

UG Course Structure for Computer Science & Engineering (2024-25 Onwards)

Cat.	Deviation	Programme Components	CSE	Recommended (IV Years)	
				Min	Max
HU	0	Humanities and Social Science	22	22	22
IS	0	Science	68	62	84
IE	0	Institute Requirement Engineering/ Pharmacy	48	41	60
EP	0	Engineering Drawing (Manual and Computer Aided), Manufacturing Practices and Practice course of Department/ School	21	18	24
LM	0	Language and Management*	18	18	18
DC/ MC	0	Department/Programme Core	153	105	175
DE/ BE	0	Department/Programme Elective	36	30	75
OE	0	Open Elective (Interdisciplinary Stream courses from Science/ Engineering/Pharmacy)	36	35	80
DP	0	Project/ Industrial visit/ Training	30	20	50
DT	0	Dissertation	0	0	0
		Total	432	430	460

L: Lecture hours; T: Tutorial hours; P: Laboratory/ Practical hours; C: Credits

UG-CRC Code	Course Code	Course Name	L-T-P			Credits
Computer Science and Engineering : 4-Year B. Tech. I-Semester						
IH.H101.23	H101	Universal Human Values - I: Self and Family	2	0	0	6
GY.PE101.23	PE101	Elementary Physical Education	0	1	3	5
GY.CP101.23	CP101	Creative Practices #	0	1	3	5
		Total	2	2	6	16
LM.HL101.23	HL101	Basic English *	2	0	1	7
		Total	4	2	7	23

#Creative Practices course to be announced by Dean Academic Office

*Basic English course to be taken by student as recommended after Diagnostic Test

Computer Science and Engineering : 4-Year B.Tech. I-Semester						
IS.BL 101.23	BL101	Biology	3	1	0	11
IS.PHY 101.23	PHY101	Physics I: Classical, Quantum & Relativistic Mechanics	3	1	2	13
IS.MA 101.23	MA101	Engineering Mathematics- I	3	1	0	11
IE.CSO101.23	CSO101	Computer Programming	3	1	2	13
EP.ME 106.23	ME106	Manufacturing Practices-II	0	0	3	3
		Total	12	4	7	51

Computer Science and Engineering : 4-Year B. Tech. II-Semester						
IS.MA 102.23	MA102	Engineering Mathematics- II	3	1	0	11
IE.EO 101.23	EO101	Fundamentals of Electrical Engineering	3	1	2	13
DC.CSE 102.23	CSE102	Data Structures	3	0	2	11
EP.CSE103.23	CSE103	Information Technology Workshop (ITW)	2	0	3	9
EP.ME 104.23	ME104	Engineering Drawing	1	0	3	6
EP.ME 105.23	ME105	Manufacturing Practices – I	0	0	3	3
IH.H105.23	H105	Philosophy	2	1	0	8
IH.H 106.23	H106	Education & Self #				
		Total	14	3	13	61

The students have to choose one course from H105 & H106.

Computer Science and Engineering : 4-Year B. Tech. III-Semester

IS.MA202.23	MA202	Probability and Statistics	3	1	0	11
IE.CMO102.23	ME102	Engineering Mechanics	3	1	0	11
DC.CSE201.23	CSE201	Computer System Organization	3	0	2	11
DC.CSE202.23	CSE202	Digital Logic Design and Microprocessors	3	0	2	11
DC.CSE203.23	CSE203	Discrete Maths	3	0	0	9
IH.H103.23	H103	Development of Societies	2	1	0	8
IH.H104.23	H104	History & Civilization #				
Total			17	3	4	61

Students have to choose one course from H103 and H104.

Computer Science and Engineering : 4-Year B. Tech. IV-Semester

IS.MA 203.23	MA 203	Mathematical Methods	3	1	0	11
DC.CSE204.23	CSE204	Algorithms	3	0	2	11
DC.CSE205.23	CSE205	Operating Systems	3	0	2	11
DC.CSE206.23	CSE206	Computer Networks	3	0	2	11
DP.CSE207.23	CSE207	Exploratory Project	0	0	5	5
Total			12	1	11	49

Computer Science and Engineering : 4-Year B. Tech. V-Semester

IE.MO201.23	MO201	Materials Science and Engineering	3	1	0	11
DC.CSE301.23	CSE301	Computer Graphics	3	0	2	11
DC.CSE302.23	CSE302	Database Management System	3	0	2	11
DE1	DE1	Department Elective – 1 (DE-1)	3	0	0	9
OE1	OE1	Open Elective – 1 (OE-1)	3	0	0	9
Total Credits			15	1	4	51

***V Semester Department Elective (DE-1)**

DE.CSE310.23	CSE310	Graph Theory and Applications	3	0	0	9
DE.CSO311.23	CSO311	Ubiquitous Computing	3	0	0	9
DE.CSE312.23	CSE312	Intelligent Computing	3	0	0	9
DE.CSE313.23	CSE313	Data Mining	3	0	0	9
DE.CSE314.23	CSE314	Cyber Physical Systems	3	0	0	9
DE.CSE315.23	CSE315	Introduction to Cryptography	3	0	0	9
DE.CSE316.23	CSE316	Introduction to High Performance Computing	3	0	0	9
DE.CSE317.24	CSE317	Biometrics	3	0	0	9

Computer Science and Engineering : 4-Year B. Tech. VI-Semester

DC.CSE303.23	CSE303	Computer Architecture	3	0	2	11
DC.CSE304.23	CSE304	Theory of Computation	3	0	0	9
DC.CSE305.23	CSE305	Software Engineering	3	0	2	11
DP.CSE306.23	CSE306	UG Project	0	0	10	10
DE - 2	DE2	Department Elective – 2 (DE-2)	3	0	0	9
OE - 2	OE2	Open Elective – 2 (OE-2)	3	0	0	9
Total Credits			15	0	14	59

*VI Semester Department Elective (DE-2)						
DE.CSE320.23	CSE320	Introduction to Computer Vision	3	0	0	9
DE.CSE321.23	CSE321	Parallel Computing	3	0	0	9
DE.CSE322.23	CSE322	Operations Research	3	0	0	9
DE.CSE323.23	CSE323	Quantum Computing	3	0	0	9
DE.CSE324.23	CSE324	Optimization Techniques	3	0	0	9
DE.CSE325.23	CSE325	Wireless Body Area Network	3	0	0	9
DE.CSE326.23	CSE326	Web Science	3	0	0	9
DE.CSE327.23	CSE327	Software Engineering Project Management	3	0	0	9
DE.CSE328.23	CSE328	Information Retrieval	3	0	0	9
DE.CSE329.23	CSE329	Robotics	3	0	0	9
Computer Science & Engineering: 4-Year B.Tech. Summer Term (After VI Sem.)						
DP.CSE393.23	CSE393	Project / Industrial Project / Industrial Training	0	0	5	5
		Total	0	0	5	5
Computer Science and Engineering: 4-Year B. Tech. VII-Semester						
DC.CSE401.23	CSE401	Compiler Design	3	0	2	11
DE - 3	DE - 3	Department Elective (DE-3)	3	0	0	9
OE - 3	OE - 3	Open Elective - 3	3	0	0	9
LM	LM	Language Management Courses	3	0	0	9
DP.CSE402	CSE402	UG Project	0	0	10	10
		Total Credits	12	0	12	48
VII Semester Department Elective (DE-3)						
DE.CSE410.23	CSE410	Game Theory	3	0	0	9
DE.CSE411.23	CSE411	Fundamentals of Distributed Computing	3	0	0	9
DE.CSE412.23	CSE412	Neural Networks	3	0	0	9
DE.CSE413.23	CSE413	Fault Tolerant Computing	3	0	0	9
DE.CSE414.23	CSE414	Bio-Informatics Algorithms	3	0	0	9
DE.CSE415.23	CSE415	Software Architecture	3	0	0	9
DE.CSE416.23	CSE416	Parallel Algorithms	3	0	0	9
DE.CSE417.23	CSE417	Usable Computer Networks and its Security	3	0	0	9
DE.CSE418.23	CSE418	Cloud Computing	3	0	0	9
Computer Science and Engineering: 4-Year B. Tech. VIII-Semester						
DC.CSE403.23	CSE403	Artificial Intelligence	3	0	2	11
DE - 4	DE - 4	Department Elective (DE-4)	3	0	0	9
OE - 4	OE - 4	Open Elective - 4	3	0	0	9
LM	LM	Language Management Courses	3	0	0	9
DC.CSE404.23	CSE404	Seminar	0	0	3	3
		Total Credits	12	0	5	41

VIII Semester Department Elective (DE-4)

DE.CSE420.23	CSE420	Pattern Recognition	3	0	0	9
DE.CSE421.21	CSE421	Learning with Graphs	3	0	0	9
DE.CSE422.23	CSE422	Machine Learning	3	0	0	9
DE.CSE423.23	CSE423	Soft Computing	3	0	0	9
DE.CSE424.23	CSE424	Advanced Databases	3	0	0	9
DE.CSE425.23	CSE425	Offensive and Defensive Security	3	0	0	9
DE.CSE426.23	CSE426	Approximation Algorithms	3	0	0	9
DE.CSE427.23	CSE427	Introduction to Natural Language Processing	3	0	0	9
DE.CSE428.23	CSE428	Modern Cryptography	3	0	0	9
DE.CSE429.23	CSE429	Deep Learning	3	0	0	9

L: Lecture hours; T: Tutorial hours; P: Laboratory/ Practical hours; C: Credits