



VAAGDEVI COLLEGE OF ENGINEERING  
UGC-Autonomous  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

**Course Outcomes for M.Tech – CSE(R15) for the year 2015-16**

| <b>Course Outcome</b>   | <b>YEAR /SEMESTER<br/>I/I Sem</b>   | <b>Subject Name(Subject Code):<br/>DATA STRUCTURES AND<br/>ALGORITHMS (A958101)</b> | <b>No. Of Hours<br/>L:4 T:0 P:0</b> | <b>Credits-4</b> |
|---|---|---|-------------------------------------|------------------|
| <b>After the completion of this course the students should be able to</b> |   |   |                                     |                  |
| <b>1</b>  | Define knowledge basic on data structures to store and retrieve an ordered or unordered data. Such as, arrays, linked lists, trees, heaps, and hash tables. |   |                                     |                  |
| <b>2</b>  | Learn to analyze and to compare efficiency of an algorithm.   |   |                                     |                  |
| <b>3</b>  | Understand the basic concepts of latest techniques. Have concepts on tree and graphs.   |   |                                     |                  |
| <b>4</b>  | Implement various projects on these data structures.  |   |                                     |                  |
| <b>5</b>  | Illustrate different pattern matching algorithms.   |   |                                     |                  |
| <b>Course Outcome</b>   | <b>YEAR /SEMESTER<br/>I/I Sem</b>   | <b>Subject Name(Subject Code):<br/>DATABASE<br/>INTERNALS(A958102)</b>              | <b>No. Of Hours<br/>L:4 T:0 P:0</b> | <b>Credits-4</b> |
| <b>After the completion of this course the students should be able to</b> |   |   |                                     |                  |
| <b>1</b>  | Differentiate the file systems in database by enumerating the features, function and its benefits in database systems.                                      |   |                                     |                  |
| <b>2</b>  | Demonstrate a clear understanding on relational data model.   |   |                                     |                  |
| <b>3</b>  | Transform an entity relation model on relational database schema and to use Data definition language.   |   |                                     |                  |
| <b>4</b>  | Demonstrate theory on normalization techniques and apply it effectively on a Database.  |   |                                     |                  |
| <b>5</b>  | Use SQL interface on a multi-user relational databases. Understand the concepts of distributed databases and various recovery method in Distributed DBMS    |   |                                     |                  |



VAAGDEVI COLLEGE OF ENGINEERING  
UGC-Autonomous  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

| Course Outcome | YEAR /SEMESTER I/I Sem | Subject Name(Subject Code):<br>DISTRIBUTED SYSTEMS (A958103) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|------------------------|--|-----------------------------|-----------|
|----------------|------------------------|--|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |  |  |  |  |
|---|--|--|--|--|
| 1 | Explain distributed system design and its properties. List the principles underlined along with its functionality  |  |  |  |
| 2 | Implement problems and challenges with these principles. Evaluate the effectiveness and shortcomings for solutions |  |  |  |
| 3 | Identify the principles that are based on these contemporary distributed systems.                                  |  |  |  |
| 4 | Explain its affect on software design to identify the features.  |  |  |  |
| 5 | Design a distributed system with specific requirements. Develop a case study on CORBA, RMI services                |  |  |  |

| Course Outcome | YEAR /SEMESTER I/I Sem | Subject Name(Subject Code):<br>NETWORKSECURITY(CORE ELECTIVE-I) (A958104) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|------------------------|---|-----------------------------|-----------|
|----------------|------------------------|---|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |  |  |  |  |
|---|--|--|--|--|
| 1 | Explain the model for Network Security.  |  |  |  |
| 2 | Develop private and public key encryption techniques that can be used in modern cryptosystems.                                       |  |  |  |
| 3 | Illustrate the concepts of digital signatures and different authentication protocols. Explain the concepts for web security and SET. |  |  |  |
| 4 | Adapt different Intrusion Detection Techniques. Classify different viruses, threats and their countermeasures for real time problems |  |  |  |
| 5 | Explain the firewall and trusted systems with its importance. Solve case studies related cryptography and security                   |  |  |  |

| Course Outcome | YEAR /SEMESTER I/I Sem | Subject Name(Subject Code):<br>ANDROID APPLICATION DEVELOPMENT(COREELECTIVE-I) (A958105) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|------------------------|--|-----------------------------|-----------|
|----------------|------------------------|--|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |   |  |  |  |
|---|---|--|--|--|
| 1 | Configure and Install the tools used for Android application development. Design and develop various user Interfaces based on the Android platform. |  |  |  |
| 2 | Implement programs using Java to develop Android application.   |  |  |  |
| 3 | Classify, create, display notification using Tools.   |  |  |  |
| 4 | Adapt different persistent storage methods.   |  |  |  |
| 5 | Discuss SQLite data base applications. Develop latest Location based services.  |  |  |  |



VAAGDEVI COLLEGE OF ENGINEERING  
UGC-Autonomous  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

| Course Outcome | YEAR /SEMESTER I/I Sem | Subject Name(Subject Code):<br>CLOUD COMPUTING ( CORE ELECTIVE-I) (A958106) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|------------------------|---|-----------------------------|-----------|
|----------------|------------------------|---|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |   |  |  |  |
|---|---|--|--|--|
| 1 | Discuss main concepts, key strengths, and limitations for cloud computing.  |  |  |  |
| 2 | Develop the architecture along with specific infrastructure on cloud computing, including SaaS, PaaS, IaaS, public cloud, private cloud, hybrid cloud, etc.             |  |  |  |
| 3 | Explain the issues on cloud computing along with security, privacy, and interoperability.   |  |  |  |
| 4 | Identify problems, and explain, analyze, and evaluate various cloud computing solutions. Provide the appropriate solutions on cloud computing based on the application. |  |  |  |
| 5 | Attempt to generate innovative ideas in cloud computing. Organize Data security in cloud computing.   |  |  |  |

| Course Outcome | YEAR /SEMESTER I/I Sem | Subject Name(Subject Code):<br>INTERNET OF THINGS(COREELECTIVE-I) (A958107) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|------------------------|---|-----------------------------|-----------|
|----------------|------------------------|---|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |  |  |  |  |
|---|--|--|--|--|
| 1 | Describe the basic terminology, latest technology along with its applications. Discuss the protocols based on the concepts such as machine to machine. |  |  |  |
| 2 | Illustrate the IOT devices using Python Scripting Language.  |  |  |  |
| 3 | Develop an application with Raspberry PI platform.   |  |  |  |
| 4 | Implement these principles in many applications of IoT devices.  |  |  |  |
| 5 | Design Real Time problems on web API. Implement frame work on python web applications.   |  |  |  |

| Course Outcome | YEAR /SEMESTER I/I Sem | Subject Name(Subject Code):<br>MACHINE LEARNING (COREELECTIVE-II) (A958108) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|------------------------|---|-----------------------------|-----------|
|----------------|------------------------|---|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |  |  |  |  |
|---|--|--|--|--|
| 1 | Discuss different application on Machine Learning problems.  |  |  |  |
| 2 | Describe various algorithms on Machine Learning mentioning its strengths and weaknesses.   |  |  |  |
| 3 | Illustrate the basic theory focused on Machine Learning. Improve the performance of Machine Learning algorithms with different parameters. |  |  |  |
| 4 | Analyze current research papers. Understand the latest issues raised by current researchers.   |  |  |  |
| 5 | Develop different approaches to learn Inductive-Analytical. Adapt relationships to Dynamic Programming.                                    |  |  |  |



VAAGDEVI COLLEGE OF ENGINEERING  
UGC-Autonomous  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

| Course Outcome  | YEAR /SEMESTER<br>I/I Sem  | Subject Name(Subject Code):<br>PARALLEL AND DISTRIBUTED ALGORITHMS(CORE ELECTIVE-II)<br>(A958109)       | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|---|--|---|-----------------------------|-----------|
| <b>After the completion of this course the students should be able to</b> |  |   |                             |           |
| 1   | Apply knowledge of parallel and distributed computing techniques with different methods.   |   |                             |           |
| 2   | Design, develop and analyze the performance of parallel and distributed applications.  |   |                             |           |
| 3   | Gain experience on applications of fundamentals of Computer Science methods.   |   |                             |           |
| 4   | Adapt algorithms on the development of different parallel applications. Elaborate design, testing, and performance of a software system.                                       |   |                             |           |
| 5   | Discuss different Distributed Shared memory concepts. Learn Memory related primitive, sorting and Numerical algorithms.  |   |                             |           |
| Course Outcome  | YEAR /SEMESTER<br>I/I Sem  | Subject Name(Subject Code):<br>SOFTWARE ARCHITECTURE AND DESIGN PATTERNS(CORE ELECTIVE-II)<br>(A958110) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
| <b>After the completion of this course the students should be able to</b> |  |   |                             |           |
| 1   | Design architecture for different structural patterns.   |   |                             |           |
| 2   | Analyze its architecture to build the system using its components. Develop creational and structural patterns.   |   |                             |           |
| 3   | Illustrate the patterns along with its importance and role. Learn and solve different patterns for behavioral.   |   |                             |           |
| 4   | Discuss Interpreter, mediator, iterator chain of responsibilities. Adapt a problems on Air Traffic Control.  |   |                             |           |
| 5   | Plan a case study on utilization of architectural structures   |   |                             |           |
| Course Outcome  | YEAR /SEMESTER<br>I/I Sem  | Subject Name(Subject Code):<br>EMBEDDED SYSTEMS (CORE ELECTIVE-II)( A958111)                            | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
| <b>After the completion of this course the students should be able to</b> |  |   |                             |           |
| 1   | Explain embedded systems design with different technologies along with metrics and challenges. Design a custom single – purpose processor with combinational sequential logic. |   |                             |           |
| 2   | Describe a optimizing of single – purpose processors along with basic architecture, operation.   |   |                             |           |
| 3   | Define various types of timers, Universal Asynchronous Receiver/ Transmitter. Explain about the various controllers for LCD, Keypad and Stepper Motor.                         |   |                             |           |
| 4   | Explain the different types of advanced RAM, Microprocessor interfacing and describe the arbitration methods.  |   |                             |           |
| 5   | Discuss the embedded software development process and Tools. Adapt various simulators, testing and debugging tools.  |   |                             |           |



VAAGDEVI COLLEGE OF ENGINEERING  
UGC-Autonomous  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

| <b>Course Outcome</b> | <b>YEAR /SEMESTER /I Sem</b> | <b>Subject Name(Subject Code):<br/>BIG DATA ANALYTICS (OPEN ELECTIVE-I) (A958112)</b> | <b>No. Of Hours<br/>L:4 T:0 P:0</b> | <b>Credits-4</b> |
|-----------------------|------------------------------|---|-------------------------------------|------------------|
|-----------------------|------------------------------|---|-------------------------------------|------------------|

**After the completion of this course the students should be able to**

|          |   |  |  |  |
|----------|---|--|--|--|
| <b>1</b> | Illustrate a brief knowledge and a state of art on big data analytics.  |  |  |  |
| <b>2</b> | Make decisions on Big Data analytics.   |  |  |  |
| <b>3</b> | Understand fundamentals of Map Reduce and HBase.  |  |  |  |
| <b>4</b> | Adapt latest big data technology such as NOSQL, Hadoop etc., Develop skills and models technically both in predictive and prescriptive that supports decision making in business. |  |  |  |
| <b>5</b> | Determine the effective communication skills, which includes details of data analysis results. Implement Mobile Analytics Tools.  |  |  |  |

| <b>Course Outcome</b> | <b>YEAR /SEMESTER /I Sem</b> | <b>Subject Name(Subject Code):<br/>BIOINFORMATICS(OPEN ELECTIVE-I) (A958113)</b> | <b>No. Of Hours<br/>L:4 T:0 P:0</b> | <b>Credits-4</b> |
|-----------------------|------------------------------|--|-------------------------------------|------------------|
|-----------------------|------------------------------|--|-------------------------------------|------------------|

**After the completion of this course the students should be able to**

|          |   |  |  |  |
|----------|---|--|--|--|
| <b>1</b> | Discuss the basic knowledge, concepts of computer science and biology. Describe existing software information from large databases. |  |  |  |
| <b>2</b> | Develop new and latest methods on problem –solving skills.  |  |  |  |
| <b>3</b> | Develop methods for element prediction.   |  |  |  |
| <b>4</b> | Design and analyze the methods on information theory.   |  |  |  |
| <b>5</b> | Adapt the depth concepts on protein tertiary structure prediction. Study new algorithms.  |  |  |  |

| <b>Course Outcome</b> | <b>YEAR /SEMESTER /I Sem</b> | <b>Subject Name(Subject Code):<br/>BIOMETRICS(OPEN ELECTIVE-I) (A958114)</b> | <b>No. Of Hours<br/>L:4 T:0 P:0</b> | <b>Credits-4</b> |
|-----------------------|------------------------------|--|-------------------------------------|------------------|
|-----------------------|------------------------------|--|-------------------------------------|------------------|

**After the completion of this course the students should be able to**

|          |   |  |  |  |
|----------|---|--|--|--|
| <b>1</b> | Describe the knowledge of behavioral and biological biometrics. Analyze different interpretations, theory and practical problems. |  |  |  |
| <b>2</b> | Discuss various professional problems. Capable to structure as well as formulate different scientific problems.                   |  |  |  |
| <b>3</b> | Develop advanced and independent research projects in biometrics.   |  |  |  |
| <b>4</b> | Implement biometrics applications and standards.  |  |  |  |
| <b>5</b> | Develop Image Enhancement Techniques. Understand real time and current research Application Programming Interfaces.               |  |  |  |



VAAGDEVI COLLEGE OF ENGINEERING  
UGC-Autonomous  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

| <b>Course Outcome</b>   | <b>YEAR /SEMESTER I/I Sem</b>  | <b>Subject Name(Subject Code):<br/>COMPUTERFORENSICS(OPEN ELECTIVE-I)( A958115)</b>             | <b>No. Of Hours<br/>L:4 T:0 P:0</b> | <b>Credits-4</b> |
|---|--|---|-------------------------------------|------------------|
| <b>After the completion of this course the students should be able to</b> |  |   |                                     |                  |
| 1   | Apply the appropriate laws to identify, acquire, present and examine digital evident.  |   |                                     |                  |
| 2   | Develop methods related to industry to practice digital forensics & Illustrate the fundamental computer theory and practices.                  |   |                                     |                  |
| 3   | Discuss principles of digital forensics & Evaluate and optimize the effective digital forensics tools.   |   |                                     |                  |
| 4   | Understand the role and field of information in digital forensics.   |   |                                     |                  |
| 5   | Plan current and advanced Computer Forensics Tools & Discuss various Software and hardware based on Forensics .                                |   |                                     |                  |
| <b>Course Outcome</b>   | <b>YEAR /SEMESTER I/I Sem</b>  | <b>Subject Name(Subject Code):<br/>DISTRIBUTED SYSTEMS SECURITY (OPEN ELECTIVE-I) (A958116)</b> | <b>No. Of Hours<br/>L:4 T:0 P:0</b> | <b>Credits-4</b> |
| <b>After the completion of this course the students should be able to</b> |  |   |                                     |                  |
| 1   | Discuss distributed models and RPC events and modification.  |   |                                     |                  |
| 2   | Describe principles and critical issues in distributed systems & Solve the problems, challenges that are relevant in Distributed transactions. |   |                                     |                  |
| 3   | Develop a real time case study to explore computer system.   |   |                                     |                  |
| 4   | Classify and explore design of distributed security system & Implement a simple and secure distributed system.                                 |   |                                     |                  |
| 5   | Understand transaction recovery, Replication and system model & Plan a CORBA case study services.  |   |                                     |                  |
| <b>Course Outcome</b>   | <b>YEAR /SEMESTER I/I Sem</b>  | <b>Subject Name(Subject Code):<br/>DATA STRUCTURES AND ALGORITHMS LAB (A958117)</b>             | <b>No. Of Hours<br/>L:0 T:0 P:4</b> | <b>Credits-2</b> |
| <b>After the completion of this course the students should be able to</b> |  |   |                                     |                  |
| 1   | Discuss the concepts of arrays, linked lists and hashing methods.  |   |                                     |                  |
| 2   | Understand the use of collision and resolution techniques.   |   |                                     |                  |
| 3   | Implement algorithms to solve problems like searching and sorting.   |   |                                     |                  |
| 4   | Develop problems including graphs, trees and heap.   |   |                                     |                  |



VAAGDEVI COLLEGE OF ENGINEERING  
UGC-Autonomous  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

| Course Outcome | YEAR /SEMESTER I/II Sem | Subject Name(Subject Code):<br>NETWORK PROGRAMMING<br>(A958201) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|-------------------------|---|-----------------------------|-----------|
|----------------|-------------------------|---|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |  |  |  |  |
|---|--|--|--|--|
| 1 | Discuss the knowledge on networking.   |  |  |  |
| 2 | Understand the concepts of protocols that support the internet & Classify the interfaces and programs for network communication. |  |  |  |
| 3 | Illustrate the detail concepts of TCP/ UDP sockets & Implement the RMI and client server application.                            |  |  |  |
| 4 | Develop advance programming concepts using different network communications.   |  |  |  |
| 5 | Discuss Client/Server Programs with real time examples & Plan a Application based on Java RMI.                                   |  |  |  |

| Course Outcome | YEAR /SEMESTER I/II Sem | Subject Name(Subject Code):<br>INFORMATION RETRIEVALSYSTEMS<br>(A958202) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|-------------------------|--|-----------------------------|-----------|
|----------------|-------------------------|--|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |   |  |  |  |
|---|---|--|--|--|
| 1 | Define Vector space model & Understand various similarity coefficient and measures.   |  |  |  |
| 2 | Develop an Understanding on Relevance feedback, Regression Analysis, Thesauri.  |  |  |  |
| 3 | Understand the applications of clustering.  |  |  |  |
| 4 | Apply various Retrieval Utilities for Information Retrieval & Develop an Understanding about Signature files, Duplicate document detection. |  |  |  |
| 5 | Apply IR principles to locate relevant information large collection of data & Analyze the model of distributed retrieval web search.        |  |  |  |

| Course Outcome | YEAR /SEMESTER I/II Sem | Subject Name(Subject Code):<br>INTERNET TECHNOLOGIES AND SERVICES<br>(A958203) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|-------------------------|--|-----------------------------|-----------|
|----------------|-------------------------|--|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |   |  |  |  |
|---|---|--|--|--|
| 1 | Discuss the principles of communication system.   |  |  |  |
| 2 | Understand protocol and architectures of telecommunication & Apply the basics of network theory, testing and monitoring system. |  |  |  |
| 3 | Ability to manage Structs Framework & Compare technical benefits of Service Oriented Architecture and Web Services.             |  |  |  |
| 4 | Install and Configure web service Framework.  |  |  |  |
| 5 | Develop Real Time Application son MYSQL database & Describe Web services and anatomy of WSDL.                                   |  |  |  |



VAAGDEVI COLLEGE OF ENGINEERING  
UGC-Autonomous  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

| Course Outcome | YEAR /SEMESTER I/II Sem | Subject Name(Subject Code):<br>DATA MINING (CORE ELECTIVE –III)<br>(A958204) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|-------------------------|--|-----------------------------|-----------|
|----------------|-------------------------|--|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |  |  |  |  |
|---|--|--|--|--|
| 1 | Describe the concepts of preprocessing and data quality & Able to design Data ware house.                      |  |  |  |
| 2 | Capable to apply knowledge on advanced Classification and Clustering Methods.                                  |  |  |  |
| 3 | Apply deep concepts on clustering Techniques & Discover latest methods in Text Mining.                         |  |  |  |
| 4 | Develop Web Mining Methods for Real Time Problems.   |  |  |  |
| 5 | Adapt Temporal Spatial Rules & Implement Tools used for current research problems on Data Mining Applications. |  |  |  |

| Course Outcome | YEAR /SEMESTER I/II Sem | Subject Name(Subject Code):<br>STORAGE AREA NETWORKS (CORE ELECTIVE –III)<br>(A958205) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|-------------------------|--|-----------------------------|-----------|
|----------------|-------------------------|--|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |   |  |  |  |
|---|---|--|--|--|
| 1 | Discuss the necessity of Performance evaluation and different metrics used.   |  |  |  |
| 2 | Develop techniques for data maintenance & Understand evolution of network storage.  |  |  |  |
| 3 | Identify key areas in storage infrastructure.   |  |  |  |
| 4 | Illustrate information Availability & Monitoring & Managing Datacenter & Develop critical security attributes for information system. |  |  |  |
| 5 | Implement Virtual technology analyzing threats & Plan a case study for real Time problems.  |  |  |  |

| Course Outcome | YEAR /SEMESTER I/II Sem | Subject Name(Subject Code):<br>SEMANTIC WEB AND SOCIALNETWORKS (CORE ELECTIVE –III) (A958206) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|-------------------------|---|-----------------------------|-----------|
|----------------|-------------------------|---|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |   |  |  |  |
|---|---|--|--|--|
| 1 | Explain three generation of Web with knowledge & Ability to participate related to web projects.                      |  |  |  |
| 2 | Understand the concepts on web applications and web data & Develop search engines to analyze social networking sites. |  |  |  |
| 3 | Describe technical affects related to web based computing methods.  |  |  |  |
| 4 | Implement Linked data using XML based web services.   |  |  |  |
| 5 | Analyze social networks and its development & Build a semantic web application for Real time problems                 |  |  |  |





VAAGDEVI COLLEGE OF ENGINEERING  
UGC-Autonomous  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

| Course Outcome | YEAR /SEMESTER I/II Sem | Subject Name(Subject Code):<br>CYBER SECURITY (CORE ELECTIVE –III) (A958207) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|-------------------------|--|-----------------------------|-----------|
|----------------|-------------------------|--|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |   |  |  |  |
|---|---|--|--|--|
| 1 | Describe the concepts of Fundamentals of cyber security to control threat & Analyze the architecture and articulate the threats.                    |  |  |  |
| 2 | Evaluate the features of information security and computer network in an organization.  |  |  |  |
| 3 | Illustrate the cyber security risk management to protect crucial information.   |  |  |  |
| 4 | Maintain the methods for trouble shooting and levels in information security & Develop methods for network security policies , requirements needed. |  |  |  |
| 5 | Implement security standards and publish & Understand IT act , copyright Act and patent Law.  |  |  |  |

| Course Outcome | YEAR /SEMESTER I/II Sem | Subject Name(Subject Code):<br>BIG DATA ANALYTICS (CORE ELECTIVE – IV) (A958208) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|-------------------------|--|-----------------------------|-----------|
|----------------|-------------------------|--|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |  |  |  |  |
|---|--|--|--|--|
| 1 | Describe Big Data and its importance & Discuss the different file structures and formats of data.          |  |  |  |
| 2 | Understand MapReduce and fundamentals of it.   |  |  |  |
| 3 | Learn HBase installation and Hadoop Ecosystem & Discover latest technology on Big Data Landscape ,RDBMS.   |  |  |  |
| 4 | Able to manage resources and applications with HADOOP.   |  |  |  |
| 5 | Analyze Mobile Analytics and its types & Implement various technologies related to mobile Analytics tools. |  |  |  |

| Course Outcome | YEAR /SEMESTER I/II Sem | Subject Name(Subject Code):<br>SOFT COMPUTING (CORE ELECTIVE – IV) (A958209) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|-------------------------|--|-----------------------------|-----------|
|----------------|-------------------------|--|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |  |  |  |  |
|---|--|--|--|--|
| 1 | Learn Different soft computing techniques and its role.  |  |  |  |
| 2 | Understand problem solving techniques and Fuzzy inference and Rules & Adapt different competitive Learning Networks.       |  |  |  |
| 3 | Discuss Self Organizing Networks and Hebbian Learning.   |  |  |  |
| 4 | Adapt Neuro- Fuzzy Inference Systems & Develop Neuro fuzzy Modeling and its framework.                                     |  |  |  |
| 5 | Implement application based on Computational Intelligence & Integrate various soft computing techniques to solve problems. |  |  |  |



VAAGDEVI COLLEGE OF ENGINEERING  
UGC-Autonomous  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

| <b>Course Outcome</b>   | <b>YEAR /SEMESTER I/II Sem</b> | <b>Subject Name(Subject Code):<br/>SOFTWARE PROCESS AND PROJECT MANAGEMENT(CORE ELECTIVE-IV)<br/>(A958210)</b>                                    | <b>No. Of Hours<br/>L:4 T:0 P:0</b> | <b>Credits-4</b> |
|---|--------------------------------|---|-------------------------------------|------------------|
| <b>After the completion of this course the students should be able to</b> |                                |   |                                     |                  |
| 1   |                                | Discuss and plan to execute projects based on required standards.   |                                     |                  |
| 2   |                                | Understand the range of tools used on project management & analyze the concepts related on project governance and methodologies.                  |                                     |                  |
| 3   |                                | Apply critical analysis on solving problems and planning process.   |                                     |                  |
| 4   |                                | Describe planning, Risk and issues management & Plan process, pragmatic planning service delivery and quality assurance.                          |                                     |                  |
| 5   |                                | Develop project on software management and communication skills & Illustrate deeper knowledge and frameworks on real world scenarios.             |                                     |                  |
| <b>Course Outcome</b>   | <b>YEAR /SEMESTER I/II Sem</b> | <b>Subject Name(Subject Code):<br/>DISTRIBUTED COMPUTING(CORE ELECTIVE – IV) (A958211)</b>  | <b>No. Of Hours<br/>L:4 T:0 P:0</b> | <b>Credits-4</b> |
| <b>After the completion of this course the students should be able to</b> |                                |   |                                     |                  |
| 1   |                                | Design to implement distributed systems.  |                                     |                  |
| 2   |                                | Describe computational thinking for applications on client-server paradigm & Apply knowledge to core architectural aspects of distributed system. |                                     |                  |
| 3   |                                | Describe the components of distributed databases such as RPC.   |                                     |                  |
| 4   |                                | Illustrate the important methods on distributed components & Develop distributed multimedia systems.  |                                     |                  |
| 5   |                                | Adapt different characteristics on software agents and resource management & Define grid computation, benefits and applications.                  |                                     |                  |
| <b>Course Outcome</b>   | <b>YEAR /SEMESTER I/II Sem</b> | <b>Subject Name(Subject Code):<br/>E – COMMERCE (OPEN ELECTIVE-II) (A958212)</b>  | <b>No. Of Hours<br/>L:4 T:0 P:0</b> | <b>Credits-4</b> |
| <b>After the completion of this course the students should be able to</b> |                                |   |                                     |                  |
| 1   |                                | Understand the concepts of E-Commerce consumer application.   |                                     |                  |
| 2   |                                | Demonstrate Electronic payment systems using smart cards & Analyze broad view of work flow and corporate Data warehouses.                         |                                     |                  |
| 3   |                                | Customize the supply chain management and digital documents & Adapt advertise and marketing based information.                                    |                                     |                  |
| 4   |                                | Discover new methods and strategy for E-commerce infrastructure.  |                                     |                  |
| 5   |                                | <b>Discuss issues on privacy and legal E-commerce &amp; Develop electronic and desktop video processing</b>                                       |                                     |                  |



VAAGDEVI COLLEGE OF ENGINEERING  
UGC-Autonomous  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

| Course Outcome | YEAR /SEMESTER I/II Sem | Subject Name(Subject Code):<br>INTELLECTUAL PROPERTY RIGHTS (OPEN ELECTIVE-II) (A958213) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|-------------------------|--|-----------------------------|-----------|
|----------------|-------------------------|--|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |  |
|---|--|
| 1 | Understand fundamentals of confidential, copyrights, patents, designs, tradeoffs and competition.  |
| 2 | Able to apply principles of law to issues related to intellectual rights & adapt the legal, practical steps needed to valid and agreed.                        |
| 3 | Demonstrate to identify, apply, protect intellectual property on new products & describe current and emerging trend on internet, biotechnology and other laws. |
| 4 | Analyze critical analysis arguments on intellectual property rights.   |
| 5 | Capable to anticipate the development of trade secret Law & Apply Employee confidentiality agreement and breach of contact.                                    |

| Course Outcome | YEAR /SEMESTER I/II Sem | Subject Name(Subject Code):<br>MOBILE COMPUTING (OPEN ELECTIVE-II) (A958214) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|-------------------------|--|-----------------------------|-----------|
|----------------|-------------------------|--|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |   |
|---|---|
| 1 | Describe the methods, principles on systematic programming.   |
| 2 | Develop applications on secure enterprise.  |
| 3 | Design and develop Wireless networks & Introduce J2ME Architecture.   |
| 4 | Plan a Wireless Devices on Symbian OS & Discuss IP Multimedia Subsystems.   |
| 5 | Adapt the effectiveness of user interface and interaction principles & Implement and Synthesize appropriate research trends |

| Course Outcome | YEAR /SEMESTER I/II Sem | Subject Name(Subject Code):<br>MOBILE APPLICATION SECURITY (OPEN ELECTIVE-II) (A958215) | No. Of Hours<br>L:4 T:0 P:0 | Credits-4 |
|----------------|-------------------------|---|-----------------------------|-----------|
|----------------|-------------------------|---|-----------------------------|-----------|

**After the completion of this course the students should be able to**

|   |  |
|---|--|
| 1 | Understand the mobile devices and its platforms.   |
| 2 | Describe the knowledge on mobile operating system wireless communication wit and architecture & Be familiar with Wireless communications and data transmissions. |
| 3 | Discuss mobile application for distribution & Ability to setup tools to program mobile applications.   |
| 4 | Categorize appropriate mythologies on PDU's, converting XML.   |
| 5 | <b>Implement Secure Local storage on Enterprise Security &amp;</b> Implement a Security Feature summary frame work.  |



VAAGDEVI COLLEGE OF ENGINEERING  
UGC-Autonomous  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

| <b>Course Outcome</b>   | <b>YEAR /SEMESTER I/II Sem</b>   | <b>Subject Name(Subject Code):<br/>PRINCIPLES OF INFORMATION SECURITY (OPEN ELECTIVE-II)<br/>(A958216)</b> | <b>No. Of Hours<br/>L:4 T:0 P:0</b> | <b>Credits-4</b> |
|---|--|--|-------------------------------------|------------------|
| <b>After the completion of this course the students should be able to</b> |  |  |                                     |                  |
| 1   | Understand the importance of Information Security.   |  |                                     |                  |
| 2   | Describe the need and role of network security & illustrate the Legal Ethics.                        |  |                                     |                  |
| 3   | Deploy the security Technologies. & adapt various firewalls and Intrusion detection systems.         |  |                                     |                  |
| 4   | Implement the techniques used in cryptography.   |  |                                     |                  |
| 5   | Plan methods for information security & demonstrate it with Real Time problems.                      |  |                                     |                  |
| <b>Course Outcome</b>   | <b>YEAR /SEMESTER I/II Sem</b>   | <b>Subject Name(Subject Code):<br/>INTERNET TECHNOLOGIES AND SERVICES LAB<br/>(A958217)</b>                | <b>No. Of Hours<br/>L:0 T:0 P:4</b> | <b>Credits-2</b> |
| <b>After the completion of this course the students should be able to</b> |  |  |                                     |                  |
| 1   | Demonstrate the methods for sending and receiving E-Mails.   |  |                                     |                  |
| 2   | Implement the Java HTML Scripting, JSP, VB Script.   |  |                                     |                  |
| 3   | Create a web page to process online information.   |  |                                     |                  |
| 4   | Design a Web page to submit online forms.  |  |                                     |                  |
| <b>Course Outcome</b>   | <b>YEAR /SEMESTER I/II Sem</b>   | <b>Subject Name(Subject Code):<br/>Seminar (A958218)</b>   | <b>No. Of Hours<br/>L:0 T:0 P:4</b> | <b>Credits-4</b> |
| <b>After the completion of this course the students should be able to</b> |  |  |                                     |                  |
| 1   | Identify the seminar topic and gather the literature related to the topic.                           |  |                                     |                  |
| 2   | Plan and organize the contents and prepare a perfect written and oral presentation.                  |  |                                     |                  |
| 3   | Explain how the topic chosen can be implemented in other allied areas.                               |  |                                     |                  |
| 4   | Develop skills in presentation and discussion related to research areas.                             |  |                                     |                  |
| <b>Course Outcome</b>   | <b>YEAR /SEMESTER II/I Sem</b>   | <b>Subject Name(Subject Code):<br/>Comprehensive Viva-Voce<br/>(A958301)</b>                               | <b>No. Of Hours<br/>L:0 T:0 P:0</b> | <b>Credits-4</b> |
| 1   | Summarize all the subjects learnt in previous two semesters.   |  |                                     |                  |
| 2   | Prepare to answer any question from all the core subjects.   |  |                                     |                  |
| 3   | Understand the practical importance of the subjects in depth.  |  |                                     |                  |
| 4   | Improve the oral presentation skills and gain confidence.  |  |                                     |                  |
| 5   | Explain the areas of interest and concepts learnt thoroughly.  |  |                                     |                  |
| 6   | Develop the skills required which help them to face interviews in both academic and private sectors. |  |                                     |                  |
| 7   | Asses their own strengths and weakness so as to improvise them.                                      |  |                                     |                  |
| 8   | Understand the overall importance of every subject and its practical application for                 |  |                                     |                  |



VAAGDEVI COLLEGE OF ENGINEERING  
UGC-Autonomous  
DEPARTMENT OF COMPUTER SCIENCE AND  
ENGINEERING

|  |   |  |                                      |                   |
|--|---|--|--------------------------------------|-------------------|
|  | real world problem solving                            |  |                                      |                   |
| <b>Course Outcome</b>  | <b>YEAR /SEMESTER II/I Sem</b>                        | <b>Subject Name(Subject Code):<br/>Project Work Review-I (A958302)</b>         | <b>No. Of Hours<br/>L:0 T:0 P:24</b> | <b>Credits-12</b> |
| <b>After the completion of this course, the students should be able to</b> |   |  |                                      |                   |
| 1  | Define the problem.                                   |  |                                      |                   |
| 2  | Find a problem.                                       |  |                                      |                   |
| 3  | Motivate the team.                                    |  |                                      |                   |
| 4  | Discuss with team and theoretical concepts            |  |                                      |                   |
| 5  | Demonstrate the requirements                          |  |                                      |                   |
| 6  | Integrate the ideas                                   |  |                                      |                   |
| 7  | Choose appropriate methodology                        |  |                                      |                   |
| 8  | Infer different hypothesis and questions              |  |                                      |                   |
| <b>Course Outcome</b>  | <b>YEAR /SEMESTER II/I Sem</b>                        | <b>Subject Name(Subject Code):<br/>Project Work Review-II (A958401)</b>        | <b>No. Of Hours<br/>L:0 T:0 P:8</b>  | <b>Credits-4</b>  |
| <b>After the completion of this course, the students should be able to</b> |   |  |                                      |                   |
| 1  | Communicate it clearly                                |  |                                      |                   |
| 2  | Summarize the background literature                   |  |                                      |                   |
| 3  | Outline the various research methods.                 |  |                                      |                   |
| 4  | Propose a solution to the problem.                    |  |                                      |                   |
| 5  | Apply the methods according to the needs.             |  |                                      |                   |
| 6  | Select and collect the data.                          |  |                                      |                   |
| 7  | Conduct the response ethically                        |  |                                      |                   |
| 8  | Analyze the empirical data.                           |  |                                      |                   |
| <b>Course Outcome</b>  | <b>YEAR /SEMESTER II/I Sem</b>                        | <b>Subject Name(Subject Code):<br/>Project Evaluation(Viva-Voce) (A958402)</b> | <b>No. Of Hours<br/>L:0 T:0 P:16</b> | <b>Credits-12</b> |
| <b>After the completion of this course, the students should be able to</b> |   |  |                                      |                   |
| 1  | Organize, interpret and evaluate data                 |  |                                      |                   |
| 2  | Solve and find different solutions related to context |  |                                      |                   |
| 3  | Determine the efficiency of the method.               |  |                                      |                   |
| 4  | Prioritize the importance of method                   |  |                                      |                   |
| 5  | Simply the techniques in simple way                   |  |                                      |                   |
| 6  | Estimate the complexity of the solution               |  |                                      |                   |

|          |                                      |
|----------|--------------------------------------|
| <b>7</b> | Prove the method is sustainable.     |
| <b>8</b> | Modify if based on the requirements. |