­­­Bachelor of Technology in Computer Science and Engineering 2024-25

Annexure – II

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| © | Semester Course Code, Course Name (L-T-P)Credits | GP | Community Services | Hrs. Per week | Credits |
| L | T | P |
| 1 | MAL151Engg. Maths-I(3-0-2)4 | CSL106 FOCP-I (2-1-4)5 | CHL150Engg Chemistry(2-0-2)3 | MEP110Engineering Graphics & Drawing(1-0-4)3 | CSL110Problem Solving & Design Thinking(2-0-2)3 |  |  | CSR118 GP1 Credit | CSS101 CS-I | 10 | 1 | 14 | 18+1=19 |
| 2 | MAL152Engg. Maths-II(3-0-2)4 | CSL108 FOCP-II(2-1-4)5 | PYL150Engineering Physics(3-0-2)4 | MEL160Basic of Mechanical Engg.(2-0-2)3 | ECL110Basic of Electrical & ElectronicsEngineering (2-0-2)3 | CLL130Effective Comm. -I(1-0-2)2 |  | CSR119 GP1 Credit | CSS102 CS-II(140 Hrs)\*\*2 Credits | 13 | 1 | 14 | 21+3=24 |
| Summer |  |  |  |  |  |
| 3 | CSL214 DBMS(3-1-2)5 | ECL255DE & CA(3-0-2)4 | Engg. Maths III(3-0-0)3 | CSL215Intro To Java(3-0-2)4 | Program Elective - I (2-0-4)4 | CLL140Effective Comm-II(1-0-2)2 |  | CSR218 GP1 Credit | CSS201 CS-III | 15 | 1 | 12 | 22+1=23 |
| 4 | CSL422Cyber Security(3-0-2)4 | CSL209Data Structures(3-0-2)4 | CLL120 HVPE(2-0-0-)2 | ProgramElective- 2(2-0-4)4 | SML300Entrepreneurship(3-0-0)3 | Open Elective – 1(3-0-0)3 | CSV101Skill Dev.(0-0-2)1 | CSR219 GP1 Credit | CSS202 CS-IV(140 Hrs) \*\*2 Credits | 16 | 0 | 10 | 21+3=24 |
| Summer | CST201 Industrial Training/internship |  |  |  | 2 |
| 5 | CSL236Introduction to AI & ML / CSL242 AI for Games(3-0-2)4 | CSL-303Operating System(3-0-2)4 | Program Elective-3(2-0-4)4 | CSL315Adv Java(3-0-2)4 | OpenElective – 2(3-0-0)3 | CSL240Computer Networks(3-0-2)4 | CSC 301Seminar1 credit | CSR318 GP1 Credit | CSS301 CS-V | 17 | 0 | 12 | 24+1=25 |
| 6 | CSL229 SEPM (3-0-2)4 | CSL230Analysis and Design ofAlgorithms(3-0-2) 4 |  Program Elective-4(2-0-4)4 | CSL 238Introduction to Cloud Computing (3-0-2)4 | Open Elective– 3(3-0-0) 3 | Program Elective- 5 (2-0-4) 4 |  | CSR319 GP1 Credit | CSS302 CS-VI(140 Hrs)\*\*2 Credits | 16 | 0 | 14 | 23+3=26 |
| Summer | CST301 Industrial Training/ internship |  |  |  | 04 |
| 7 | Program Elective- 6(2-0-4)4 | Program Elective- 7(2-0-4)4 | CSD401Project # 14 Credits | Open Elective-4 (MOOC) (3-0-0)3 | CHL100 EVS (3-0-0)3 | Foreign Language (3-0-0)3 |  |  | CSS401 CS-VII | 13 | 0 | 8 | 21 |
| 8 | Liberal Arts Elective(3-0-0-)3(MOOC) |  Open Elective – 5 (MOOC)(3-0-0)3 | CSD402Project # 2/Internship 6 Credits |  |  |  |  |  | CSS402CS-VIII (140 Hrs)2 Credits | 6 | 0 | 0 | 12+2=14 |
|  | Total |  |  | 106 | 3 | 84 | 162+6+14=182 |

\*\* Students can utilize the summer/winter break period to complete the remaining 140 Community Service hours every year.

* The University shall conduct introductory sessions in the 1st semester on soft skills, which are a set of transferable skills and key personal traits essential for personality development.
* The University shall conduct special sessions in the 4th semester to reinforce the learnings of introductory training sessions conducted in the first year.
* Two value-added courses over and above the programme scheme shall be offered during the 5th & 6th semesters to impart special skills to students for enhancing their employability.
* Advanced sessions on soft skills shall be conducted in the 7th semester to hone up the preparedness of students for placements and make them industry ready for national and international jobs.

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| **Tracks** |  **Tracks** | **Data Science** | **Cloud Computing** | **Full Stack** | **Game Tech** | **Cyber Security** | **Blockchain** | **AI & ML** | **IoT & 5G** | **Other Electives** |
| **Program Elective-1** | PE 1 | CSL 225Programming for DataScience | CSL225Programming for Data Science | CSL273Enterprise Web Applications | CSL243 Game Design & Asset Creation | CSL 281 Secure Communication andCryptography | CSL239 Mathematics of ModernCryptography | CSL 225Programming for Data Science and AI | ECL256Embedded Systems | MAL270Numerical Methods |
|  **Program Elective-2** | PE 2 | CSL227 Applied Computational Statistics | CSL337 Cloud Architecture | CSL274Middleware Frameworks and ORM | CSL245Programing for Games | CSL 284 Digital Forensics and Malware Analysis | CSL247 Intro.to blockchain technologies | CSL347 Applied Artificial Intelligence and Expert Systems | CSL238Introduction to CloudComputing | CSL223 WebDevelopment Technologies |
|  **Program Elective-3** | PE 3 | CSL232Business Intelligence and DataVisualization | CSL338Virtualization & Cloud Computing | CSL276 No SQLDatabases | CSL244Advanced Programming for Games | CSL 383Network security | CSL355 Bitcoin and Cryptocurrency Technologies | CSL348Reinforcement Learning | ECL252Micro Controllers & Sensors | MAL280Linear Algebra and its Applications |
| **Program Elective-4** | PE 4 | CSL313MachineLearning | CSL339 Big Data on Cloud | CSL253 WebFrameworks | CSL343Designing Human ComputerInterfaces | CSL387 Web and MobileSecurity | CSL356 Smart Contracts | CSL349 Artificial Intelligence for Robotics | ECL316Wireless & Mobile Communication | MAL260Probability and Statistics |
| **Program Elective-5** | PE 5 | CSL311 BigData | CSL346 Artificial Intelligence & Machine Learning on Cloud | CSL371 Mobile ApplicationDevelopment | CSL246 Cross Platform GameDevelopment | CSL385 Risk Analysis and Assessment | CSL357Blockchain forCyber Security | CSL312 Deep Learning | ECL352Design for IOT | CSL 318Theory of Computation |
| **Program Elective-6** | PE 6 | CSL316Introduction to Image Processing andRecognition | CSL445 Cloud Application Development & Deployment | CSL373 Devops | CSL341 ARDevelopment | CSL384 Cloud Security Essentials | CSL358Blockchain Technology in WebDevelopment | CSL447Computer Vision | ECL367Introduction to 5GTechnologies |  |
| **Program Elective-7** | PE 7 | CSL312 Deep Learning | CSL446 Cloud Security | CSL374 Micro service Based Applications | CSL345 VRDevelopment | CSL382Blockchain | CSL449 Security and Privacy for Big Data Analytics | CSL448Computational Linguistics and Natural LanguageProcessing | ECL368 Network and Security in IoT |  |

**Program Electives for each track**