Department of Computer Science and Engineering

B. Tech. 1st Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	IDC1	NMCI101	Engineering Mathematics - I	3-0-0	Theory	3
2	DSC1	NCSC101	Introduction to Unix and software Tools	3-0-0	Theory	3
3	DSC2	NCSC102	Introduction to Unix and software Tools Lab	0-0-2	Practical	1
4	ESC1	NMCE101	Statistical Methods	3-0-0	Theory	3
5	AEC1	NHSA103	Understanding Human Behaviour	2-1-0	Theory	3
6	SEC1	NMES101	Manufacturing Process	2-0-3	Practical	3.5
7	VAC1	NCSV101	Computer Programming	3-0-0	Theory	3
8	VAC2	NCSV102	Computer Programming Lab	0-0-2	Practical	1
						20.5

B. Tech. 2nd Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	IDC2	NPHI101	Engineering Physics	3-0-0	Theory	3
2	IDC3	NPHI102	Engineering Physics Lab	0-0-2	Practical	1
3	IDC4	NMCI102	Engineering Mathematics - II	3-0-0	Theory	3
4	DSC3	NCSC103	Data Structures	3-0-0	Theory	3
5	DSC4	NCSC104	Data Structures Lab	0-0-2	Practical	1
6	ESC2	NECE102	Digital Electronics	3-0-0	Theory	3
7	AEC2	NHSA101	Communication Skills	1-0-0	Theory	1
8	AEC3	NHSA102	Communication Skills Lab	0-0-2	Practical	1
	SEC2	NCES101	Engineering Graphics	1-0-3	Theory	2.5
	VAC3	NESV101	Environmental Science	3-0-0	Theory	3
						21.5

B. Tech. 3rd Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC3	NCSC201	Discrete Mathematics	3-1-0	Theory	4
2	DC4	NCSC202	Computer Organization and Architecture	3-1-0	Theory	4
3	DC5	NCSC203	Algorithm Design and Analysis	3-1-0	Theory	4
4	DP3	NCSC204	Computer Organization and Architecture Laboratory	0-0-2	Practical	1
5	DP4	NCSC205	Algorithm Design and Analysis Laboratory	0-0-2	Practical	1
6	ESC3	NCSE201	Computer Programming with C++	3-0-0	Theory	3
7	AEC4	NMSA201	Microeconomics: Theory and Practice	3-0-0	Theory	3
						20

B. Tech. 4th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC6	NCSC206	Database Management Systems	3-1-0	Theory	4
2	DC7	NCSC207	Theory of Computation	3-1-0	Theory	4
3	DC8	NCSC208	Operating Systems	3-1-0	Theory	4
4	DP5	NCSC209	Database Management Systems Laboratory	0-0-2	Practical	1
5	DP6	NCSC210	Operating Systems Laboratory	0-0-2	Practical	1
6	ESC4	NCSE202	Object Oriented Programming using Java	3-0-0	Theory	3
7	SEC4	NMSS201	Fundamentals of Marketing	3-0-0	Theory	3
						20

B. Tech. 5th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC9	NCSC301	Software Engineering	3-1-0	Theory	4
2	DC10	NCSC302	Compiler Design	3-1-0	Theory	4
3	DE1		*To be chosen from the pool.*	3-0-0	Theory	3
4	DP7	NCSC303	Software Engineering Laboratory	0-0-2	Practical	1
5	DP8	NCSC304	Compiler Design Laboratory	0-0-2	Practical	1
6	HSSE1		*To be chosen from the HSS pool. HSS department to contribute courses to the pool below.*	3-0-0	Theory	3
7	DC1 (Minor)/ DC1 (Hons)			3-1-0	Theory	4
8	SDC1 (Minor)/ DP1 (Hons)			0-0-3	Practical	1.5
						21.5

B. Tech. 6th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC11	NCSC305	Computer Networks	3-1-0	Theory	4
2	DC12	NCSC306	Principles of Artificial Intelligence	3-1-0	Theory	4
3	DE2		*To be chosen from the pool.*	3-0-0	Theory	3
4	DP9	NCSC307	Computer Networks Laboratory	0-0-2	Practical	1
5	HSSE2		*To be chosen from the HSS pool. HSS department to contribute courses to the pool below.*	3-0-0	Theory	3
6	DC2 (Minor)/ DC2 (Hons)			3-1-0	Theory	4
7	SDC2 (Minor)/ DP2 (Hons)			0-0-3	Practical	1.5
						20.5

B. Tech. 7th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DE3		*To be chosen from the pool.*	3-0-0	Theory	3
2	DE4		*To be chosen from the pool.*	3-0-0	Theory	3
3	DC3 (Minor)/ DC3 (Hons)			3-1-0	Theory	4
4	SDC3 (Minor)/ DP3 (Hons)			0-0-3	Practical	1.5
5	Project	NCSC401	Project - I	8-0-0	Project	8
6	Internship	NCSS401	Internship	0-0-0	Internship	4
						23.5

B. Tech. 8th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC4 (Minor)/ DC4 (Hons)			3-1-0	Theory	4
2	DC5 (Minor)/ DC5 (Hons)			3-1-0	Theory	4
3	SDC4 (Minor)/ DP4 (Hons)			0-0-3	Practical	1.5
4	Project	NCSC402	Project - II	8-0-0	Project	8
						17.5

POOLS/TABLES

MINOR TABLE

Title of Minor			Computer Science and Engineering				
Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**	**Semester**
1	DC1 (Minor)	NCSC202	Computer Organization and Architecture	3-1-0	Theory	4	5
2	SDC1 (Minor)	NCSM301	Web Development Laboratory	0-0-3	Practical	1.5	5
3	DC2 (Minor)	NCSC305	Computer Networks	3-1-0	Theory	4	6
4	SDC2 (Minor)	NCSM302	Data Presentation and Visualisation Techniques Laborator	0-0-3	Practical	1.5	6
5	DC3 (Minor)	NCSC203	Algorithm Design and Analysis	3-1-0	Theory	4	7
6	SDC3 (Minor)	NCSM401	Computational Techniques Laboratory	0-0-3	Practical	1.5	7
7	DC4 (Minor)	NCSC206	Database Management Systems	3-1-0	Theory	4	8
8	DC5 (Minor)	NCSC208	Operating Systems	3-1-0	Theory	4	8
9	SDC4 (Minor)	NCSM402	Soft Computing Laboratory	0-0-3	Practical	1.5	8
						26 - Minor	

HONORS TABLE

Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**
1	DC1 (Hons)	NCSH301	Digital Image Processing	3-1-0	Theory	4
2	DP1 (Hons)	NCSH302	Digital Image Processing Laboratory	0-0-3	Practical	1.5
3	DC2 (Hons)	NCSH303	Introduction to Machine Learning	3-1-0	Theory	4
4	DP2 (Hons)	NCSH304	Introduction to Machine Learning Laboratory	0-0-3	Practical	1.5
5	DC3 (Hons)	NCSH401	Number Theory and Cryptography	3-1-0	Theory	4
6	DP3 (Hons)	NCSH402	Number Theory and Cryptography Laboratory	0-0-3	Practical	1.5
7	DC4 (Hons)	NCSH403	Graph Theory	3-1-0	Theory	4
8	DC5 (Hons)	NCSH404	Randomized Algorithms	3-1-0	Theory	4
9	DP4 (Hons)	NCSH405	Randomized Algorithms Laboratory	0-0-3	Practical	1.5
						26 - Hons.

POOL of ESC (except MS & HSS)

Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**	**Semester**
1	ESC3	NCSE201	Computer Programming with C++ **(Also guided for CSE Stud**	3-0-0	Theory	3	3
2	ESC4	NCSE202	Object Oriented Programming using Java **(Also guided for CSI**	3-0-0	Theory	3	4

POOL of AEC (except HSS)

Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**
1	AEC	NCSA201	Cyber Threat Awareness and Prevention	3-0-0	Theory	3
2	AEC			3-0-0	Theory	3

POOL of SEC (except HSS)

Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**	**Semester**
1	SEC			3-0-0	Theory	3	3
2	SEC	NCSS201	Web Technology	3-0-0	Theory	3	4

POOL of UG DE course

Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**	**Level of Course**
1	DE	NCSD301	Computational Complexity Theory	3-0-0	Theory	3	**3**
2	DE	NCSD302	Computer Graphics	3-0-0	Theory	3	**3**
3	DE	NCSD303	Cryptography	3-0-0	Theory	3	**3**
4	DE	NCSD304	Data Compression	3-0-0	Theory	3	**3**
5	DE	NCSD305	Evolutionary Computation	3-0-0	Theory	3	**3**
6	DE	NCSD306	Introduction to Deep Learning	3-0-0	Theory	3	**3**
7	DE	NCSD307	Language and Speech Processing	3-0-0	Theory	3	**3**
8	DE	NCSD308	Signal and Image Processing for Biometrics	3-0-0	Theory	3	**3**
9	DE	NCSD309	Foundations of Cyber Physical Systems	3-0-0	Theory	3	**3**
10	DE	NCSD401	Cybersecurity	3-0-0	Theory	3	**4**
11	DE	NCSD402	Internet Technology	3-0-0	Theory	3	**4**
12	DE	NCSD403	Introduction to Document Image Processing	3-0-0	Theory	3	**4**
13	DE	NCSD404	Introduction to Vulnerability Assessment and Penetration Testir	3-0-0	Theory	3	**4**
14	DE	NCSD405	Nature Inspired Computing	3-0-0	Theory	3	**4**
15	DE	NCSD406	Parallel Computing	3-0-0	Theory	3	**4**
16	DE	NCSD407	Quantum Computing	3-0-0	Theory	3	**4**
17	DE	NCSD408	VLSI Physical Design	3-0-0	Theory	3	**4**
18	DE	NCSD409	Intelligent Internet of Things	3-0-0	Theory	3	**4**