

B.E. SCHEME OF EXAMINATION 2021-22

Scheme of Teaching & Examination of Bachelor of Engineering III Semester B.E. (Artificial Intelligence& Data Science)

| Sr. No. | Course Code | Category | Course Name | Hours/ Week | | | Credits | Maximum Marks | | | | | Minimum Passing Marks | |
|--------------|-------------|---------------------------|---|-------------|----------|----------|--------------|---------------|------------|-----------|------------|-------|-----------------------|-----------|
| | | | | | | | | Theory | | Practical | | Total | | |
| | | | | L | T | P | | | | | | | | |
| | | | | | | | | Internal | University | Internal | University | | Theory | Practical |
| 1 | BEAI&DS301T | Basic Science Course | Discrete Mathematics and Graph Theory | 3 | 1 | 0 | 4.00 | 30 | 70 | - | - | 100 | 45 | |
| 2 | BEAI&DS302T | Professional core courses | Operating Systems | 3 | 1 | 0 | 4.00 | 30 | 70 | - | - | 100 | 45 | |
| 3 | BEAI&DS303T | Professional core courses | Computer Architecture & Organization | 3 | 0 | 0 | 3.00 | 30 | 70 | - | - | 100 | 45 | |
| 4 | BEAI&DS304T | Professional core courses | Data Structures | 3 | 1 | 0 | 4.00 | 30 | 70 | - | - | 100 | 45 | |
| 5 | BEAI&DS304P | Professional core courses | Data Structures LAB | 0 | 0 | 2 | 1.00 | - | - | 25 | 25 | 50 | | 25 |
| 6 | BEAI&DS305T | Professional core courses | Digital Circuits & Fundamentals of Microprocessor | 3 | 0 | 0 | 3.00 | 30 | 70 | | | 100 | 45 | |
| 7 | BEAI&DS305P | Professional core courses | Digital Circuits & Fundamentals of Microprocessor Lab | 0 | 0 | 2 | 1.00 | - | - | 25 | 25 | 50 | | 25 |
| 8 | BEAI&DS306P | Engineering Sciences | Professional Skills I (Core Python) | 0 | 0 | 2 | 1.00 | | | 25 | 25 | 50 | | 25 |
| 9 | BEAI&DS307T | HSMC | Universal Human Values | 2 | 0 | 0 | 2.00 | 15 | 35 | | | 50 | 23 | |
| 10 | BEAI&DS308T | Mandatory Course | Environmental Science | 2 | 0 | 0 | Audit | - | - | - | - | Audit | - | |
| Total | | | | 19 | 3 | 6 | 23.00 | 165 | 385 | 75 | 75 | 700 | | |

B.E. SCHEME OF EXAMINATION 2021-22

Scheme of Teaching & Examination of Bachelor of Engineering IV Semester B.E. (Artificial Intelligence& Data Science)

| Sr. No. | Course Code | Category | Course Name | Hours/ Week | | | Credits | Maximum Marks | | | | | | Minimum Passing Marks | |
|---------|-------------|---------------------------|--|-------------|---|---|---------|---------------|------------|-----------|------------|-------|--------|-----------------------|--|
| | | | | | | | | Theory | | Practical | | Total | | | |
| | | | | L | T | P | | | | | | | | | |
| | | | | | | | | Internal | University | Internal | University | | Theory | Practical | |
| 1 | BEAI&DS401T | Professional core courses | Introduction to AI | 3 | 0 | 0 | 3.00 | 30 | 70 | - | - | 100 | 45 | | |
| 2 | BEAI&DS402T | Professional core courses | Theory of Computation | 3 | 1 | 0 | 4.00 | 30 | 70 | - | - | 100 | 45 | | |
| 3 | BEAI&DS403T | Basic Science Courses | Mathematical Foundation for Data Science | 3 | 0 | 0 | 3.00 | 30 | 70 | - | - | 100 | 45 | | |
| 4 | BEAI&DS404T | Professional core courses | Object Oriented Programming with JAVA | 3 | 0 | 0 | 3.00 | 30 | 70 | - | - | 100 | 45 | | |
| 5 | BEAI&DS404P | Professional core courses | Professional Skills II (Java) | 0 | 0 | 2 | 1.00 | - | - | 25 | 25 | 50 | | 25 | |
| 6 | BEAI&DS405T | Professional core courses | Database Management Systems | 3 | 0 | 0 | 3.00 | 30 | 70 | | | 100 | 45 | | |
| 7 | BEAI&DS405P | Professional core courses | Database Management Systems Lab | 0 | 0 | 2 | 1.00 | - | - | 25 | 25 | 50 | | 25 | |
| 8 | BEAI&DS406T | Engineering Sciences | Microcontroller & Embedded System | 3 | 1 | 0 | 4.00 | 30 | 70 | - | - | 100 | 45 | | |
| 9 | BEAI&DS406P | Engineering Sciences | Microcontroller & Embedded System Lab | 0 | 0 | 2 | 1.00 | - | - | 25 | 25 | 50 | - | 25 | |
| 10 | BEAI&DS407T | Project Work/Internship | Internship | 0 | 0 | 2 | 1.00 | | | 50 | | 50 | | | |
| Total | | | | 18 | 2 | 8 | 24.00 | 180 | 420 | 125 | 75 | 800 | | | |

B.E. SCHEME OF EXAMINATION 2021-22

Scheme of Teaching & Examination of Bachelor of Engineering V Semester B.E. (Artificial Intelligence& Data Science)

| Sr. No. | Course Code | Category | Course Name | Hours/ Week | | | Credit s | Maximum Marks | | | | | Minimum Passing Marks | |
|---------|-------------|------------------------------|---|-------------|---|---|----------|---------------|----------|------------|----|--------|-----------------------|----|
| | | | | | | | | Theory | | Practical | | Total | | |
| | | | | L | T | P | | | | | | | | |
| | | | | | | | Internal | University | Internal | University | | Theory | Practical | |
| 1 | BEAI&DS501T | Engineerin g Sciences | Computer Communication Network | 3 | 0 | 0 | 3.00 | 30 | 70 | | | 100 | 45 | |
| 2 | BEAI&DS502T | Professional core courses | Design and Analysis of Algorithms | 4 | 0 | 0 | 4.00 | 30 | 70 | - | - | 100 | 45 | |
| 3 | BEAI&DS502P | Professional core courses | Design and Analysis of Algorithms lab | 0 | 0 | 2 | 1.00 | | | 25 | 25 | 50 | 45 | 25 |
| 4 | BEAI&DS503T | Professional core courses | Machine Learning Techniques | 3 | 0 | 0 | 3.00 | 30 | 70 | - | - | 100 | 45 | |
| 5 | BEAI&DS503P | Professional core courses | Advanced Python for Machine Learning Techniques Lab | 0 | 0 | 2 | 1.00 | | | 25 | 25 | 50 | 45 | 25 |
| 6 | BEAI&DS504T | Engineerin g Sciences | Internet of Things and its Application | 3 | 0 | 0 | 3.00 | 30 | 70 | - | - | 100 | 45 | |
| 7 | BEAI&DS505P | Engineerin g Sciences | Professional Skills III (Internet of Things) | 0 | 0 | 2 | 1.00 | - | - | 25 | 25 | 50 | | 25 |
| 8 | BEAI&DS506T | Professional Elective Course | Elective- I | 3 | 0 | 0 | 3.00 | 30 | 70 | | | 100 | 45 | |
| 9 | BEAI&DS507P | HSMC | Organizational Behaviour | 2 | 0 | 0 | Audit | | | | | | | |
| Total | | | | 18 | 0 | 6 | 19 | 150 | 350 | 75 | 75 | 650 | | |

Elective I- 1. NoSQL 2. Information Security 3. Wireless Communication Technologies 4. ARM Processor & its Essentials

B.E. SCHEME OF EXAMINATION 2021-22

Scheme of Teaching & Examination of Bachelor of Engineering VI Semester B.E. (Artificial Intelligence& Data Science)

| Sr. No. | Course Code | Category | Course Name | Hours/ Week | | | Credits | Maximum Marks | | | | | Minimum Passing Marks | |
|--------------|-------------|------------------------------|-------------------------------------|-------------|----------|-----------|--------------|---------------|------------|------------|------------|------------|-----------------------|-----------|
| | | | | | | | | Theory | | Practical | | Total | | |
| | | | | L | T | P | | | | | | | | |
| | | | | | | | | Internal | University | Internal | University | | Theory | Practical |
| 1 | BEAI&DS601T | Professional core courses | Deep Learning | 4 | 0 | 0 | 4.00 | 30 | 70 | - | - | 100 | 45 | |
| 2 | BEAI&DS602T | Professional core courses | Deep Learning Lab | 0 | 0 | 2 | 1.00 | | | 25 | 25 | 50 | | 25 |
| 3 | BEAI&DS603T | Professional core courses | Business Intelligence | 3 | 0 | 0 | 3.00 | 30 | 70 | - | - | 100 | 45 | |
| 4 | BEAI&DS604T | Professional core courses | Business Intelligence Lab | 0 | 0 | 2 | 1.00 | | | 25 | 25 | 50 | | 25 |
| 5 | BEAI&DS605T | Professional core courses | Digital System Design using Verilog | 3 | 0 | 0 | 3.00 | 30 | 70 | - | - | 100 | 45 | |
| 6 | BEAI&DS605P | Professional core courses | Professional Skills IV (Verilog) | 0 | 0 | 2 | 1.00 | - | - | 25 | 25 | 50 | | 25 |
| 7 | BEAI&DS606T | Professional Elective Course | Elective 2 | 3 | 0 | 0 | 3.00 | 30 | 70 | | | 100 | 45 | |
| 8 | BEAI&DS606P | Open Elective | Open Elective-1 | 3 | 0 | 0 | 3.00 | 30 | 70 | | | 100 | 45 | |
| 10 | BEAI&DS607P | Mandatory course | Consumer Affairs | 2 | 0 | | Audit | | | | | Audit | | |
| 11 | BEAI&DS608T | Project Work/Internship | Mini Project /Internship | 0 | 0 | 6 | 3.00 | - | - | 25 | 25 | 50 | - | |
| Total | | | | 18 | 0 | 12 | 22.00 | 150 | 350 | 100 | 100 | 700 | | |

Elective II: 1. Web and Social Media Analytics 2. Block Chain and Cyber Security3. Intelligent Sensor & Instrumentation 4. Robotics and Intelligent Systems

B.E. SCHEME OF EXAMINATION 2021-22

Scheme of Teaching & Examination of Bachelor of Engineering VII Semester B.E. (Artificial Intelligence& Data Science)

| Sr. No. | Course Code | Category | Course Name | Hours/ Week | | | Credits | Maximum Marks | | | | | Minimum Passing Marks | |
|---------|-----------------|------------------------------|---------------------------------------|-------------|---|----|---------|---------------|------------|-----------|------------|-------|-----------------------|-----------|
| | | | | | | | | Theory | | Practical | | Total | | |
| | | | | L | T | P | | Internal | University | Internal | University | | Theory | Practical |
| 1 | 1. BEAI&DS-701T | Professional core courses | Complier Design | 3 | 0 | 0 | 3.00 | 30 | 70 | - | - | 100 | 45 | |
| 2 | 2. BEAI&DS-701P | Professional core courses | Complier Design Lab | 0 | 0 | 2 | 1.00 | | | 25 | 25 | 50 | | 25 |
| 3 | 3. BEAI&DS-702T | Professional core courses | Digital Signal & Image Processing | 3 | 0 | 0 | 3.00 | 30 | 70 | - | - | 100 | 45 | |
| 4 | 4. BEAI&DS-702P | Professional core courses | Digital Signal & Image Processing Lab | 0 | 0 | 2 | 1.00 | | | 25 | 25 | 50 | | 25 |
| 5 | 5. BEAI&DS-703T | Professional Elective Course | Elective- III | 3 | 0 | 0 | 3.00 | 30 | 70 | - | - | 100 | 45 | |
| 6 | 6. BEAI&DS-704P | Open Elective | Open Elective- III | 3 | 0 | 0 | 3.00 | 30 | 70 | - | - | 100 | 45 | |
| 7 | BEAI&DS705 | Project Work | Project | | 0 | 6 | 3.00 | - | - | 50 | 50 | 100 | | 25 |
| Total | | | | 12 | 0 | 10 | 17.00 | 120 | 280 | 100 | 100 | 600 | | |

Elective III: 1. Human Computer Interaction 2 Medical Image Analysis 3. Data Compression & Encryption Techniques 4. Micro-Electro-Mechanical Systems

B.E. SCHEME OF EXAMINATION 2021-22

Scheme of Teaching & Examination of Bachelor of Engineering VIII Semester B.E. (Artificial Intelligence& Data Science)

| Sr. No. | Course Code | Category | Course Name | Hours/ Week | | | Credits | Maximum Marks | | | | | Minimum Passing Marks | |
|---------|--------------------|------------------------------|-------------|-------------|------------|----------|---------|---------------|-----|-----------|-----------|-------|-----------------------|--|
| | | | | | | | | Theory | | Practical | | Total | | |
| | | | | L | T | P | | | | | | | | |
| | | | | Internal | University | Internal | | University | | Theory | Practical | | | |
| 1 | 1. BEAI&DS-801T | Professional Elective Course | Elective IV | 3 | 0 | 0 | 3.00 | 30 | 70 | - | - | 100 | 45 | |
| 2 | 2. BEAI&DS-802T | Professional Elective Course | Elective V | 3 | 0 | 0 | 3.00 | 30 | 70 | - | - | 100 | 45 | |
| 3 | 3. BEAI&DS-803T | Project Work | Project | 0 | 0 | 12 | 8.00 | | | 100 | 100 | 200 | | |
| Total | | | | 6 | 0 | 12 | 14.00 | 60 | 140 | 100 | 100 | 400 | | |

Elective IV: 1. Cloud Computing 2 Augmented & Virtual Reality 3. Biomedical Instrumentation 4. Measurement and Design

Elective V: 1. Mobile Communication and Web Analytics 2. Optical Circuits & Fibres 3. Cyber Crimes & Digital Forensics 4. Data Visualization

Credit Structure for UG Program Artificial Intelligence and Data Science

| Sr. No. | Semester | Category | | | | | | | Total |
|--------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| | | BSC | ESC | HSMC | PCC | PEC | OEC | PROJ | |
| 1. | I | 09 | 07 | 03 | - | - | - | - | 19 |
| 2 | II | 09 | 13 | - | - | - | - | - | 22 |
| 3 | III | 04 | 01 | 02 | 16 | - | - | - | 23 |
| 4 | IV | - | 05 | - | 15 | - | - | 01 | 21 |
| 5 | V | 03 | 07 | - | 09 | 03 | | - | 22 |
| 6 | VI | - | - | | 13 | 03 | 03 | 03 | 22 |
| 7 | VII | - | - | - | 08 | 03 | 03 | 03 | 17 |
| 8 | VIII | - | - | - | - | 06 | - | 08 | 14 |
| Total | | 25 | 33 | 05 | 61 | 15 | 06 | 15 | 160 |