# R.M.K. ENGINEERING COLLEGE

**(An Autonomous Institution)**

**R.S.M Nagar, Kavaraipettai, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu- 601206**

**Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi/Accredited by NAAC with A+ Grade**
**An ISO 21001:2018 Certified Institution / All the Eligible UG Programs are Accredited by NBA, New Delhi**

## Department of Computer Science and Business Systems

### COURSE OUTCOMES
### 2024 – 2025 ODD SEMESTER

| Sl. No. | Semester | Course Code | Course Title |
|---|---|---|---|
| 1 | 3 | 22GE301 | Universal Human Values II |
| 2 | 3 | 22CB301 | Computer Organization & Architecture |
| 3 | 3 | 22CB302 | Fundamentals of Economics |
| 4 | 3 | 22CB303 | Software Design with UML |
| 5 | 3 | 22CB304 | Database Management Systems |
| 6 | 3 | 22MA304 | Computational Statistics |
| 7 | 3 | 22ME311 | Product Development Lab - 3 |
| 8 | 3 | 22CS311 | Aptitude and Coding Skills I |
| 9 | 3 | 22CB311 | Mini Project - Design |
| 10 | 3 | *** | Indian Constitution (Non Credit) |
| 11 | 5 | 22CB501 | Fundamentals of Management |
| 12 | 5 | 22CB502 | Business Strategy |
| 13 | 5 | 22CB503 | Computer Networks |
| 14 | 5 | 22CB504 | Design Thinking |
| 15 | 5 | 22CB903 | Machine Learning |
| 16 | 5 | 22CB906 | Industrial Psychology |
| 17 | 5 | 22CS511 | Advanced Aptitude and Coding Skills I |
| 18 | 5 | 22CB511 | Internship/Seminar |
| 19 | 5 | *** | Essence of Indian Traditional Knowledge (Non-Credit) |
| 20 | 7 | 20CB701 | Usability Design of Software Applications + Lab |
| 21 | 7 | 20CB702 | IT Workshop Scilab + Lab |
| 22 | 7 | 20CB703 | IT Project Management + Lab |
| 23 | 7 | 20CB915 | Cryptology + Lab |
| 24 | 7 | 20IT713 | Professional Readiness for Innovation, Employability and Entrepreneurship. |
| 25 | 7 | 20CB711 | Project Work – Phase I |

Department of Computer Science and Business Systems
R.M.K. EngineeringCollege
R.S.M. Nagar, Kavaraipettai – 601 206
Website:www.rmkec.ac.in
Phone:04467906641

Page 1 of 8

**R.M.K. ENGINEERING COLLEGE**

**(An Autonomous Institution)**

**R.S.M Nagar, Kavaraipettai, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu- 601206**
**Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi/Accredited by NAAC with A+ Grade**
**An ISO 21001:2018 Certified Institution / All the Eligible UG Programs are Accredited by NBA, New Delhi**

## Department of Computer Science and Business Systems

## THIRD SEMESTER

### 22GE301   UNIVERSAL HUMAN VALUES 2: UNDERSTANDING HARMONY

| COs | OUTCOMES: Upon completion of the course, the students will |
|-----|-----------------------------------------------------------|
| CO1 | Aware of themselves, and their surroundings (family, society, nature). |
| CO2 | More responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind. |
| CO3 | Better critical ability. |
| CO4 | Sensitive to their commitment towards what they have understood (human values, human relationships, and human society). |
| CO5 | Apply what they have learnt to their own self in different day-to-day settings in real life, at least a beginning would be made in this direction. |

### 22CB301   COMPUTER ORGANIZATION AND ARCHITECTURE

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|-----|------------------------------------------------------------------|
| CO1 | Understand the basic principles and operations of digital computers |
| CO2 | Design Arithmetic and Logic Unit |
| CO3 | Perform fixed- and floating-point operations |
| CO4 | Develop pipeline architectures for RISC Processors |
| CO5 | Understand Parallel Processor Architectures |
| CO6 | Understand Various Memory systems & I/O interfacings |

### 22CB302   FUNDAMENTALS OF ECONOMICS

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|-----|------------------------------------------------------------------|
| CO1 | Become familiar with both principles of micro and macroeconomics. |
| CO2 | Understand the approaches to consumer behavior and relation between production and cost function. |
| CO3 | Describe and discuss on interaction of product and factor market. |
| CO4 | Get awareness about importance and development of Indian economy and economic reforms. |
| CO5 | Have thorough knowledge in the areas of inflation, unemployment, monetary policy, fiscal policy and international trade. |

Department of Computer Science and Business Systems
R.M.K. EngineeringCollege
R.S.M. Nagar, Kavaraipettai – 601 206
Website:www.rmkec.ac.in
Phone:04467906641

Page **2** of **8**

# R.M.K. ENGINEERING COLLEGE

**(An Autonomous Institution)**

**R.S.M Nagar, Kavaraipettai, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu- 601206**
**Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi/Accredited by NAAC with A+ Grade**
**An ISO 21001:2018 Certified Institution / All the Eligible UG Programs are Accredited by NBA, New Delhi**

## Department of Computer Science and Business Systems

### 22CB303      SOFTWARE DESIGN WITH UML

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|-----|------------------------------------------------------------------|
| CO1 | Understand engineering approach to software development, software quality and reliability. |
| CO2 | Summarize the concepts of software requirement analysis. |
| CO3 | Apply the concepts of object-oriented principles. |
| CO4 | Understand the need for software design and modelling techniques. |
| CO5 | Compare and contrast various software testing methodologies. |
| CO6 | Explore various project and risk management techniques. |

### 22CB304      DATABASE MANAGEMENT SYSTEMS

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|-----|------------------------------------------------------------------|
| CO1 | Able to design and deploy an efficient & scalable data storage node for varied kind of application requirements. |
| CO2 | Map ER model to Relational model to perform database design effectively. |
| CO3 | Write queries using normalization criteria and optimize queries. |
| CO4 | Compare and contrast various indexing strategies in different database systems. |
| CO5 | Appraise how advanced databases differ from traditional databases. |

### 22MA304      COMPUTATIONAL STATISTICS

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|-----|------------------------------------------------------------------|
| CO1 | Estimate the statistical measures of multivariate normal distribution. |
| CO2 | Compute the variance and covariance using multivariate analysis. |
| CO3 | Apply Discriminant analysis in data analytics. |
| CO4 | Find the Principal components and factor analysis of the given data. |
| CO5 | Implement the concepts of cluster analysis in data analytics. |

Department of Computer Science and Business Systems
R.M.K. EngineeringCollege
R.S.M. Nagar, Kavaraipettai – 601 206
Website:www.rmkec.ac.in
Phone:04467906641

Page 3 of 8

# R.M.K. ENGINEERING COLLEGE
**(An Autonomous Institution)**
R.S.M Nagar, Kavaraipettai, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu- 601206
**Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi/Accredited by NAAC with A+ Grade**
**An ISO 21001:2018 Certified Institution / All the Eligible UG Programs are Accredited by NBA, New Delhi**

## Department of Computer Science and Business Systems

### 22ME311       PRODUCT DEVELOPMENT LAB – 3

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|-----|---------------------------------------------------------------------|
| CO1 | Enhance their skills in design concepts, rules and procedures. |
| CO2 | Develop their cognitive strategy to think, organize, learn and behave. |
| CO3 | Demonstrate the ability to provide conceptual design strategies for a product. |
| CO4 | Describe the procedure for designing a Mock-up model. |
| CO5 | Recognize and apply appropriate interdisciplinary and integrative strategies for solving complex problems |

### 22CS311       APTITUDE AND CODING SKILLS – I

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|-----|---------------------------------------------------------------------|
| CO1 | Develop vocabulary for effective communication and reading skills. |
| CO2 | Build the logical reasoning and quantitative skills. |
| CO3 | Develop error correction and debugging skills in programming. |

### INDIAN CONSTITUTION (Non-Credit)

| CO | OUTCOME: Upon completion of the course, students will be able to |
|----|------------------------------------------------------------------|
| CO1 | Have the knowledge on Indian Constitution |

### FIFTH SEMESTER
### 22CB501       FUNDAMENTALS OF MANAGEMENT

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|-----|---------------------------------------------------------------------|
| CO1 | Understand the theories, concept, and evolution of management. |
| CO2 | Demonstrate the ability to employ 'the management way of thinking'. |
| CO3 | Understand how organizations work and find it easier to grasp the intricacies of other management areas such as finance, marketing, strategy etc. |
| CO4 | Understand the qualities of a leader in the managerial aspect in future terms. |
| CO5 | Understand the managerial ethics and CSR and its importance. |

Department of Computer Science and Business Systems
R.M.K. EngineeringCollege
R.S.M. Nagar, Kavaraipettai – 601 206
Website:www.rmkec.ac.in
Phone:04467906641

Page **4** of **8**

# R.M.K. ENGINEERING COLLEGE
**(An Autonomous Institution)**
R.S.M Nagar, Kavaraipettai, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu- 601206
**Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi/Accredited by NAAC with A+ Grade**
**An ISO 21001:2018 Certified Institution / All the Eligible UG Programs are Accredited by NBA, New Delhi**

## Department of Computer Science and Business Systems

### 22CB502      BUSINESS STRATEGY

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|---|---|
| CO1 | Become familiar with both internal and external environments. They would also become familiar with corporate and growth strategies, appreciate implementation of such strategies. |
| CO2 | Learn the fundamental concepts of strategic management to analyse business situations and apply these concepts to solve business problems. |
| CO3 | Understand the fundamental principles of and interrelationships among business functions such as: R&D, production, marketing, finance, and HR and information technology. |
| CO4 | Apply the inter-relationships of business to individuals, other organizations, government and society. |
| CO5 | Analyze complex, unstructured qualitative and quantitative problems, using appropriate tools. |

### 22CB503      COMPUTER NETWORKS

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|---|---|
| CO1 | Understand the classification of computer networks, basic layers and its functions, protocols and transmission media in computer networks. |
| CO2 | Inspect the functionalities of data link and media access control protocols. |
| CO3 | Examine different routing algorithms. |
| CO4 | Identify appropriate protocol to be used at the transport layer. |
| CO5 | Explain the working of various application layer protocols and network security. |

### 22CB504      DESIGN THINKING

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|---|---|
| CO1 | Understand the phases of design thinking process. |
| CO2 | Conduct an immersion activity to create an empathy map. |
| CO3 | Define the key problems of the personas created. |
| CO4 | Apply the ideation phase steps to present the prototype ideas. |
| CO5 | Create a prototype with value propositions and test the prototype. |

Department of Computer Science and Business Systems
R.M.K. EngineeringCollege
R.S.M. Nagar, Kavaraipettai – 601 206
Website:www.rmkec.ac.in
Phone:04467906641

Page **5** of **8**

# R.M.K. ENGINEERING COLLEGE

**(An Autonomous Institution)**

**R.S.M Nagar, Kavaraipettai, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu- 601206**
**Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi/Accredited by NAAC with A+ Grade**
**An ISO 21001:2018 Certified Institution / All the Eligible UG Programs are Accredited by NBA, New Delhi**

## Department of Computer Science and Business Systems

### 22CB903        MACHINE LEARNING

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|-----|------------------------------------------------------------------|
| CO1 | Explain the basics of Machine Learning and model evaluation. |
| CO2 | Study dimensionality reduction techniques. |
| CO3 | Understand and implement various classification algorithms. |
| CO4 | Understand and implement various unsupervised learning techniques. |
| CO5 | Build Neural Networks and understand the different types of learning. |

### 22CB906        INDUSTRIAL PSYCHOLOGY

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|-----|------------------------------------------------------------------|
| CO1 | Become conversant about the major content areas of Industrial Psychology. |
| CO2 | Gain further comfort with statistical concepts in the context of making personnel decisions. |
| CO3 | Gain practical experience by completing a series of hands-on projects involving job analysis, selection decisions, training programs, and employee well-being. |
| CO4 | Deepen your understanding of tests and measurements so that you can collect accurate information and make sound data-based decisions. |
| CO5 | Prepare for other focused seminar courses in Industrial/Organizational Psychology or Human Resource Management. |

### 22CS511    ADVANCED APTITUDE AND CODING SKILLS - I

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|-----|------------------------------------------------------------------|
| CO1 | Develop vocabulary for effective communication and reading skills. |
| CO2 | Build the logical reasoning and quantitative skills. |
| CO3 | Develop error correction and debugging skills in programming |

Department of Computer Science and Business Systems
R.M.K. EngineeringCollege
R.S.M. Nagar, Kavaraipettai – 601 206
Website:www.rmkec.ac.in
Phone:04467906641

Page 6 of 8

# R.M.K. ENGINEERING COLLEGE

**(An Autonomous Institution)**

**R.S.M Nagar, Kavaraipettai, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu- 601206**
**Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi/Accredited by NAAC with A+ Grade**
**An ISO 21001:2018 Certified Institution / All the Eligible UG Programs are Accredited by NBA, New Delhi**

## Department of Computer Science and Business Systems

### SEVENTH SEMESTER

### 20CB701    USABILITY DESIGN OF SOFTWARE APPLICATIONS + LAB

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|-----|------------------------------------------------------------------|
| CO1 | Understand the fundamentals and importance of User-Centred design. |
| CO2 | Perform design evaluation by applying the heuristic principles. |
| CO3 | Develop an application focusing on the design aspects. |
| CO4 | Do research on understanding user requirement. |
| CO5 | Perform iterative product development using prototyping technique. |

### 20CB702        IT WORKSHOP SCILAB + LAB

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|-----|------------------------------------------------------------------|
| CO1 | Write fundamental programs in MATLAB/Scilab, creating variables and mathematical functions. |
| CO2 | Understand how to program matrix operations, array operations and how to solve the system of linear equations. |
| CO3 | Program the fundamentals concepts of basic Plotting consisting of simple and multiple data sets in one plot. |
| CO4 | Understand how to program M-file scripts, M- file functions, Input –output Arguments and program control flow operators, loops, flow structures. |
| CO5 | Use the debugging process and debugging M-files. |

### 20CB703        IT PROJECT MANAGEMENT + LAB

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|-----|------------------------------------------------------------------|
| CO1 | Learn to effectively plan, and schedule projects within time and cost targets. |
| CO2 | Have Knowledge in Cost Control, Scheduling and Management Features. |
| CO3 | Be aware of different Agile Project Methodologies. |
| CO4 | Know in detail about Scrum. |
| CO5 | Obtain good knowledge in DevOps. |

Department of Computer Science and Business Systems
R.M.K. EngineeringCollege
R.S.M. Nagar, Kavaraipettai – 601 206
Website:www.rmkec.ac.in
Phone:04467906641

Page 7 of 8

# R.M.K. ENGINEERING COLLEGE

**(An Autonomous Institution)**

**R.S.M Nagar, Kavaraipettai, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu- 601206**
**Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi/Accredited by NAAC with A+ Grade**
**An ISO 21001:2018 Certified Institution / All the Eligible UG Programs are Accredited by NBA, New Delhi**

## Department of Computer Science and Business Systems

### 20CB915          CRYPTOLOGY + LAB

| COs | OUTCOMES: Upon completion of the course, students will be able to |
|---|---|
| CO1 | Understand and apply the various concepts of basics of Number Theory. |
| CO2 | Secure a message over an insecure channel by numerous symmetric key cryptosystem. |
| CO3 | Apply diverse Public Key Cryptosystem & Authentication. |
| CO4 | Implement varied security applications |
| CO5 | Understand the implications of quantum computing on cryptography and security. |

Department of Computer Science and Business Systems
R.M.K. EngineeringCollege
R.S.M. Nagar, Kavaraipettai – 601 206
Website:www.rmkec.ac.in
Phone:04467906641

Page **8** of **8**