NBKR INSTITUTE OF SCIENCE & TECHNOLOGY: VIDYANAGAR (AUTONOMOUS)

**AFFILIATED TO JNTUA, ANANTAPURAMU**

**COMPUTER SCIENCE & ENGINEERING – OVERALL SCHEME OF INSTRUCTION (**With effect from the academic year 2019-20)

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| **S.No** | **I B.Tech** | **II B.Tech** | **III B.Tech** | **IV B.Tech** |
|  | **I Sem** | **L** | **T** | **P** | **C** | **I Sem** | **L** | **T** | **P** | **C** | **I Sem** | **L** | **T** | **P** | **C** | **I Sem** | **L** | **T** | **P** | **C** |
| 1 | BSC- Functional English (FE) - 19SH1101 | 2 | - | - | 2 | BSC-Numerical Methods, Probability and Statistics (NMPS) -19SH2102 | 3 | - | - | 3 | PCC- Compiler Design(CD) - 19CS3101 | 3 | 1 | - | 4 | PCC-Machine Learning (ML) - 19CS4101 | 3 | - | - | 3 |
| 2 | BSC- Applied Physics (AP) - 19SH1102 | 2 | 1 | - | 3 | ESC-ComputerOrganization (CO) - 19CS2101 | 3 | - | - | 3 | PCC- Object Oriented Analysis and Design(OOAD) - 19CS3102 | 3 | - | - | 3 | PCC- Data Analytics (DA) - 19CS4102 | 3 | - | - | 3 |
| 3 | BSC-EngineeringMathematics –I (EM-I) - 19SH1104 | 3 | 1 | - | 4 | PCC- Object Oriented Programming through JAVA(OOPJ) - 19CS2102 | 3 | - | - | 3 | PCC-Cryptography andNetwork Security (CNS) - 19CS3103 | 3 | - | - | 3 | PCC-Web Technologies(WT) - 19CS4103 | 3 | - | - | 3 |
| 4 | ESC- Programming for Problem Solving (PPS)\*\* - 19CS1101 | 3 | - | - | 3 | PCC-Operating Systems (OS) - 19CS2103 | 3 | - | - | 3 | PCC-Advanced Database Systems(ADBS) - 19CS3104 | 3 | - | - | 3 | **Professional Elective –3**Service Oriented Architecture-19CS41E1Embedded Systems-19CS41E2Image Processing and Visualization-19CS41E3Adhoc & Sensor Networks-19CS41E4 | 3 | - | - | 3 |
| 5 | ESC-Basic ElectricalSciences (BES) - 19EE1101 | 2 | 1 | - | 3 | PCC-Software Engineering (SE) - 19CS2104 | 3 | - | - | 3 | **Professional Elective–1**Software Architecture-19CS31E1Distributed systems-19CS31E2Pattern Recognition-19CS31E3Cloud Computing-19CS31E4 | 3 | - | - | 3 |
| 6 | BSC - English Language Lab - 19SH11P1 | - | - | 2 | 1 | MC :: Environmental Science - 19MC2101 | 2 | - | - | - |
| 7 | BSC - Applied Physics Lab - 19SH11P2 | - | - | 3 | 1.5 | PCC - Object Oriented Programming through JAVALab - 19CS21P1 | - | - | 3 | 1.5 | Open Elective – 1 | 3 | - | - | 3 |
| 8 | ESC - Programming forProblem Solving Lab - 19CS11P1 | - | - | 3 | 1.5 | PCC - Operating System Lab - 19CS21P2 | - | - | 3 | 1.5 | PCC - Object Oriented Analysis and Design Lab - 19CS31P1 | - | - | 3 | 1.5 | PCC– Machine Learning Lab-19CS41P1 | - | - | 3 | 1.5 |
| 9 | ESC - Engineering Workshop - 19ME11P2 | - | - | 2 | 1 | PCC – Database and IT Essentials Lab - 19CS21P3 | - | - | 4 | 2 | PCC- Cryptography and Network Security Lab - 19CS31P2 | - | - | 3 | 1.5 | PCC – Data Analytics Lab - 19CS41P2 | - | - | 3 | 1.5 |
|  | **TOTAL** | 12 | 3 | 10 | **20** |  | 17 | 0 | 10 | **20** |  | 15 | 1 | 6 | **19** |  | 15 | 0 | 6 | **18** |
|  | **II Sem** | **L** | **T** | **P** | **C** | **II Sem** | **L** | **T** | **P** | **C** | **II Sem** | **L** | **T** | **P** | **C** | **II Sem** | **L** | **T** | **P** | **C** |
| 1. | BSC- Professional English(PE) - 19SH1201 | 2 | - | - | 2 | PCC-Discrete Mathematical Structures (DMS) - 19CS2201 | 3 | 1 | - | 4 | BSC-Management Science(MS) - 19SH3201 | 3 | - | - | 3 | **Professional Elective – 4**Software Testing and Quality Assurance - 19CS42E1Intelligent Software Agents-19CS42E2Mobile Application Development-19CS42E3Natural Language Processing-19CS42E4 | 3 | - | - | 3 |
| 2. | BSC- Engineering Chemistry (EC) - 19SH1203 | 2 | 1 | - | 3 | PCC- Design and Analysis of Algorithms(DAA)-19CS2202 | 3 | - | - | 3 | PCC- Internet of Things (IOT) - 19CS3201 | 3 | - | - | 3 |
| 3. | BSC- EngineeringMathematics – II (EM-II) - 19SH1204 | 3 | 1 | - | 4 | HSM- Engineering Economics and Financial Accounting (EE&FA) - 19SH2202 | 2 | - | - | 2 | PCC- Artificial Intelligence(AI) - 19CS3202 | 3 | 1 | - | 4 |
| 4. | PCC- Python and DataStructures (PDS) - 19CS1201 | 3 | - | - | 3 | PCC- Formal Languages and Automata Theory (FLAT) - 19CS2203 | 3 | 1 | - | 4 | PCC-Data Warehousing and Mining (DWM) - 19CS3203 | 3 | - | - | 3 |
| 5. | PCC- Database Management Systems (DBMS) - 19CS1203 | 3 | - | - | 3 | PCC- Computer Networks(CN) - 19CS2204 | 3 | - | - | 3 | **Professional Elective-2**Software Project Management-19CS32E1R Programming-19CS32E2High Performance Computing-19CS32E3Wireless Networks-19CS32E4 | 3 | - | - | 3 | Open Elective –2 | 3 | - | - | 3 |
| 6. | ESC - Computer Aided Engineering Drawing Lab - 19ME12P1 | - | - | 6 | 3 | MC : Technical English & Soft Skills - 19MC2202 | 2 | - | 2 | - | AC-Universal Human Values(UHV) - 19AC3201 | 2 | - | - | - | Internship - 19CS42IS | - | - | - | 2 |
| 7. | BSC - EngineeringChemistry Lab - 19SH12P3 | - | - | 3 | 1.5 | PCC - Design and Analysis ofAlgorithms Lab - 19CS22P1 | - | - | 3 | 1.5 | PCC - Internet of Things Lab - 19CS32P1 | - | - | 3 | 1.5 | Massive Open OnlineCourses -19CS42MO | - | - | - | 3 |
| 8. | PCC - Python and Data Structures Lab-19CS12P1 | - | - | 3 | 1.5 | PCC - Computer Networks Lab - 19CS22P2 | - | - | 3 | 1.5 | PCC – Data Warehousing and Mining Lab - 19CS32P2 | - | - | 3 | 1.5 | Project - 19CS42PR | - | - | - | 11 |
|  |  |  |  |  |  |  |  |  |  |  | Mini Project - 19CS32MP | - | - | - | 2 |  |  |  |  |  |
|  | **TOTAL** | 13 | 2 | 12 | **21** |  | 16 | 2 | 8 | **19** |  | 17 | 1 | 6 | **21** |  | 6 | - | - | **22** |