

**B. TECH. FIRST SEMESTER**

Sl No.	Subject Code	Subject Name	L-T-P	Th/Lab Marks	Sessional		Total	Credit
					Test	Assig/Att.		
1	RAS103	Engineering Maths-I	3---1---	70	20	10	100	4
2	RAS101	Engineering Physics-I	3---1---	70	20	10	100	4
3	REE101/ RME101	Basic Electrical Engg/ Elements of Mechanical	3---1---	70	20	10	100	4
4	RAS 104/ RCS101	Professional Communication/ Computer System &	3---0---	70	20	10	100	3
5	REC101/ RAS102	Basic Electronics/ Engineering Chemistry	3---1---	70	20	10	100	4
6	RAS151/ RAS152	Engg. Physics Lab/ Engg. Chemistry	0---0---	50		50	100	1
7	REE151/ RME151	Basic Electrical Engg Lab/ Elements of Mechanical Engg Lab	0---0---	50		50	100	1
8	RAS 154/ RCS151	Professional Communication Lab/	0---0---	50		50	100	1
9	RME152/ RCE151	Workshop Practice/ Computer Aided Engg.	0---0---	50		50	100	2
	<b>TOTAL</b>						<b>900</b>	<b>24</b>

**B. TECH. SECOND SEMESTER**

Sl No.	Subject Code	Subject Name	L-T-P	Th/Lab Marks	Sessional		Total	Credit
					Test	Assig/Att.		
1	RAS203	Engineering Maths-II	3---1---0	70	20	10	100	4
2	RAS201	Engineering Physics-II	3---1---0	70	20	10	100	4
3	RME201/ REE201	Elements of Mechanical Engg/ Basic Electrical Engg	3---1---0	70	20	10	100	4
4	RCS201/ RAS 204	Computer System & Programming in C/ Professional	3---0---0	70	20	10	100	3
5	RAS202/ REC201	Engineering Chemistry/ Basic Electronics	3---1---0	70	20	10	100	4
6	RAS252/ RAS251	Engg. Chemistry Lab/ Engg. Physics Lab	0---0---2	50		50	100	1
7	RME251/ REE251	Elements of Mechanical Engg Lab/ Basic Electrical Engg Lab	0---0---2	50		50	100	1
8	RCS251/ RAS 254	Computer Progm. Lab/ Professional Communication Lab	0---0---2	50		50	100	1
9	RCE251/ RME252	Computer Aided Engg. Graphics/ Workshop	0---0---3	50		50	100	2
	<b>TOTAL</b>						<b>900</b>	<b>24</b>

### B. TECH. THIRD SEMESTER

S. No.	Course Code	Subject	Periods			Evaluation			Subject Total	Credit	
			L	T	P	Sessional	Exam	ESE			
THEORY SUBJECT											
1	NAS-301/ NOE-031	Mathematics III/Science Based Open Elective	3	1	0	30	20	50	100	150	4
2	NEC 309	Digital Logic Design	3	1	0	30	20	50	100	150	4
3	NCS 301	Data Structures Using C	3	1	0	30	20	50	100	150	4
4	NCS 302	Discrete Structures And Graph Theory	3	1	0	30	20	50	100	150	4
5	NHU301/ NHU302	Industrial Psychology/	2	0	0	15	10	25	50	75	2
6	NCS 303	Computer Based Numerical And	2	1	0	15	10	25	50	75	3
	AUC-001/	Human Values & Professional Ethics/	2	0	0	15	10	25	50	75*	
PRACTICAL/DESIGN/DRAWING											
7	NEC 359	Digital Logic Design Lab	0	0	3	10	10	20	30	50	1
8	NCS 351	Data Structures Using C	0	0	3	10	10	20	30	50	1
9	NCS 353	Numerical Techniques	0	0	2	10	10	20	30	50	1
10	NCS 355	Advance Programming	0	0	2	10	10	20	30	50	1
11	NGP 301	GP						50		50	
		<b>TOTAL</b>	<b>18</b>	<b>5</b>	<b>10</b>					<b>1000</b>	<b>25</b>

#### Departmental Elective-I

1. NCS 061: Computational Geometry
2. NCS 062: Complexity Theory
3. NCS 063: Parallel Algorithm
4. NCS 064: Approximation & Randomized Algorithm
5. NCS 065: Concurrent System

#### Departmental Elective-II

1. NCS 066: Data Warehousing & Data Mining
2. NCS 067: Distributed Database
3. NCS 068: E-Commerce
4. NCS 069: Advance DBMS
5. NCS 070: Human Computer Interface

### B. TECH. FOURTH SEMESTER

S. No.	Course Code	Subject	Periods			Evaluation				Subject Total	Credit
			L	T	P	Sessional Exam			ESE		
						CT	TA	Total			
<b>THEORY SUBJECT</b>											
1	NOE-041 to NOE-040/NIAS	Science Based Open Elective/ Mathematics III	3	1	0	30	20	50	100	150	4
2	NHU401/ NHI402	Industrial Psychology /Industrial Sociology	2	0	0	15	10	25	50	75	2
3	NEC-409	Introduction to	3	1	0	30	20	50	100	150	4
4	NCS-401	Operating System	3	1	0	30	20	50	100	150	4
5	NCS-402	Theory Of Automata and Formal Launguage	3	1	0	30	20	50	100	150	4
6	NCS-403	Computer Graphics	2	1	0	15	10	25	50	75	3
7	AUC-002/ AUC	Cyber Security / Human Values & Professional Ethics	2	0	0	15	10	25	50	75*	
<b>PRACTICAL/DESIGN/DRAWING</b>											
7	NEC-459	Microprocessor Lab	0	0	3	10	10	20	30	50	1
8	NCS 451	Operating System Lab	0	0	3	10	10	20	30	50	1
9	NCS 453	Computer Graphics Lab	0	0	2	10	10	20	30	50	1
10	NCS 455	Functional and Logic	0	0	2	10	10	20	30	50	1
11	NGP-401	GP						50		50	
		<b>TOTAL</b>	<b>18</b>	<b>5</b>	<b>10</b>					<b>1000</b>	<b>25</b>

**The details of Science Based Electives are to be provided by The Boards of Studies of Science Subjects; these are common to all branches.**

**Science Based Open Elective:**

- NOE-041 Introduction to Soft Computing (Neural Network, Fuzzy Logic and Genetic Algorithm)
- NOE-042 Nano Sciences
- NOE-043 Laser Systems and Applications
- NoE-044 Space Sciences
- NOE-045 Polymer Science & Technology
- NOE-046 Nuclear Science
- NOE-047 Material Science
- NOE-048 Discrete Mathematics
- NOE-049 Applied Linear Algebra

\*Human values & Professional Ethics /Cyber Security will be offered as a compulsory audit course for which passing marks are 30% in End Semester Examination and 40% in aggregate.

**B. TECH. FIFTH SEMESTER**

S. No	Course Code	Subject	Periods			Evaluation Scheme				Subject Total	Credit
			L	T	P	Sessional Exam			ESE		
						CT	TA	Total			
<b>THEORY SUBJECT</b>											
1	NCS 501	Design and Analysis of Algorithm	3	1	0	30	20	50	100	150	4
2	NCS 502	Database Management System	3	1	0	30	20	50	100	150	4
3	NCS 503	Principle of Programming Language	3	1	0	30	20	50	100	150	4
4	NCS 504	Web Technology	3	1	0	30	20	50	100	150	4
5	NCS 505	Computer Architecture	2	1	0	15	10	25	50	75	3
6	NHU5 01	Engineering Economics	2	0	0	15	10	25	50	75	2
<b>PRACTICAL/DESIGN/DRAWING</b>											
7	NCS 551	Design and Analysis of Algorithm Lab	0	0	3	10	10	20	30	50	1
8	NCS 552	DBMS Lab	0	0	3	10	10	20	30	50	1
9	NCS 553	Principle of Programming Language	0	0	2	10	10	20	30	50	1
10	NCS 554	Web Technology Lab	0	0	2	10	10	20	30	50	1
11	NGP 501	GP						50		50	
		<b>TOTAL</b>	<b>16</b>	<b>5</b>	<b>10</b>					<b>1000</b>	<b>25</b>

**B. TECH. SIXTH SEMESTER**

S. No	Course Code	Subject	Periods			Evaluation Scheme				Subject Total	Credit
			L	T	P	Sessional Exam			ESE		
						CT	TA	Total			
<b>THEORY SUBJECT</b>											
1	NCS 601	Computer Networks	3	1	0	30	20	50	100	150	4
2	NCS 602	Software Engineering	3	1	0	30	20	50	100	150	4
3	NCS 603	Compiler Design	3	1	0	30	20	50	100	150	4
4		Departmental Elective-I	3	1	0	30	20	50	100	150	4
5		Departmental Elective-II	2	1	0	15	10	25	50	75	3
6	NHU 601	Industrial Management	2	0	0	15	10	25	50	75	2
<b>PRACTICAL/DESIGN/DRAWING</b>											
7	NCS 651	Computer Networks Lab	0	0	3	10	10	20	30	50	1
8	NCS 652	Software Engineering Lab	0	0	3	10	10	20	30	50	1
9	NCS 653	Compiler Design Lab	0	0	2	10	10	20	30	50	1
10	NCS 654	SEMINAR	0	0	2		50	50		50	1
11	NGP 601	GP						50		50	
		<b>TOTAL</b>	<b>16</b>	<b>5</b>	<b>10</b>					<b>1000</b>	<b>25</b>

**Departmental Elective-I**

6. NCS 061: Computational Geometry
7. NCS 062: Complexity Theory
8. NCS 063: Parallel Algorithm
9. NCS 064: Approximation & Randomized Algorithm
10. NCS 065: Concurrent System

**Departmental Elective-II**

6. NCS 066: Data Warehousing & Data Mining
7. NCS 067: Distributed Database
8. NCS 068: E-Commerce
9. NCS 069: Advance DBMS
10. NCS 070: Human Computer Interface

**B. TECH. SEVENTH SEMESTER**

S.No.	Subject Code	Subject	Period	Evaluation Scheme				Total	Credit
				Sessional			Exam		
				CT	TA	Total			
1		<b>Open Elective I</b>	3-1-0	30	20	50	100	150	4
2	NCS-701	Distributed System	3-1-0	30	20	50	100	150	4
3	NCS-702	Artificial Intelligence	3-1-0	30	20	50	100	150	4
4		<b>Departmental Elective III</b>	3-1-0	30	20	50	100	150	4
5		<b>Departmental Elective IV</b>	3-1-0	30	20	50	100	150	4
<b>Practical / Training /Projects</b>									
6	NCS-751	Distributed System *	0-0-2	-	20	20	30	50	1
7	NCS-752	Project	0-0-6	-	100	100	-	100	3
8	NCS-753	Industrial Training	0-0-2	-	50	50	-	50	1
9	GP-701	General Proficiency	-	-	-	-	-	50	
		<b>Total</b>	<b>15-5-10</b>					<b>1000</b>	<b>25</b>

1. *Practical Training done after 6<sup>th</sup> Semester would be evaluated in 7<sup>th</sup> semester through Report and Viva-voce.*
2. *Project has to be initiated in 7<sup>th</sup> semester beginning and completed by the end of 8<sup>th</sup> semester with proper report and demonstration.*

*\* At least 10 problems are to be considered based on corresponding theory course.*

**B. TECH. EIGHTH SEMESTER**

SNo	Subject Code	Subject	Period	Evaluation Scheme				Total	Credit
				Sessional			Exam		
				CT	TA	Total			
1		<b>Open Elective II</b>	3-1-0	30	20	50	100	150	<b>4</b>
2	NCS-801	Digital Image Processing	3-1-0	30	20	50	100	150	<b>4</b>
3		<b>Departmental Elective V</b>	3-1-0	30	20	50	100	150	<b>4</b>
4		<b>Departmental Elective VI</b>	3-1-0	30	20	50	100	150	<b>4</b>
<b>Practical's / Training /Projects</b>									
5	NCS-851	Seminar	0-0-3	-	50	50	-	50	<b>2</b>
6	NCS-852	Project	0-0-12	-	100	100	200	300	<b>7</b>
7	GP-801	General Proficiency	-	-	-	-	-	50	
		<b>Total</b>	12-4-15					1000	25



**Open Elective I**

1. NOE-071 Entrepreneurship Development
2. NOE-072 Quality Management
3. NOE-073 Operations Research
4. NOE-074 Introduction to Bio Technology
5. NOE-075 Mobile Application Development
6. NOE-076 Ethical Hacking and Prevention
7. NOE-077 Software Project Management

**Open Elective II**

1. NOE-081 Non Conventional Energy Resources
2. NOE-082 Non Linear Dynamics Systems
3. NOE-083 Product Development
4. NOE-084 Automation and Robotics

**Departmental Elective III**

1. NCS-071 Software Testing and Audit
2. NCS-072 Neural Network
3. NCS-073 Computer Vision

**Departmental Elective IV**

1. NCS-074 High Speed Network
2. NCS-075 Android Operating System
3. NCS-076 Service Oriented Architecture
4. NIT-701 Cryptographic & Network Security

**Departmental Elective V**

1. NCS-080 Pattern Recognition
2. NCS-081 High Performance Computing
3. NCS-082 Real Time System
4. NCS-083 Cluster Computing
5. NCS-084 Grid Computing

**Departmental Elective VI**

1. NCS-085 Data Compression
2. NCS-086 Quantum Computing
3. NCS-087 Embedded Systems
4. NCS-088 Semantic Web and Web Services

