

B. Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning)
Scheme of Studies/Examination (w.e.f. Session 2021-22)
Semester III

| S. No. | Course No. | Subject | L:T:P | Hours/Week | Credits | Examination Schedule | | | | Duration of Exam (Hrs.) |
|--------|--------------------|--|-------|------------|-----------|----------------------|------------|------------|------------|-------------------------|
| | | | | | | Major Test | Minor Test | Practical | Total | |
| 1 | BS- CS- AIML-201A | Applied Statistical Analysis for AI | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 2 | ES- CS- AIML-203A | Data Structure | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 3 | PC- CS- AIML-205A | Object Oriented Programming | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 4 | PC- CS- AIML-207A | Introduction to AI | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 5 | ES- CS- AIML-209A | Programming Language | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 6 | HM-902A | Business Intelligence and Entrepreneurship | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 7 | PC- CS- AIML-213LA | Data Structure Lab | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 8 | PC- CS- AIML-215LA | Object Oriented Programming Lab | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 9 | PC- CS- AIML-217LA | AI Lab(Python) | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| | | Total | | 24 | 21 | 450 | 270 | 180 | 900 | |
| 11 | SIM-201A* | Seminar on Summer Internship | 2:0:0 | 2 | 0 | 0 | 50 | 0 | 50 | |

B. Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning)
Scheme of Studies/Examination (w.e.f. Session 2021-22)

Semester IV

| S. No. | Course No. | Subject | L:T:P | Hours/Week | Credits | Examination Schedule | | | | Duration of Exam (Hrs.) |
|--------|-------------------|----------------------------------|-------|------------|-----------|----------------------|------------|------------|------------|-------------------------|
| | | | | | | Major Test | Minor Test | Practical | Total | |
| 1 | BS- CS-AIML- 202M | Mathematics for Machine Learning | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 2 | PC- CS-AIML- 204A | Intelligent Systems | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 3 | PC- CS-AIML- 206A | Database Management System | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 4 | PC- CS-AIML- 208A | Internet and Web Technology | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 5 | PC- CS-AIML- 210A | Operating System | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 6 | PC- CS-AIML- 212A | Software Engineering | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 7 | PC- CS-AIML- 216A | Database Management System Lab | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 8 | PC- CS-AIML- 218A | Internet and Web Technology Lab | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 9 | PC- CS-AIML- 220A | Introduction to Python Lab | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| | | Total | | 24 | 21 | 450 | 270 | 180 | 900 | |
| 10 | MC-901A | Environmental Sciences | 3:0:0 | 3 | 0 | | 100 | 0 | 100 | 3 |

B. Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning)
Scheme of Studies/Examination (w.e.f. Session 2022-23)

Semester V

| S. No. | Course No. | Subject | L:T:P | Hours/Week | Credits | Examination Schedule | | | | Duration of Exam (Hrs.) |
|--------|-----------------------|--|-------|------------|-----------|----------------------|------------|------------|------------|-------------------------|
| | | | | | | Major Test | Minor Test | Practical | Total | |
| 1 | PC- CS- AIML- 301A | Automata | 3:1:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 2 | PC- CS- AIML- 303A | Design and Analysis of Algorithm | 3:1:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 3 | ES- CS- AIML- 305A | Computer Network | 3:1:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 4 | PC- CS- AIML- 307A | Artificial Neural Networks | 3:1:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 5 | ES- CS- AIML- 309A | Computer Architecture | 3:1:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 6 | PC- CS- AIML- 311A | Artificial Intelligence and Machine Learning | 3:1:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 7 | PC- CS- AIML- 313A | Artificial Intelligence and Machine Learning Lab | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 8 | PC-AIML- 317A | Design and Analysis of Algorithm Lab | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 9 | PC- CS- AIML- 315A | Artificial Neural Networks Lab | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| | | Total | | 24 | 21 | 450 | 270 | 180 | 900 | |
| 10 | MC-904A | Energy Resources & Management | 3:0:0 | 3 | 0 | 0 | 100 | 0 | 100 | 3 |
| 11 | SIM-301A* | Seminar on Summer Internship | 2:0:0 | 2 | 0 | 0 | 50 | 0 | 50 | |

B. Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning)
Scheme of Studies/Examination (w.e.f. Session 2022-23)

Semester VI

| S. No. | Course No. | Subject | L:T:P | Hours/Week | Credits | Examination Schedule | | | | Duration of Exam (Hrs.) |
|--------|------------------------|------------------------------|-------|------------|-----------|----------------------|------------|------------|------------|-------------------------|
| | | | | | | Major Test | Minor Test | Practical | Total | |
| 1 | PC CS- - AIML- 302A | Human Computer Interaction | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 2 | PC- CS- AIML- 304A | Applied Machine Learning | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 3 | PC- CS- AIML- 306A | Expert Systems | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 4 | PC-AIML- 308A | Software Testing | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 5 | PC- CS- AIML- 310A | Computer Vision | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 6 | OEC | OEC Elective-I | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 7 | PC- CS- AIML- 312A | Applied Machine Learning Lab | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 8 | PC- CS- AIML- 314A | Expert Systems Lab | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 9 | PC- CS- AIML- 318A | Software Testing Lab | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| | | Total | | 24 | 21 | 450 | 270 | 180 | 900 | |

| OEC Elective-I |
|---|
| Soft Skills and Interpersonal Communication: OE-CS- AIML -302 |
| Project Management: OE-CS- AIML -304 |
| Enterprise Resource Planning: OE-CS- AIML -306 |
| Stochastic Processes and Applications: OE-CS- AIML -308 |

***The students will choose any One Open Elective course out of the given elective list in VI Semester.**

B. Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning)
Scheme of Studies/Examination (w.e.f. Session 2023-24)

Semester VII

| S. No. | Course No. | Subject | L:T:P | Hours/Week | Credits | Examination Schedule | | | | Duration of Exam (Hrs.) |
|--------|---------------------|---------------------------------|-------|------------|-----------|----------------------|------------|------------|------------|-------------------------|
| | | | | | | Major Test | Minor Test | Practical | Total | |
| 1 | PC- CS- AIML- 401A | Data Science with R Programming | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 2 | OEC | OEC Elective-II | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 3 | PE-I | Elective - I | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 4 | PE-II | Elective - II | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 5 | PC- CS- AIML- 405LA | Elective – II Lab | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 6 | PC- CS- AIML- 407LA | R Programming Lab | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 7 | PC- CS- AIML- 409LA | Project | 0:0:6 | 6 | 3 | 0 | 40 | 60 | 100 | 3 |
| 8 | PC- CS- AIML- 413LA | Industrial Training | | | | | 100 | 0 | 100 | |
| | | Total | | 22 | 17 | 300 | 320 | 180 | 800 | |

| Code | PE-I | Code | PE-II |
|--------------------|------------------------------------|--------------------|--|
| PE- CS- AIML- 415A | Advance Computer Architecture | PE- CS- AIML- 421A | Big Data Analytics for Internet of Things |
| PE- CS- AIML- 417A | Soft Computing | PE- CS- AIML- 423A | Deep Learning |
| PE- CS- AIML- 419A | Data Mining & Predictive Modelling | PE- CS- AIML- 424A | Working with Raspberry pi & Arduino platform |

| OEC Elective-II |
|--|
| Robotics and Intelligent Systems: OE-CS- AIML--401 |
| Probability for Data Science: OE-CS- AIML--403 |
| Cluster Computing: OE-CS- AIML--405 |
| Microprocessor: OE-CS- AIML--407 |

Note:

*The students will choose any two departmental Electives courses and One Open Elective course out of the given elective list in VII Semester.

**Project should be initiated in the beginning of 7th semester, and should be completed by the end of 8th semester with good Report and power-point Presentation etc.

***4-6 weeks hand on training completed after 6th Semester Exams

B. Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning)
Scheme of Studies/Examination (w.e.f. Session 2023-24)
Semester VIII

| S. No. | Course No. | Subject | L:T:P | Hours/Week | Credits | Examination Schedule | | | | Duration of Exam (Hrs.) |
|--------|---------------------|----------------------------|-------|------------|-----------|----------------------|------------|------------|------------|-------------------------|
| | | | | | | Major Test | Minor Test | Practical | Total | |
| 1 | PC- CS- AIML- 402A | Optimization Method in ML | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 2 | OEC | OEC Elective-III | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 3 | PE-III | Elective – III | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 4 | PE-IV | Elective - IV | 3:0:0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 5 | PC- CS- AIML- 406LA | Optimization Lab | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 6 | PC- CS- AIML- 408LA | Advance AI Application Lab | 0:0:2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 7 | PC- CS- AIML- 410LA | Project-II | 0:0:8 | 8 | 4 | 0 | 100 | 100 | 200 | 3 |
| 8 | HM- CS- AIML- 412A | General Fitness | | 2 | | 0 | 0 | 100 | 100 | |
| | | Total | | 28 | 18 | 300 | 280 | 320 | 900 | |

| Code | PE-III | Code | PE-IV |
|--------------------|--|--------------------|-----------------------------|
| PE- CS- AIML- 402A | Reinforcement Learning | PE- CS- AIML- 422A | Augmented Reality |
| PE- CS- AIML- 416A | Social Networks | PE- CS- AIML- 424A | Advance Machine Learning |
| PE- CS- AIML- 420A | Neural Network and Fuzzy Logic systems | PE- CS- AIML- 426A | Natural Language Processing |

| OEC Elective-III |
|--|
| Cyber Law and Ethics: OE-CS- AIDS-402 |
| Cryptographic Fundamentals: OE-CS- AIDS-404 |
| Network Operating System: OE-CS- AIDS-406 |
| Reasoning, Problem Solving and Robotics: OE-CS- AIDS-408 |
| Image Processing and Recognition OE-CS- AIDS-410 |

Note:

***The students will choose any two departmental electives courses and One Open Elective course out of the given elective list in VIII**