Theory

Open Elective Subject List -1

BCE-O530	Advance Operating System
BCE-O531	Functional Programming Principles with Scala
BET-O532	Signals and Systems
BCE-O533	Business Economics and Financial Analysis
BCE-O534	Introduction to AI
BCE-0535	Linux and Shell Programming

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B. Tech. Third Year
Syllabus in accordance with AICTE Model Curriculum

SEMESTER-VI

DSC/SEC/DS E/AEC	SUBJECT	PERIODS			EVALUATION SCHEME			Subject Total	Credits
					SESSIONAL EVALUATION		EXAM ESE		
		L	T	P	CT	TA	Total		
THEORY									
BCE-C611	Distributed Systems	3	1	0	20	10	30	70	100
BCE-C612	Formal Languages and Automata Theory	3	1	0	20	10	30	70	100
BET-C613	Embedded Systems	3	1	0	20	10	30	70	100
BCE-M002	Intellectual Property Rights	3	0	0	20	10	30	70	100
BCE-P6XX	Program Elective – II	3	0	0	20	10	30	70	100
BCE-O6XX	Open Elective-II	3	0	0	20	10	30	70	100
PRACTICAL									
BCE-C661	Distributed Systems Lab	0	0	2	10	5	15	35	50
BET-C662	Embedded Systems Lab	0	0	2	10	5	15	35	50
BCE-P663	Project	0	0	2	10	5	15	35	50
BCE-S670	Seminar on Latest Technologies	0	0	2	10	5	15	35	50
TOTAL		18	03	08	160	80	240	560	800
25									

Program Elective Subject List- II

BCE-P614	Machine Learning - 2
BCE-P615	Advance Database Management System
BCE-P616	Software Project Management
BET-P617	Digital Signal Processing
BCE-P618	High Performance Computer Architecture
BCE-P619	Full Stack Web Development
BCE-P620	Data Analytics -2
BCE-P621	Cyber Forensics
BCE-P622	Augmented Reality and Virtual Reality

Open Elective -II

BCE-O630	Applied AI
BET-O631	Digital Image Processing
BCE-O632	Industrial Economics and Business Administration
BCE-O633	Introduction to Data Science and Design Thinking
BCE-O634	Data Mining
BCE-O635	Natural Language Processing
BCE-O636	E-commerce & Social Media Analysis
BCE-O637	Java Programming and Introduction to Python**
BCE-O657	Java Programming and Introduction to Python Lab**



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Computer Science & Engineering

B. Tech. Fourth Year
Syllabus in accordance with AICTE Model Curriculum

SEMESTER-VII

DSC/SEC/DSE/ AEC	SUBJECT	PERIODS			EVALUATION SCHEME			Subject Total	Credits
					SESSIONAL EVALUATION				
		L	T	P	CT	TA	Total		
THEORY									
BCE-C711	Compiler Design	3	1	0	20	10	30	70	100
BCE-C712	Linux System Administration	3	1	0	20	10	30	70	100
BCE-P7XX	Program Elective -III	3	0	0	20	10	30	70	100
BCE-O7XX	Open Elective –III /	3	0	0	20	10	30	70	100
PRACTICAL									
BCE-C762	Linux System Administration Lab	0	0	2	10	5	15	35	50
BCE-P770	Minor Project with research paper	0	0	8	20	10	30	70	100
TOTAL		12	2	10	110	55	165	385	550
21									



Program Elective Subject List - III

BCE-P713	Wireless Networks
BCE-P714	Information and Network Security
BCE-P716	Human Computer Interaction
BCE-P717	Block Chain
BCE-P718	Deep Learning
BCE-P719	Fuzzy logic and Neural Networks
BCE-P720	Real Time Operating System
BET-P721	Internet of Things

Open Elective -III

BCE-O731	Optimization Techniques in Computing
BCE-O732	Parallel and Distributed System
BCE-O733	Adhoc and Sensor Networks
BET-O734	BioMedical Signal Processing
BCE-O735	Ecommerce
BCE-O736	Human Resource and Organization Behaviour
BCE-O737	Soft Computing
BCE-O738	Storage Management
BCE-O739	Quantum Computing
BCE-O740	Computer Vision
BCE-O741	AI in Healthcare
BCE-O742	Neural Networks and Deep Learning



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B. Tech. Fourth Year
Syllabus in accordance with AICTE Model Curriculum

SEMESTER-VIII

DSC/SEC/DSE /AEC	SUBJECT	PERIODS			EVALUATION SCHEME			Subject Total	Credits	
					SESSIONAL EVALUATION		EXAM ESE			
		L	T	P	CT	TA	TOTAL			
THEORY										
BCE-O8XX	MOOC- I	3	1	0	20	10	30	70	100	4
BCE-O8XX	MOOC- II	3	1	0	20	10	30	70	100	4
BCE-O8XX	MOOC- III	3	1	0	20	10	30	70	100	4
PRACTICAL										
BCE-P861	Major Project with Research paper	0	0	16	0	100	100	300	400	6+3
TOTAL		09	03	16	60	130	190	510	700	21

List of MOOC courses shall be decided by the departmental committee in each semester depending upon the list from SWAYAM/NPTEL and other recognized online platforms. Students have to study from Online Platform doubt sessions shall be held by Internal teachers and exams shall be taken by university. If a student wishes he can give exam of Online Platform for certification. SWAYAM courses to run every year from July onwards (Odd Semester) are declared in the month of May and for courses to run every year from January onwards (Even Semester) are declared in the month of December on website <https://swayam.gov.in/>.