

THIRD YEAR(2017-18)

COURSE CODE	UNIVERSITY CODE	COURSE NAME
C-301	NCS-501	DESIGN AND ANALYSIS OF ALGORITHM
C-302	NCS-502	DATABASE MANAGEMENT
C-303	NCS-503	PRINCIPLE OF PROGRAMMING LANGUAGE
C-304	NCS-504	WEB TECHNOLOGY
C-305	NCS-505	COMPUTER ARCHITECTURE
C-306	NHU-501	ENGINEERING ECONOMICS
C-307	NCS-551	DESIGN AND ANALYSIS OF ALGORITHM LAB
C-308	NCS-552	DBMS LAB
C-309	NCS-553	PRINCIPLE OF PROGRAMMING LANGUAGE LAB
C-310	NCS-554	WEB TECHNOLOGY LAB
C-311	NCS-601	COMPUTER NETWORKS
C-312	NCS-602	SOFTWARE ENGINEERING
C-313	NCS-603	COMPILER DESIGN
C-314	NHU-601	INDUSTRIAL MANAGEMENT
C-315	NCS-066	DATA WAREHOUSING & DATA MINING
C-316	NCS-068	E-COMMERCE
C-317	NCS-063	PARALLEL ALGORITHM
C-318	NCS-651	COMPUTER NETWORKS LAB
C-319	NCS-652	SOFTWARE ENGINEERING LAB
C-320	NCS-653	COMPILER DESIGN LAB
C-321	NCS-654	SEMINAR
C-322	NGP-601/602	GENERAL PROFICIENCY
<i>C-323</i>	<i>NCS-067</i>	<i>DISTRIBUTED DATABASE</i>
<i>C-324</i>	<i>NCS-064</i>	<i>APPROXIMATION & RANDOMIZED ALGORITHM</i>
<i>C-325</i>	<i>NCS-069</i>	<i>ADVANCE DBMS</i>
<i>C-326</i>	<i>NCS-070</i>	<i>HUMAN COMPUTER INTERFACE</i>
<i>C-327</i>	<i>NCS-061</i>	<i>COMPUTATIONAL GEOMETRY</i>
<i>C-328</i>	<i>NCS-062</i>	<i>COMPLEXITY THEORY</i>
<i>C-329</i>	<i>NCS-065</i>	<i>CONCURRENT SYSTEM</i>

Design and Analysis of Algorithm(NCS-501) : C301**Year of Study:2017– 18**

C-301.1	The students demonstrate knowledge to select appropriate algorithms and the methods to measure and analyze the performance of an algorithm. Able to implement appropriate sorting/searching technique for given problem.
C-301.2	Ability of understanding and applying various advanced data structures concepts like red black and B, B plus tree
C-301.3	The students demonstrate knowledge of problem solving using greedy approach and the approach to divide the problem into smaller problems of same nature (Divide and Conquer approach).
C-301.4	The students demonstrate knowledge of problem solving using Backtracking, Dynamic Programming and Branch and Bound techniques.
C-301.5	The students have hands on experience on various advanced topics on algorithms. The students are capable of classifying different NP Complete problem into various levels of complexity.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C301.1	3	3	3	3	2		2			2	3	2
C301.2	3	3	3	3	3			2		3	3	2
C301	3	3	3	3	3		2	2	2	3	3	3
C301	3	3	3	3	3		2	2	2	3	3	3
C302	3	3	3	3	3		2	2	2	3	3	3
C301	3	3	3	3	3		2	2	2	3	3	3

CO	PSO1	PSO2
C301.1	3	3
C301.2	3	3
C301	3	3
C301	3	3
C302	3	3
C301	3	3

Database Management System (NCS 502): C302

Year of Study: 2017 – 18

C302.1	Students is able to differentiate database systems from file systems by enumerating the features provided by database systems and describe each in both function and benefit.
C302.2	Student is able to create and populate a RDBMS for a real life application, with constraints and keys using SQL.
C302.3	Student is able to analyze the existing design of a database schema and apply concepts of normalization to design an optimal database.
C302.4	Student is able to apply mechanisms for information retrieval from a database satisfying the ACID properties.
C302.5	Students apply various techniques for concurrency control in multi-transaction systems.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C302.1	3	3	3	3	3		2	2	2	3	3	3
C302	3	3	3	3	3		2	2	3	3	3	3
C302	3	3	3	3	3		2	2	3	3	3	3
C302	2	2	2	2	3	2	2	2	2	2	2	2
C303	2	2	2	2	3	3	2	2	3	3	3	3
C302	3	3	3	3	3	3	2	2	3	3	3	3

CO	PSO1	PSO2
C302.1	3	3
C302	3	3
C302	3	3
C302	3	3
C303	3	3
C302	3	3

Principle of Programming Language(NCS-503): C303**Year of Study:2017 – 18**

C-303.1	The students acquire knowledge of evolution of programming languages, their roles, paradigms and translation processes.
C-303.2	The students understand various semantics and syntax related to program flow control in Imperative programming languages and code reusability.
C-303.3	The students are able to make the comparative analysis between imperative, object-oriented programming and functional programming paradigms.
C-303.4	The students will acquires knowledge related to semantics of logical, network and concurrent programming environment.
C-303.5	The student acquires the capability to implement lambda calculus queries .

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C303.1	2	3	3	2	3							
C303.2	3	3	2	3	3						2	2
C303.3		2	3	3						2		2
C303.4	3	3	3	3								2
C303.5	2	2	3	3	3							2
C303	3	3	3	3	3					2	2	2

CO	PSO1	PSO2
C303.1	3	3
C303.2	3	3
C303.3	3	3
C303.4	3	3
C303.5	3	3
C303	3	3

C-304.1	The students are introduced to the concept of Web technologies, Internet, Client-Server Computing and elementary Core Java. The students also understand how to design, implement, test, debug, and document programs that use core java concepts and graphical user interfaces in Java using applet and AWT that respond to different user events. .
C-304.2	The student is familiarized with fundamental language in Web Technologies and acquire knowledge and skills for creation of web site considering both client and server side. The students are able to implement interactive web page(s) using HTML, CSS.
C-304.3	The students learn JavaScript and design a responsive web site using HTML5 and CSS3. The student has acquired the skill to do networking using java
C-304.4	The students are able to make a reusable software component, using Java Bean and understand web-based enterprise applications using Enterprise JavaBeans (EJB). The students also learn to access database through Java programs, using Java DataBase Connectivity (JDBC)
C-304.5	The students are able to develop servlet and JSP applications and implement Session Management techniques .

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C304.1	3	2	3	3	2	2	2				2	2
C304.2	3	2	3	3	2	2	2				2	2
C304.3	3	2	3	3	2	2	2				2	2
C304.4	3	2	3	3	2	2	2				2	2
C304.5	3	2	3	3	2	2	2				2	2
C304	3	2	3	3	2	2	2				2	2

CO	PSO1	PSO2
C304.1	3	3
C304.2	3	3
C304.3	3	3
C304.4	3	3
C304.5	3	3
C304	3	3

Computer Architecture (NCS-505): C305**Year of Study:2017– 18**

C-305.1	The student gets knowledge about the evolution of digital computers. The students are able to perform arithmetic operations required for the understanding the circuit design and register transfer.
C-305.2	The students are able to understands how the instructions are given to the processor, decoded and executed in the control unit.
C-305.3	To analyze the hierarchical memory system including cache memories and virtual memory.The students acquire the skills to apply various memory mapping schemes.
C-305.4	The student acquires knowledge and understanding of the different ways of communication with I/O devices and standard I/O interfaces.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C305.1	3	3	3	2						1		2
C305.2	2	3	3	3						2		2
C305.3	3	3	3	3								3
C305.4	2	2	2	2	2					2		1
C305	3	3	3	3	2					2		2

CO	PSO1	PSO2
C305.1	3	2
C305.2	3	3
C305.3	3	3
C305.4	2	2
C305	3	3

Engineering Economics (NHU-501): C306**Year of Study: 2017– 18**

C-306.1	To acquire the knowledge of economic principles applied to a company's decision making in terms of economic viability.
C-306.2	To develop the understanding of Supply, Elasticity of Supply and demand forecasting which contribute in the decision-making.
C-306.3	To analyze the concept of industrial production, factors of production and various elements of cost.
C-306.4	To explain about market, various pricing policies and determining price and output in optimizing the profit.
C-306.5	To apply the knowledge of Indian Market and Economy as a whole to take various macro level industry decisions.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C306.1		3	2	3	2	3	3	2				3
C306.2		3	2	2	2	3	3	2				2
C306.3		3	2	1	2	3	3	2				2
C306.4		3	2	3	2	3	3	3	2	3	3	1
C306.5		2	2	3	3	3	3	2				2
C306		3	2	2	2	3	3	2	2	3	3	2

CO	PSO1	PSO2
C306.1	1	1
C306.2	1	1
C306.3	1	2
C306.4	1	2
C306.5	1	2
C306	1	2

Design and Analysis of Algorithm lab (NCS-551): C307 Year of Study:2017 – 18

C-307.1	Students are able to analyze the performance of various algorithms in best case , average case and worst case. Students are able to implement various sorting, searching and graph traversal algorithms.
C-307.2	Students develop better understanding of advanced data structures like rbtree, heaps and btrees.
C-307.3	Students acquire skill to identify the problem given and design the algorithm using various algorithm design techniques.
C-307.4	Students develop better understanding of optimization techniques like dynamic programming, backtracking and branch and bound and their classical problems.
C-307.5	Students understand the importance of different algorithmic paradigms by comparing the performance of different algorithms for same problem in team.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C307.1	3	3	3	3	2		2			2	3	2
C307.2	3	3	3	3	3			2		3	3	2
C307.3	3	3	3	3	3		2	2	2	3	3	3
C307.4	3	3	3	3	3		2	2	2	3	3	3
C307.5	3	3	3	3	3		2	2	2	3	3	3
C307	3	3	3	3	3		2	2	2	3	3	3

CO	PSO1	PSO2
C307.1	3	3
C307.2	3	3
C307.3	3	3
C307.4	3	3
C307.5	3	3
C307	3	3

C302.1	Student is able to explain the features of relational database and SQL.
C302.2	Student is able to design ER Model for a database for a given real time application..
C302.3	Student is able to create and populate an RDBMS for a given problem domain with constraints and keys using SQL.
C302.4	Student is able to apply data manipulation language to query, update and manage the database.
C302.5	Students will understand the concepts of database security and integrity.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C308.1	3	3	3	3	3		2	2	2	3	3	3
C308.2	3	3	3	3	3		2	2	3	3	3	3
C308.3	3	3	3	3	3		2	2	3	3	3	3
C308.4	2	2	2	2	3	2	2	2	2	2	2	2
C308.5	2	2	2	2	3	3	2	2	3	3	3	3
C308	3	3	3	3	3	3	2	2	3	3	3	3

CO	PSO1	PSO2
C308.1	3	3
C308.2	3	3
C308.3	3	3
C308.4	3	3
C308.5	3	3
C308	3	3

Principle of Programming Language Lab (NCS-553): C309 Year of Study:2017– 18

C-309.1	The students understand the significance of an implementation of programming language in a compiler or interpreter
C-309.2	Students learn and understand the benefits and constraints for implementation in imperative , object-oriented, functional, and logical programming language
C-309.3	The student demonstrates the ability to implement projects in imperative , object-oriented, functional, and logical programming language
C-309.4	The students demonstrate the ability to analyze and select appropriate programming language for certain classes of programming problems
C-309.5	The student understand good use of debuggers and related tools.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C309.1	2	3	3	3						2	2	
C309.2	2	3	3	3					2		2	2
C309.3	2	2	2	2							2	
C309.4	3	3	3	3					2	2	2	2
C309.5	2	3	3	2	3							
C309	2	3	3	3	3				2	2	2	2

CO	PSO1	PSO2
C309.1	3	3
C309.2	3	3
C309.3	3	3
C309.4	3	3
C309.5	3	3
C309	3	3

C-310.1	The student gets familiar with HTML and CSS web technologies for development and design of web pages.
C-310.2	The students are able to make console based applications for solving real life problems using syntactical and implementation knowledge of JAVA.
C-310.3	The students are able to design GUI based applications for solving real life problems applying knowledge of event handling using JAVA Swing component.
C-310.4	The students are able to make interactive GUI based applications for solving problems applying knowledge of Multithreading, File I/O and Exception Handling using JAVA Swing component.
C-310.5	The students are able to design web based applications for solving problems applying knowledge of advance JAVA concepts such as Servlets, JDBC, JSP and other web based technologies i.e. php

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C310.1	3	3	3	3	3		2		3	2	3	3
C310.2	3	3	3	3	3	2	2		3		3	3
C310.3	3	3	3	3	3		2		3		3	3
C310	3	3	3	3	3		2		3		3	3
C310.5	3	3	3	3	3		2		3		3	3
C310	3	3	3	3	3		2		3	2	3	3

CO	PSO1	PSO2
C310.1	3	3
C310.2	3	3
C310.3	3	3
C310	3	3
C310.5	3	3
C310	3	3

Computer Networks (NCS-601): C311**Year of Study:2017– 18**

C-311.1	Study the basic taxonomy and terminology of the computer networking and enumerate the layers of OSI model and TCP/IP model.
C-311.2	The student gets the understanding of data link layer concepts, design issues, and protocols.
C-311.3	The student acquires the skills of the Network layer protocols and also classify the various routing protocols and analyze how to assign the IP addresses for the given network.
C-311.4	The student acquires the skills of the Transport layer protocols and interpreting congestion control algorithms in the sub-networks.
C-311.5	The student are able to understand various Application layer protocols.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C311.1	3	3	3	2	2	3	2		2			3
C311.2	3	3	3	2	2	3	2		2			2
C311	3	3	3	3	2	3	2		3			2
C311	3	3	2	2	2	3	2		3			2
C312	3	3	2	2	2	3	2		3			2
C311	3	3	3	2	2	3	2		3			2

CO	PSO1	PSO2
C311.1	3	3
C311.2	3	2
C311	3	3
C311	2	3
C312	3	2
C311	3	3

Software Engineering (NCS-602): C312**Year of Study:2017– 18**

C-312.1	Students are able to understand basics of software engineering and various Software Development Life Cycle models.
C-312.2	Student identifies software requirement specifications and software quality assurance process models that are essential to develop and to measure the quality of a software
C-312.3	The students are able to learn various software design Strategies and their respective comparative analysis.
C-312.4	The student acquires an in-depth knowledge of functional and structural testing. The student acquires the skill to compare and apply different testing strategies.
C-312.5	The student acquires an in-depth knowledge of maintenance, re-engineering and various case tools.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C312.1	3	3	3	1								
C312.2	2	3	3	2			2			3		
C312.3	2	2	3	2	2	2	2		1	2	1	2
C312.4	2	3	2	2	2			1	3	2	1	2
C312.5	2	2	3	1		2	1	1	2	1	2	3
C312	2	3	3	2	2	2	2	1	2	2	1	2

CO	PSO1	PSO2
C312.1	3	3
C312	3	3
C312	3	3
C312	3	3
C312	3	3
C312	3	3

C-313.1	The students are able to understand how a program written by a user is converted into a code that the machine understands using a compiler. The students are made familiar with commercial compilers like YAAC. Also understand the concept of ambiguous grammars and context free grammars.
C-313.2	The students are able to understand compiler parsing techniques. The students are skilled to represent the various symbols used in a program in a table that can be further used for processing.
C-313.3	The students are able to represent the program in the form of three address code and parse tree. Various translation schemes are demonstrated.
C-313.4	The students are able to implement and maintain the symbol table, allocate storage space and manage error detection and recovery.
C-313.5	The students are able to generate optimized machine code that eventually runs on the hardware to carry out the execution.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C313.1	3	3	3	3	2		2	3		2	2	2
C313.2	3	3	3	3	3			3		3	2	2
C313.3	3	3	3	3	3		2	2	2	3	2	3
C313.4	3	3	3	3	3		2	3	2	3	2	3
C313.5	3	3	3	3	3		2	3	2	3	3	2
C313	3	3	3	3	3		2	3	2	3	2	2

CO	PSO1	PSO2
C313.1	3	3
C313.2	3	3
C313.3	2	3
C313.4	3	2
C313.5	3	3
C313	3	3

Industrial Management (NHU-601): C314**Year of Study: 2017 – 18**

C-314.1	The students are able to get knowledge about the fundamental tools and techniques in Industrial Engineering. It inculcates better understanding regarding application of the industrial management in the field of engineering.
C-314.2	Students improves inter related work activities and production management in an industry. It emphasize on the application of management tools for better projects and their productivity.
C-314.3	Students learns about inventory and their models for better productivity and results in an organization.
C-314.4	The students are able to understand the product quality, its techniques and overall quality management that helps to manage the job floor of an industry or a research organization efficiently and effectively by the optimized utilization of the resources for the maximum output.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C314.1		3	2	3	2	3	3	2				3
C314.2		3	2	2	2	3	3	2				2
C314.3		3	2	1	2	3	3	2				2
C314.4		3	2	3	2	3	3	3	2	3	3	1
C314.5		3	2	2	1	3	3	2	2	2	2	2
C314		3	2	2	2	3	3	2	2	3	3	2

CO	PSO1	PSO2
C314.1	1	-
C314.2	1	-
C314.3	1	2
C314.4	1	2
C314.5	1	2
C314	1	2

Data Warehousing & Data Mining (NCS-066): C315 Year of Study:2017-18

C-315.1	The students learn the importance for data storage of an organization as a data warehouse. They are able to create and analyse the data warehouse for an organization.
C-315.2	The students learn about the various methods and techniques used for data warehousing implementation. They understand the knowledge about the concept of storing the data on multiple systems.
C-315.3	The students understand the various issues while handling a data. They are able to analyse the raw data to make it suitable for various data mining algorithms.
C-315.4	The students well versed in all data mining algorithms, methods of evaluation. The students are able to implement the appropriate data mining methods like classification, clustering or Frequent Pattern mining on large data sets.
C-315.5	The students are able to use commercially available softwares for data mining. They can analyze the problem domain, use the data collected in enterprise, interpret and visualize the results .

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C315.1	2		2	3	3	2	2	2	2	2	2	2
C315.2	3	2	2	2	3	2			3			
C315.3	3	3	3	3	3	2	3	3	2	2		3
C315.4	3	3	3	3	3	3	2		2			
C315.5		2	3	2	3	2	2	3	2		2	3
C315	3	3	3	3	3	2	2	3	2	2	2	3

CO	PSO1	PSO2
C315.1	3	2
C315.2	2	2
C315.3	3	3
C315.4	3	3
C315.5	2	2
C315	3	2

E-Commerce (NCS-068): C-316**Year of Study: 2017 – 18**

C-316.1	The student is able to understand basic E-Commerce concepts, its requirements and framework. They are also able to understand models and the impact of e-commerce in various domains of implementation as well as future expansions.
C-316.2	The student is able to understand network infrastructure for E-commerce and M-Commerce like Internet, Intranet, access equipment, WAP and mobile information devices.
C-316.3	The student is able to visualize security issues on web like threats & attacks and the counter measure using Firewalls.
C-316.4	The student is able to understand and analyze the concept of cryptography for data and network security like symmetric and asymmetric key encryption and decryption techniques and algorithms like DES, RSA, Digital Signature and VPN.
C-316.5	The student is able to understand the electronic payment tools and techniques like smart cards, credit cards, Electronic Checks as well as e-commerce business applications, laws, Government policies and agendas.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C-316.1	2	3	1	3	1	2		3		2		3
C-316.2	3	3	2	3	3	1		1				2
C-316.3	2	3	3	2	3	2		3				2
C-316.4	2	3	2	3	2	3		3				2
C-316.5	2	3	2	2	3	2		3				3
C316	2	3	2	2	2	2		3		0		2

CO	PSO1	PSO2
C-316.1	3	
C-316.2	3	
C-316.3	3	
C-316.4	3	
C-316.5	3	
C316	3	

Parallel Algorithm (NCS-063): C317**Year of Study:2017 – 18**

C-317.1	Able to understand the requirement of various parallel computational model over sequential model in real life computational scenario.
C-317.2	To understand how to measure performance of parallel algorithm with the various quantitative measurement method with the given execution profile.
C-317.3	To able to understand parallel sorting networks with various computational model in real life scenario.
C-317.4	To able to understand kth element problem, various parallel matrix operation as well as vector matrix multiplication in real life scenario
C-317.5	To able to understand difference among several traversal graph algorithms solving the same problem and recognize which one is better under different permutation and combination condition.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C-317.1	3	3	2	3	3	3	3	3	2	3	2	3
C-317.2	3	3	3	3	2	3	3	2	2	3	3	2
C-317.3	3	3	3	3	3	3	3	3	3	2	3	3
C-317.4	3	3	3	3	2	3	3	2	3	3	3	2
C-317.5	3	3	3	3	2	3	3	3	3	3	3	3
C317	3	3	3	3	2	3	3	3	3	3	3	3

CO	PSO1	PSO2
C317.1	3	3
C317.2	2	3
C317.3	3	2
C317.4	3	3
C317.5	3	3
C317	3	3

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C318.1	2	2	2	2	2	2	2		2			2
C318.2	2	2	2	2	2	2	2		2			2
C318.3	3	3	3	3	2	3	2		3			2
C318.4	3	3	3	3	3	3	2		3			2
C318.5	3	3	2	2	2	3	2		3			2
C318	3	3	2	2	2	3	2		3			2

CO	PSO1	PSO2
C318.1	3	2
C318.2	3	2
C318.3	3	3
C318.4	3	2
C318.5	3	3
C318	3	3

Computer Networks Lab(NCS-651): C318

Year of Study:2017 – 18

	Computer Networks Lab(NCS-651): C318
C-318.1	Student is able to understand and simulate various network topologies using CISCO packet tracer.
C-318.2	Student is able to create network in CISCO Packet Tracer using Routers connected with other network access equipment (like switches and buses) subsequently connected with end devices. Use commands to establish connectivity among them.
C-318.3	Student is able to understand and implement network layer protocols (like DHCP, RIP, OSPF) using CISCO packet tracer.
C-318.4	Student is able to resolve IP address to host name and host name to IP address using JAVA/C.
C-318.5	Student is able to implement a TCP based Client-Server System for one sided communication in JAVA/C.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C318.1	2	2	2	2	2	2	2		2			2
C318.2	2	2	2	2	2	2	2		2			2
C318.3	3	3	3	3	2	3	2		3			2
C318.4	3	3	3	3	3	3	2		3			2
C318.5	3	3	2	2	2	3	2		3			2
C318	3	3	2	2	2	3	2		3			2

CO	PSO1	PSO2
C318.1	3	2
C318.2	3	2
C318.3	3	3
C318.4	3	2
C318.5	3	3
C318	3	3

Software Engineering Lab(NCS-652): C319**Year of Study:2017– 18**

C-319.1	Students are able to apply the theoretical knowledge of generic software development skill through various stages of software life cycle in practice.
C-319.2	Students acquire skill to ensure the quality of software through software development with various protocol based environment.
C-319.3	Students are able to generate test cases for software testing.
C-319.4	Students are able to handle software development models through rational method. Students are able to generate different diagrams used in software development.
C-319.5	Students understand the importance of case studies to demonstrate practical applications of different concepts.
C-319.6	Students are able to work in a team for an assigned project.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C319.1	2	3	2	2					1		2	1
C319.2	2	2	3	2	2				1	1	2	2
C319.3	2	2	3	1	2				1	1	2	2
C319.4	2	2	2	2	2		1		1	1	2	2
C319.5	2	2	2	1	2	2		1	3	1	2	2
C319	2	2	2	2	2	2	1	1	1	1	2	2

CO	PSO1	PSO2
C319.1	3	3
C319.2	3	3
C319.3	3	3
C319.4	3	3
C319.5	2	3
C319	3	3

Compiler Design Lab(NCS-653): C320

Year of Study: 2017 – 18

C-320.1	The students are able to gain knowledge about language processing Tools like LEX and YACC.
C-320.2	The students are able to check whether regular expressions belong to grammars or not.
C-320.3	The students are able to understand the concepts like grammars, languages, operators and they are also able to check whether grammar is ambiguous or not and its removal using left recursion.
C-320.4	The students are able to understand various parsing techniques like shift reduce, LR parsing.
C-320.5	The students are able to understand code optimization algorithms.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C320.1	3	3	3	3	2			3	3	2		2
C320.2	3	3	3	3	3			3	3	3		2
C320.3	2	3	3	3	3			3	3	3		3
C320	3	3	3	3	3			3	3	3		3
C320.5	3	3	3	3	3			3	3	3		3
C320	3	3	3	3	3			3	3	3		3

CO	PSO1	PSO2
C320.1	3	3
C320.2	3	2
C320.3	3	3
C320	3	3
C320.5	3	3
C320	3	3

Seminar (NCS-654): C321

Year of Study:2017 – 18

C-321.1	The students are able to focus on presentations in a variety of formats.
C-321.2	The students are realize the need of personality growth, development and communication skills.
C-321.3	The students are able to become extrovert in nature to maintain better interpersonal relationship on the job and off the job.
C-321.4	The students are able to bring all round development to suit the industry needs.
C-321.5	The students develop the skill to explore latest happening in technology and survey on selected topics, addressing issues of science in society today.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C321.1						2	2	3	3	3		2
C321.2						3	3	2	3	3		2
C321						2	3	2	3	3		2
C321						2	2	2	3	2		2
C322						3	3	3	3	3		3
C321						2	3	2	3	3		2

CO	PSO1	PSO2
C321.1	2	2
C321.2	2	2
C321	2	2
C321	2	2
C322	2	2
C321	2	2

General Proficiency (NGP-601/602): C322**Year of Study:2017– 18**

C-322.1	Students develop communication skills in order to encourage them to participate in extra curriculum activities.
C-322.2	Students appreciate the sincerity and regularity of the students.
C-322.3	Students develop the overall personality in terms of human values and confidence.
C-322.4	Students are prepared to face the challenges in the corporate world.
C-322.5	Students identify their personal hobbies, so they can sharpen their personality as an individual, if not good in academics.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C322.1							1	2	2	3	2	3
C322										3		2
C322						2		3	2	3		3
C322						2	3	3	2	3	2	3
C323						1	2	3	1	3	2	3
C322						2	2	3	2	3	2	3

CO	PSO1	PSO2
C322.1	3	2
C322	2	2
C322	3	3
C322	3	3
C323	3	2
C322	3	2