



**MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR**  
(Deemed University)

(Declared Under Distinct Category by Ministry of Education, Government of India)

**NAAC Accredited with A++ Grade**

**Centre for Artificial Intelligence**



**Semester-Wise General Scheme Structure & Important Guidelines for Flexible Curriculum**

**(Batch admitted in Academic Session 2024-25 onwards)**

**Abbreviations Used**

|             |   |
|-------------|---|
| <b>L</b>    | Lecture   |
| <b>T</b>    | Tutorial  |
| <b>P</b>    | Practical   |
| <b>HSMC</b> | Humanities and Social Sciences including Management Courses |
| <b>BSC</b>  | Basic Science Courses                                       |
| <b>ESC</b>  | Engineering Science Courses                                 |
| <b>DC</b>   | Departmental Core   |
| <b>DE</b>   | Departmental Elective                                       |
| <b>SPC</b>  | Specialization Courses                                      |
| <b>OC</b>   | Open Category   |
| <b>DLC</b>  | Departmental Laboratory Courses                             |
| <b>MOOC</b> | Massive Open Online Course                                  |
| <b>MWS</b>  | Mandatory Workshop  |
| <b>SP</b>   | Semester Proficiency  |
| <b>SIP</b>  | Skill Internship Program                                    |
| <b>SLP</b>  | Self-learning Presentation                                  |
| <b>PDC</b>  | Professional Development Component                          |
| <b>PBL</b>  | Project Based Learning                                      |
| <b>PC</b>   | Professional Certification                                  |
| <b>MAC</b>  | Mandatory Audit Course                                      |
| <b>NEC</b>  | Novel Engaging Course                                       |



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## Centre for Artificial Intelligence



### Scheme of Evaluation

### B. Tech. I Semester (*Artificial Intelligence (AI)*)

(for batch admitted in academic session 2024-25)

| S. No.  | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|---|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|   |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|   |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|   |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |             |                        |    |    |               |                  |                          |                              |
| 1.  | 31241101    | DC            | Digital Logic Design   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 2.  | 31241102    | DC            | Foundations of Artificial Intelligence   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | 2             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.  | 31241103    | DC            | Internet and Web Technologies  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.  | 31241104    | DC            | Problem Solving and Programming  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 5.  | 31241105    | BSC           | Linear Algebra   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.  | 31241106    | DLC           | Problem Solving and Programming Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.  | 31241107    | DLC           | Internet and Web Technologies Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.  | 31241108    | SP            | Semester Proficiency <sup>S</sup>  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.  | 31241109    | PBL           | Micro Project-I <sup>#</sup>   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 10.   | 31241110    | HSMC          | Language Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Blended          | AO                       | -                            |
| 11.   | NECXXXXX    | NEC           | Novel Engaging Course (Activity Based Learning)  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| Total   |             |               |  | 100                    | 100                 | 150              | 150              | 380                   | 120              | 1000        | 12                     | 03 | 10 | 20            | -                | -                        | -                            |
| 12.   | 31241111    | MAC           | Universal Human Values & Professional Ethics (UHVPE)   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 13.   | 31241112    | MWS           | Mandatory Workshop on Indian Constitution and Traditional Knowledge at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |
| Induction programme of three weeks (MC): Physical activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visits to local Areas, Familiarization to Dept./Branch & Innovations. |             |               |  |                        |                     |                  |                  |                       |                  |             |                        |    |    |               |                  |                          |                              |
| Skill Internship Program (Soft Skill): Minimum 45 hours duration: To be Credited in II Semester.  |             |               |  |                        |                     |                  |                  |                       |                  |             |                        |    |    |               |                  |                          |                              |

<sup>\$</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

<sup>#</sup> Micro Project-I will be presented and evaluated through an interdisciplinary project evaluation committee.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 1    | 1   | 0   | 4  | 0  | 0   | 0  | 2   | 1   | 1  | 0   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |             |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 15               | 1           | 1       | 1            | 2            | 3                   | 3  | 11  | 0  | 3  | 20            |
| 75               | 5           | 5       | 5            | 10           | 15                  | 15 | 55  | 0  | 15 | Credits %     |



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Scheme of Evaluation

B. Tech. II Semester (*Artificial Intelligence (AI)*)



(for batch admitted in academic session 2024-25)

| S. No. | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--------|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|        |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|        |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|        |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |             |                        |    |    |               |                  |                          |                              |
| 1.     | 31241201    | BSC           | Discrete Structures  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 2.     | 31241202    | DC            | Modern Computer Architecture   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.     | 31241203    | DC            | Object Oriented Programming  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.     | 31241204    | DC            | Data Structures  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 5.     | 31241205    | ESC           | Basic Electrical & Electronics Engineering   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | 2             | Face to Face     | MCQ                      | 2 Hrs                        |
| 6.     | 31241206    | DLC           | Object Oriented Programming Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.     | 31241207    | DLC           | Data Structures Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.     | 31241208    | DLC           | Basic Electrical & Electronics Engineering Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 9.     | 31241209    | SP            | Semester Proficiency <sup>\$</sup>   | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 10.    | 31241210    | PBL           | Micro Project-II <sup>#</sup>  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 11.    | NECXXXX     | NEC           | Novel Engaging Course (Activity Based Learning)  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| 12.    | SIPXXXX     | SIP           | Skill Internship Program (Soft Skill)  | -                      | -                   | -                | -                | 60                    | -                | 60          | -                      | -  | -  | 2**           | Experiential     | SO                       | -                            |
| Total  |             |               |  | 100                    | 100                 | 150              | 150              | 440                   | 120              | 1060        | 11                     | 04 | 10 | 22            | -                | -                        | -                            |
| 13.    | 31241211    | MAC           | Sustainability & Environmental Science   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 14.    | 31241212    | MWS           | Mandatory Workshop on Indian Knowledge System at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |

Summer Semester of six-eight week duration will be conducted for makeup of I & II semester examination.

<sup>\$</sup>Semester Proficiency- includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question      AO: Assignment + Oral      PP: Pen Paper      SO: Submission + Oral      OB: Open Book

\*\*These credits will be transferred from the Skill Internship Program (Soft Skill).

# Micro Project-II will be presented and evaluated through an interdisciplinary project evaluation committee.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 1   | 1   | 3  | 0  | 0   | 0  | 3   | 1   | 1  | 0   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |             |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 15               | 1           | 0       | 3            | 3            | 6                   | 3  | 8   | 0  | 5  | 22            |
| 68               | 4           | 0       | 14           | 14           | 27                  | 14 | 36  | 0  | 23 | Credits %     |



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Scheme of Evaluation

B. Tech. III Semester (*Artificial Intelligence (AI)*)



(for batch admitted in academic session 2024-25)

| S. No.   | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|  |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|  |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|  |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  |                       |                  |             |                        |    |    |               |                  |                          |                              |
| 1.   | 31242101    | BSC           | Probability and Random Processes   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | 1  | -  | 4             | Face to Face     | PP                       | 2 Hrs                        |
| 2.   | 31242102    | DC            | Design & Analysis of Algorithms  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.   | 31242103    | DC            | Knowledge Representation and Reasoning   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.   | 31242104    | DC            | Computer Networks  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 5.   | 31242105    | DC            | Operating Systems  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 6.   | 31242106    | DLC           | Problem Solving through Python Programming   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.   | 31242107    | DLC           | Design & Analysis of Algorithms Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.   | 31242108    | SP            | Semester Proficiency <sup>S</sup>  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.   | 31242109    | PBL           | Macro Project-I <sup>#</sup>   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 10.  | 31242110    | SLP           | Self-learning/Presentation <sup>SSS</sup><br>(SWAYAM/NPTEL/MOOC)                       | -                      | -                   | -                | -                | 40                    | -                | 40          | -                      | -  | 2  | 1             | Mentoring        | SO                       | -                            |
| 11.  | NECXXXXX    | NEC           | Novel Engaging Course (Activity Based Learning)  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| Total  |             |               |  | 100                    | 100                 | 150              | 150              | 350                   | 90               | 940         | 11                     | 06 | 10 | 22            | -                | -                        | -                            |
| 12.  | 31242111    | MAC           | Cyber Security   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 13.  | 31242112    | MWS           | Mandatory Workshop on Internet of Things(IoT) at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |
| Skill Internship Program (Institute Level) (Qualifier): Minimum 30 hours duration: To be Credited in IV Semester |             |               |  |                        |                     |                  |                  |                       |                  |             |                        |    |    |               |                  |                          |                              |

**Skill Internship Program (Institute Level) (Qualifier): Minimum 30 hours duration: To be Credited in IV Semester**

<sup>S</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question      AO: Assignment + Oral      PP: Pen Paper      SO: Submission + Oral      OB: Open Book

<sup>#</sup> Macro Project-I will be presented and evaluated through an interdisciplinary project evaluation committee.

<sup>sss</sup> Compulsory registration for one online course using SWAYAM/NPTEL/ MOOC, evaluation through attendance and presentation.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 1   | 0   | 4  | 0  | 0   | 0  | 2   | 1   | 1  | 1   | 1   | 0   | 1   | 1   | 1   |

| Mode of Learning |             |         |           |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|-----------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Mentoring | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 17               | 1           | 0       | 1         | 1            | 2            | 4                   | 2  | 12  | 0  | 4  | 22            |
| 78               | 4           | 0       | 4         | 4            | 10           | 18                  | 9  | 55  | 0  | 18 | Credits %     |



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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. IV Semester (*Artificial Intelligence (AI)*)

(for batch admitted in academic session 2024-25)

| S. No. | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--------|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|        |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|        |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|        |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |             |                        |    |    |               |                  |                          |                              |
| 1.     | 31242201    | DC            | Database Management System   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 2.     | 31242202    | DC            | Theory of Computation  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 3.     | 31242203    | DC            | Software Engineering   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.     | 31242204    | DC            | Network and Web Security   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 5.     | 31242205    | BSC           | Calculus and optimization Techniques   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.     | 31242206    | DLC           | Database Management System Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.     | 31242207    | DLC           | Java Programming Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.     | 31242208    | DLC           | Competitive Programming Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 9.     | 31242209    | SP            | Semester Proficiency <sup>\$</sup>   | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 10.    | 31242210    | PBL           | Macro Project-II <sup>#</sup>  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 11.    | 31242211    | PBL           | Professional Certification   | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Blended          | SO                       | -                            |
| 12.    | NECXXXXX    | NEC           | Novel Engaging Course (Activity Based Learning)                                | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| 13.    | SIP3XXXX    | SIP           | Skill Internship Program   | -                      | -                   | -                | -                | 60                    | -                | 60          | -                      | -  | -  | 2**           | Experiential     | SO                       | -                            |
| Total  |             |               |  | 100                    | 100                 | 150              | 150              | 490                   | 120              | 1110        | 11                     | 05 | 12 | 24            | -                | -                        | -                            |
| 14.    | 31242212    | MAC           | Project Management, Economics & Financing                                      | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 15.    | 31242213    | MWS           | Mandatory Workshop on Computer Vision at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |
| 16.    | 31242214    | MWS           | Mandatory Workshop on Life Skills at Department Level (Duration: Two Days)     |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |

Summer Semester of six-eight week duration will be conducted for makeup of previous semester examination.

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

<sup>\$</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

<sup>#</sup> Macro Project-II will be presented and evaluated through an interdisciplinary project evaluation committee.

<sup>\*\*</sup>These credits will be transferred from the Skill Internship Program.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 1   | 0   | 4  | 0  | 0   | 0  | 3   | 1   | 1  | 0   | 0   | 0   | 2   | 1   | 2   |

| Mode of Learning |             |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 16               | 1           | 1       | 3            | 3            | 6                   | 3  | 9   | 0  | 6  | 24            |
| 66               | 4           | 4       | 13           | 13           | 25                  | 13 | 37  | 0  | 25 | Credits %     |



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## Centre for Artificial Intelligence

### Scheme of Evaluation

### B. Tech. V Semester (*Artificial Intelligence (AI)*)

(for batch admitted in academic session 2024-25)

| S. No. | Course Code | Category Code | Course Name   | Maximum Marks Allotted |                     |                  |                  |                       |                  |       |            | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--------|-------------|---------------|---|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------|------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|        |             |               |   | Theory Block           |                     |                  |                  | Practical Block       |                  | MOOCs |            |             |                        |    |    |               |                  |                          |                              |
|        |             |               |   | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation | Exam  | Assignment |             |                        |    |    |               |                  |                          |                              |
|        |             |               |   | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |       |            |             |                        |    |    |               |                  |                          |                              |
| 1.     | 31243101    | DC            | Machine Learning and Data Science   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 2.     | 31243102    | DC            | Cloud Computing & Virtualization  | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.     | 31243103    | DC            | Evolutionary Algorithms and Optimization                                  | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.     | 312431XX    | DE            | Departmental Elective* (DE-1)   | -                      | -                   | -                | -                | -                     | -                | 25    | 75         | 100         | 3                      | -  | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 5.     | 312431XX    | SPC           | Specialization Course (SPC-1)   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.     | 31243104    | DLC           | Machine Learning and Data Science Lab                                     | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.     | 31243105    | DLC           | Cloud Computing & Virtualization Lab                                      | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.     | 31243106    | SP            | Semester Proficiency <sup>\$</sup>  | -                      | -                   | -                | -                | 50                    | -                | -     | -          | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.     | 31243107    | PBL           | Cornerstone Project   | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 4  | 2             | Experiential     | SO                       | -                            |
| Total  |             |               |   | 80                     | 80                  | 120              | 120              | 260                   | 90               | 25    | 75         | 850         | 11                     | 04 | 10 | 20            | -                | -                        | -                            |
| 10.    | 31243108    | MAC           | Supply Chain Management   | 20                     | 20                  | 30               | 30               | -                     | -                |       |            | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 11.    | 31243109    | MWS           | Mandatory Workshop on Blockchain at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |       |            |             |                        |    |    | GRADE         | Interactive      | MCQ                      |                              |

**Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree**

<sup>\$</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

**MCQ:** Multiple Choice Question    **AO:** Assignment + Oral    **PP:** Pen Paper    **SO:** Submission + Oral    **OB:** Open Book

\* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 3  | 1  | 1   | 0  | 2   | 0   | 1  | 1   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 13               | 3      | 0       | 2            | 2            | 3                   | 2  | 12  | 0  | 3  | 20            |
| 65               | 15     | 0       | 10           | 10           | 15                  | 10 | 60  | 0  | 15 | Credits %     |





# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (Deemed University)

(Declared Under Distinct Category by Ministry of Education, Government of India)



NAAC Accredited with A++ Grade

## Centre for Artificial Intelligence

### Scheme of Evaluation

### B. Tech. VI Semester (*Artificial Intelligence (AI)*)

(for batch admitted in academic session 2024-25)

| S. No. | Course Code | Category Code | Course Name   | Maximum Marks Allotted |                     |                  |                  |                       |                  |       |            | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--------|-------------|---------------|---|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------|------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|        |             |               |   | Theory Block           |                     |                  |                  | Practical Block       |                  | MOOCs |            |             |                        |    |    |               |                  |                          |                              |
|        |             |               |   | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation | Exam  | Assignment |             |                        |    |    |               |                  |                          |                              |
|        |             |               |   | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |       |            |             |                        |    |    |               |                  |                          |                              |
| 1.     | 31243201    | DC            | Cognitive Computing and Deep Learning   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 2.     | 31243202    | DC            | Image Processing  | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.     | 312432XX    | DE            | Departmental Elective* (DE-2)   | -                      | -                   | -                | -                | -                     | -                | 25    | 75         | 100         | 3                      | -  | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 4.     | 312432XX    | OC            | Open Category Course (OC-1)   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 5.     | 312432XX    | SPC           | Specialization Course (SPC-2)   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.     | 31243203    | DLC           | Cognitive Computing and Deep Learning Lab   | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.     | 31243204    | DLC           | Image Processing Lab  | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.     | 31243205    | SP            | Semester Proficiency <sup>s</sup>   | -                      | -                   | -                | -                | 50                    | -                | -     | -          | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.     | 31243206    | PBL           | Capstone Project  | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 4  | 2             | Experiential     | SO                       | -                            |
| Total  |             |               |   | 80                     | 80                  | 120              | 120              | 260                   | 90               | 25    | 75         | 850         | 12                     | 03 | 10 | 20            | -                | -                        | -                            |
| 10.    | 31243207    | MAC           | Disaster Management   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 11.    | 31243208    | MWS           | Mandatory Workshop on Intellectual Property Rights at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |       |            |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |

Skill Enhancement Program/Research Internship/On Job Training for Four weeks duration (mandatory)

Summer Semester of six-eight week duration will be conducted for makeup of Previous semester examination.

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

<sup>s</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 2  | 1  | 1   | 1  | 2   | 0   | 1  | 0   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 13               | 3      | 0       | 2            | 2            | 6                   | 2  | 9   | 0  | 3  | 20            |
| 65               | 15     | 0       | 10           | 10           | 30                  | 10 | 45  | 0  | 15 | Credits %     |



# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (Deemed University)

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## Centre for Artificial Intelligence

### Scheme of Evaluation

### B. Tech. VII Semester (*Artificial Intelligence (AI)*)

(for batch admitted in academic session 2024-25)

| S. No.  | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |   |                  |            |      | Total Marks | Contact Hours per week |    |    | Total Credits   | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|---|-------------|---------------|--|------------------------|---------------------|------------------|------------------|---|------------------|------------|------|-------------|------------------------|----|----|-----------------|------------------|--------------------------|------------------------------|
|   |             |               |  | Theory Block           |                     |                  |                  | Practical Block                               |                  | MOOCs      |      |             |                        |    |    |                 |                  |                          |                              |
|   |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation<br>Lab Work & Sessional | Major Evaluation | Assignment | Exam |             |                        |    |    |                 |                  |                          |                              |
|   |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  |   |                  |            |      |             |                        |    |    |                 |                  |                          |                              |
| 1.  | 312441XX    | DE            | Departmental Elective <sup>#</sup> (DE-3)                          | 20                     | 20                  | 30               | 30               | -   | -                | -          | -    | 100         | 3                      | -  | -  | 3               | Blended          | PP                       | 2 Hrs                        |
| 2.  | 312441XX    | DE            | Departmental Elective <sup>*</sup> (DE-4)                          | -                      | -                   | -                | -                | -   | -                | 25         | 75   | 100         | 3                      | -  | -  | 3               | Online           | MCQ                      | 3 Hrs                        |
| 3.  | 312441XX    | OC            | Open Category Course <sup>*</sup> (OC-2)                           | -                      | -                   | -                | -                | -   | -                | 25         | 75   | 100         | 2                      | 1  | -  | 3               | Online           | MCQ                      | 3 Hrs                        |
| 4.  | 312441XX    | SPC           | Specialization Course <sup>#</sup> (SPC-3)                         | 20                     | 20                  | 30               | 30               | -   | -                | -          | -    | 100         | 2                      | 1  | -  | 3               | Blended          | MCQ                      | 2 Hrs                        |
| 5.  | SIP4XXXX    | SEP           | Skill Enhancement Program/<br>Research Internship/ On Job Training | -                      | -                   | -                | -                | -   | 50               | -          | -    | 50          | -                      | -  | 2  | 1 <sup>**</sup> | Experiential     | SO                       | -                            |
| 6.  | 31244101    | DLC           | Creative Problem Solving   | -                      | -                   | -                | -                | -   | 50               | -          | -    | 50          | -                      | -  | 2  | 1               | Experiential     | SO                       | -                            |
| Total   |             |               |  | 40                     | 40                  | 60               | 60               | -   | 100              | 50         | 150  | 500         | 10                     | 02 | 04 | 14              | -                | -                        | -                            |
| Additional Course for Honours or Minor Degree: Permitted to ont for maximum two additional courses for the award of Honours or Minor Degree |             |               |  |                        |                     |                  |                  |   |                  |            |      |             |                        |    |    |                 |                  |                          |                              |

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

# Course run through MITS-DU MOOCs

\*\*These credits will be transferred from the Skill Enhancement Program/Research Internship/On Job Training

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 0  | 2  | 1   | 1  | 1   | 0   | 1  | 0   | 0   | 0   | 0   | 0   | 1   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |       |    |      | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-------|----|------|---------------|
| Face to Face     | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ   | OB | SO   |               |
| 0                | 6      | 6       | 2            | 0            | 3                   | 0  | 9     | 0  | 2    |               |
| 0                | 42.85  | 42.85   | 14.3         | 0            | 21.41               | 0  | 64.29 | 0  | 14.3 | Credits %     |





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## Centre for Artificial Intelligence

### Scheme of Evaluation

### B. Tech. VIII Semester (*Artificial Intelligence (AI)*)

(for batch admitted in academic session 2024-25)

| S. No.  | Course Code | Category Code | Course Name   | Maximum Marks Allotted |                     |                  |                  |                       |                  |            |      | Total Marks | Contact Hours per week |   |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|---|-------------|---------------|---|------------------------|---------------------|------------------|------------------|-----------------------|------------------|------------|------|-------------|------------------------|---|----|---------------|------------------|--------------------------|------------------------------|
|   |             |               |   | Theory Block           |                     |                  |                  | Practical Block       |                  | MOOCs      |      |             |                        |   |    |               |                  |                          |                              |
|   |             |               |   | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation | Assignment | Exam |             |                        |   |    |               |                  |                          |                              |
|   |             |               |   | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  |                       |                  |            |      |             |                        |   |    |               |                  |                          |                              |
| 1.  | 312442XX    | DE            | Departmental Elective* (DE-5)                                   | -                      | -                   | -                | -                | -                     | -                | 25         | 75   | 100         | 3                      | - | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 2.  | 312442XX    | OC            | Open Category Course* (OC-3)                                    | -                      | -                   | -                | -                | -                     | -                | 25         | 75   | 100         | 3                      | - | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 3.  | 31244201    | PBL           | Industry Internship/ Research Internship/ Innovation & Start-up | -                      | -                   | -                | -                | 280                   | 120              | -          | -    | 400         | -                      | - | 20 | 10            | Experiential     | SO                       | -                            |
| 4.  | 31244202    | PDC           | Professional Development <sup>##</sup>                          | -                      | -                   | -                | -                | -                     | 50               | -          | -    | 50          | -                      | - | 4  | 2             | Interactive      | SO                       | -                            |
| Total   |             |               |   | -                      | -                   | -                | -                | 280                   | 170              | 50         | 150  | 650         | 06                     | - | 24 | 18            | -                | -                        | -                            |
| Summer Semester of six-eight week duration will be conducted to complete any backlog courses.   |             |               |   |                        |                     |                  |                  |                       |                  |            |      |             |                        |   |    |               |                  |                          |                              |
| Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree |             |               |   |                        |                     |                  |                  |                       |                  |            |      |             |                        |   |    |               |                  |                          |                              |

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\*Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

<sup>##</sup> Evaluation will be based on participation/laurels brought by the students to the institution in national/state level technical and other events during the complete tenure of the UG programme (participation in professional chapter activities, club activities, cultural events, sports, personality development activities, collaborative events, MOOCs, technical events, institute/department committees, etc.)

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 0  | 1  | 0   | 1  | 0   | 0   | 0  | 0   | 0   | 1   | 1   | 0   | 0   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |       |    |       | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-------|----|-------|---------------|
| Interactive      | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ   | OB | SO    |               |
| 2                | 6      | 0       | 10           | 0            | 0                   | 0  | 6     | 0  | 12    | 18            |
| 11.11            | 33.33  | 0       | 55.56        | 0            | 0                   | 0  | 33.33 | 0  | 66.67 | Credits %     |



**MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR**  
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**Centre for Artificial Intelligence**



**Semester-Wise General Scheme Structure & Important Guidelines for Flexible Curriculum**

**(Batch admitted in Academic Session 2024-25 onwards)**

**Abbreviations Used**

|             |   |
|-------------|---|
| <b>L</b>    | Lecture   |
| <b>T</b>    | Tutorial  |
| <b>P</b>    | Practical   |
| <b>HSMC</b> | Humanities and Social Sciences including Management Courses |
| <b>BSC</b>  | Basic Science Courses                                       |
| <b>ESC</b>  | Engineering Science Courses                                 |
| <b>DC</b>   | Departmental Core   |
| <b>DE</b>   | Departmental Elective                                       |
| <b>SPC</b>  | Specialization Courses                                      |
| <b>OC</b>   | Open Category   |
| <b>DLC</b>  | Departmental Laboratory Courses                             |
| <b>MOOC</b> | Massive Open Online Course                                  |
| <b>MWS</b>  | Mandatory Workshop  |
| <b>SP</b>   | Semester Proficiency  |
| <b>SIP</b>  | Skill Internship Program                                    |
| <b>SLP</b>  | Self-learning Presentation                                  |
| <b>PDC</b>  | Professional Development Component                          |
| <b>PBL</b>  | Project Based Learning                                      |
| <b>PC</b>   | Professional Certification                                  |
| <b>MAC</b>  | Mandatory Audit Course                                      |
| <b>NEC</b>  | Novel Engaging Course                                       |



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## Centre for Artificial Intelligence



### Scheme of Evaluation

#### B. Tech. I Semester (*Artificial Intelligence (AI) and Data Science*)

(for batch admitted in academic session 2024-25)

| S. No.  | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|---|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|   |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|   |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|   |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |             |                        |    |    |               |                  |                          |                              |
| 1.  | 27241101    | DC            | Digital Logic Design   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 2.  | 27241102    | DC            | Foundations of Data Science  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | 2             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.  | 27241103    | DC            | Internet and Web Technologies  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.  | 27241104    | DC            | Problem Solving and Programming  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 5.  | 27241105    | BSC           | Linear Algebra   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.  | 27241106    | DLC           | Problem Solving and Programming Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.  | 27241107    | DLC           | Internet and Web Technologies Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.  | 27241108    | SP            | Semester Proficiency <sup>S</sup>  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.  | 27241109    | PBL           | Micro Project-I <sup>#</sup>   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 10.   | 27241110    | HSMC          | Language Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Blended          | AO                       | -                            |
| 11.   | NECXXXXX    | NEC           | Novel Engaging Course (Activity Based Learning)  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| Total   |             |               |  | 100                    | 100                 | 150              | 150              | 380                   | 120              | 1000        | 12                     | 03 | 10 | 20            | -                | -                        | -                            |
| 12.   | 27241111    | MAC           | Universal Human Values & Professional Ethics (UHVPE)   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 13.   | 27241112    | MWS           | Mandatory Workshop on Indian Constitution and Traditional Knowledge at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |
| Induction programme of three weeks (MC): Physical activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visits to local Areas, Familiarization to Dept./Branch & Innovations. |             |               |  |                        |                     |                  |                  |                       |                  |             |                        |    |    |               |                  |                          |                              |
| Skill Internship Program (Soft Skill): Minimum 45 hours duration: To be Credited in II Semester.  |             |               |  |                        |                     |                  |                  |                       |                  |             |                        |    |    |               |                  |                          |                              |

<sup>\$</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

<sup>#</sup> Micro Project-I will be presented and evaluated through an interdisciplinary project evaluation committee.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 1    | 1   | 0   | 4  | 0  | 0   | 0  | 2   | 1   | 1  | 0   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |             |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 15               | 1           | 1       | 1            | 2            | 3                   | 3  | 11  | 0  | 3  | 20            |
| 75               | 5           | 5       | 5            | 10           | 15                  | 15 | 55  | 0  | 15 | Credits %     |



# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (Deemed University)

(Declared Under Distinct Category by Ministry of Education, Government of India)

NAAC Accredited with A++ Grade

## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. II Semester (*Artificial Intelligence (AI) and Data Science*)

(for batch admitted in academic session 2024-25)

| S. No. | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--------|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|        |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|        |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|        |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |             |                        |    |    |               |                  |                          |                              |
| 1.     | 27241201    | BSC           | Discrete Structures  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 2.     | 27241202    | DC            | Modern Computer Architecture   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.     | 27241203    | DC            | Object Oriented Programming  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.     | 27241204    | DC            | Data Structures  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 5.     | 27241205    | ESC           | Basic Electrical & Electronics Engineering   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | 2             | Face to Face     | MCQ                      | 2 Hrs                        |
| 6.     | 27241206    | DLC           | Object Oriented Programming Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.     | 27241207    | DLC           | Data Structures Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.     | 27241208    | DLC           | Basic Electrical & Electronics Engineering Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 9.     | 27241209    | SP            | Semester Proficiency <sup>s</sup>  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 10.    | 27241210    | PBL           | Micro Project-II <sup>#</sup>  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 11.    | NECXXXX     | NEC           | Novel Engaging Course (Activity Based Learning)  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| 12.    | SIP1XXXX    | SIP           | Skill Internship Program (Soft Skill)  | -                      | -                   | -                | -                | 60                    | -                | 60          | -                      | -  | -  | 2**           | Experiential     | SO                       | -                            |
| Total  |             |               |  | 100                    | 100                 | 150              | 150              | 440                   | 120              | 1060        | 11                     | 04 | 10 | 22            | -                | -                        | -                            |
| 13.    | 27241211    | MAC           | Sustainability & Environmental Science   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 14.    | 27241212    | MWS           | Mandatory Workshop on Indian Knowledge System at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |

Summer Semester of six-eight week duration will be conducted for makeup of I & II semester examination.

<sup>s</sup>Semester Proficiency- includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\*\*These credits will be transferred from the Skill Internship Program (Soft Skill).

# Micro Project-II will be presented and evaluated through an interdisciplinary project evaluation committee.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 1   | 0   | 3  | 0  | 0   | 0  | 3   | 1   | 1  | 0   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |             |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 15               | 1           | 0       | 3            | 3            | 6                   | 3  | 8   | 0  | 5  | 22            |
| 68               | 4           | 0       | 14           | 14           | 27                  | 14 | 36  | 0  | 23 | Credits %     |



# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (Deemed University)

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Centre for Artificial Intelligence

Scheme of Evaluation

B. Tech. III Semester (*Artificial Intelligence (AI) and Data Science*)



(for batch admitted in academic session 2024-25)

| S. No.   | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|  |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|  |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|  |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |             |                        |    |    |               |                  |                          |                              |
| 1.   | 27242101    | BSC           | Probability and Random Processes   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | 1  | -  | 4             | Face to Face     | PP                       | 2 Hrs                        |
| 2.   | 27242102    | DC            | Design & Analysis of Algorithms  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.   | 27242103    | DC            | Database Management System   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.   | 27242104    | DC            | Computer Networks  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 5.   | 27242105    | DC            | Operating Systems  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 6.   | 27242106    | DLC           | Problem Solving through Python Programming   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.   | 27242107    | DLC           | Design & Analysis of Algorithms Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.   | 27242108    | SP            | Semester Proficiency <sup>S</sup>  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.   | 27242109    | PBL           | Macro Project-I <sup>#</sup> [Database Management System Lab]                          | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 10.  | 27242110    | SLP           | Self-learning/Presentation <sup>SSS</sup> (SWAYAM/NPTEL/MOOC)                          | -                      | -                   | -                | -                | 40                    | -                | 40          | -                      | -  | 2  | 1             | Mentoring        | SO                       | -                            |
| 11.  | NECXXXXX    | NEC           | Novel Engaging Course (Activity Based Learning)  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| Total  |             |               |  | 100                    | 100                 | 150              | 150              | 350                   | 90               | 940         | 11                     | 06 | 10 | 22            | -                | -                        | -                            |
| 12.  | 27242111    | MAC           | Cyber Security   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 13.  | 27242112    | MWS           | Mandatory Workshop on Internet of Things(IoT) at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |
| Skill Internship Program (Institute Level) (Qualifier): Minimum 30 hours duration: To be Credited in IV Semester |             |               |  |                        |                     |                  |                  |                       |                  |             |                        |    |    |               |                  |                          |                              |

**Skill Internship Program (Institute Level) (Qualifier): Minimum 30 hours duration: To be Credited in IV Semester**

<sup>S</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

**MCQ:** Multiple Choice Question      **AO:** Assignment + Oral      **PP:** Pen Paper      **SO:** Submission + Oral      **OB:** Open Book

<sup>#</sup> Macro Project-I will be presented and evaluated through an interdisciplinary project evaluation committee.

<sup>sss</sup> Compulsory registration for one online course using SWAYAM/NPTEL/ MOOC, evaluation through attendance and presentation.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 1   | 0   | 4  | 0  | 0   | 0  | 2   | 1   | 1  | 1   | 1   | 0   | 1   | 1   | 1   |

| Mode of Learning |             |         |           |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|-----------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Mentoring | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 17               | 1           | 0       | 1         | 1            | 2            | 4                   | 2  | 12  | 0  | 4  |               |
| 78               | 4           | 0       | 4         | 4            | 10           | 18                  | 9  | 55  | 0  | 18 | Credits %     |



# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (Deemed University)

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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. IV Semester (*Artificial Intelligence (AI) and Data Science*)

(for batch admitted in academic session 2024-25)

| S. No. | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--------|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|        |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|        |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|        |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |             |                        |    |    |               |                  |                          |                              |
| 1.     | 27242201    | DC            | Data Science   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 2.     | 27242202    | DC            | Theory of Computation  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 3.     | 27242203    | DC            | Software Engineering   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.     | 27242204    | DC            | Network and Web Security   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 5.     | 27242205    | BSC           | Calculus and optimization Techniques   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.     | 27242206    | DLC           | Data Science Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.     | 27242207    | DLC           | Java Programming Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.     | 27242208    | DLC           | Competitive Programming Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 9.     | 27242209    | SP            | Semester Proficiency <sup>\$</sup>   | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 10.    | 27242210    | PBL           | Macro Project-II <sup>#</sup>  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 11.    | 27242211    | PC            | Professional Certification   | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Blended          | SO                       | -                            |
| 12.    | NECXXXXX    | NEC           | Novel Engaging Course (Activity Based Learning)                                | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| 13.    | SIP3XXXX    | SIP           | Skill Internship Program   | -                      | -                   | -                | -                | 60                    | -                | 60          | -                      | -  | -  | 2**           | Experiential     | SO                       | -                            |
| Total  |             |               |  | 100                    | 100                 | 150              | 150              | 490                   | 120              | 1110        | 11                     | 05 | 12 | 24            | -                | -                        | -                            |
| 14.    | 27242212    | MAC           | Project Management, Economics & Financing                                      | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 15.    | 27242213    | MWS           | Mandatory Workshop on Computer Vision at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |
| 16.    | 27242214    | MWS           | Mandatory Workshop on Life Skills at Department Level (Duration: Two Days)     |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |

Summer Semester of six-eight week duration will be conducted for makeup of previous semester examination.

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

<sup>\$</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

<sup>#</sup> Macro Project-II will be presented and evaluated through an interdisciplinary project evaluation committee.

<sup>\*\*</sup>These credits will be transferred from the Skill Internship Program.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 1   | 0   | 4  | 0  | 0   | 0  | 3   | 1   | 1  | 0   | 0   | 0   | 2   | 1   | 2   |

| Mode of Learning |             |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 16               | 1           | 1       | 3            | 3            | 6                   | 3  | 9   | 0  | 6  | 24            |
| 66               | 4           | 4       | 13           | 13           | 25                  | 13 | 37  | 0  | 25 | Credits %     |





# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (Deemed University)

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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. V Semester (*Artificial Intelligence (AI) and Data Science*)

(for batch admitted in academic session 2024-25)

| S. No. | Course Code | Category Code | Course Name   | Maximum Marks Allotted |                     |                  |                  |                       |                  |       |            | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--------|-------------|---------------|---|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------|------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|        |             |               |   | Theory Block           |                     |                  |                  | Practical Block       |                  | MOOCs |            |             |                        |    |    |               |                  |                          |                              |
|        |             |               |   | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation | Exam  | Assignment |             |                        |    |    |               |                  |                          |                              |
|        |             |               |   | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |       |            |             |                        |    |    |               |                  |                          |                              |
| 1.     | 27243101    | DC            | Data Mining and Warehousing   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 2.     | 27243102    | DC            | Cloud Computing & Virtualization  | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.     | 27243103    | DC            | Soft Computing Techniques   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.     | 272431XX    | DE            | Departmental Elective* (DE-1)   | -                      | -                   | -                | -                | -                     | -                | 25    | 75         | 100         | 3                      | -  | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 5.     | 272431XX    | SPC           | Specialization Course (SPC-1)   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.     | 27243104    | DLC           | Data Mining and Warehousing Lab   | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.     | 27243105    | DLC           | Cloud Computing & Virtualization Lab                                      | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.     | 27243106    | SP            | Semester Proficiency <sup>\$</sup>  | -                      | -                   | -                | -                | 50                    | -                | -     | -          | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.     | 27243107    | PBL           | Cornerstone Project   | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 4  | 2             | Experiential     | SO                       | -                            |
| Total  |             |               |   | 80                     | 80                  | 120              | 120              | 260                   | 90               | 25    | 75         | 850         | 11                     | 04 | 10 | 20            | -                | -                        | -                            |
| 10.    | 27243108    | MAC           | Supply Chain Management   | 20                     | 20                  | 30               | 30               | -                     | -                |       |            | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 11.    | 27243109    | MWS           | Mandatory Workshop on Blockchain at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |       |            |             |                        |    |    | GRADE         | Interactive      | MCQ                      |                              |

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

<sup>\$</sup>Semester Proficiency- includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 3  | 1  | 1   | 0  | 2   | 0   | 1  | 1   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 13               | 3      | 0       | 2            | 2            | 3                   | 2  | 12  | 0  | 3  | 20            |
| 65               | 15     | 0       | 10           | 10           | 15                  | 10 | 60  | 0  | 15 | Credits %     |



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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. VI Semester (*Artificial Intelligence (AI) and Data Science*)

(for batch admitted in academic session 2024-25)

| S. No. | Course Code | Category Code | Course Name   | Maximum Marks Allotted |                     |                  |                  |                       |                  |       |            | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--------|-------------|---------------|---|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------|------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|        |             |               |   | Theory Block           |                     |                  |                  | Practical Block       |                  | MOOCs |            |             |                        |    |    |               |                  |                          |                              |
|        |             |               |   | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation | Exam  | Assignment |             |                        |    |    |               |                  |                          |                              |
|        |             |               |   | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  |                       |                  |       |            |             | Lab Work & Sessional   |    |    |               |                  |                          |                              |
| 1.     | 27243201    | DC            | Deep Learning   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 2.     | 27243202    | DC            | Big Data Analytics  | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.     | 272432XX    | DE            | Departmental Elective* (DE-2)   | -                      | -                   | -                | -                | -                     | -                | 25    | 75         | 100         | 3                      | -  | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 4.     | 272432XX    | OC            | Open Category Course (OC-1)   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 5.     | 272432XX    | SPC           | Specialization Course (SPC-2)   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.     | 27243203    | DLC           | Data Handling and Visualization Lab   | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.     | 27243204    | DLC           | Deep Learning Lab   | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.     | 27243205    | SP            | Semester Proficiency <sup>S</sup>   | -                      | -                   | -                | -                | 50                    | -                | -     | -          | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.     | 27243206    | PBL           | Capstone Project  | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 4  | 2             | Experiential     | SO                       | -                            |
| Total  |             |               |   | 80                     | 80                  | 120              | 120              | 260                   | 90               | 25    | 75         | 850         | 12                     | 03 | 10 | 20            | -                | -                        | -                            |
| 10.    | 27243207    | MAC           | Disaster Management   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 11.    | 27243208    | MWS           | Mandatory Workshop on Intellectual Property Rights at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |       |            |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |

Skill Enhancement Program/Research Internship/On Job Training for Four weeks duration (mandatory)

Summer Semester of six-eight week duration will be conducted for makeup of Previous semester examination.

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

<sup>\$</sup>Semester Proficiency- includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 2  | 1  | 1   | 1  | 2   | 0   | 1  | 0   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 13               | 3      | 0       | 2            | 2            | 6                   | 2  | 9   | 0  | 3  | 20            |
| 65               | 15     | 0       | 10           | 10           | 30                  | 10 | 45  | 0  | 15 | Credits %     |



# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (Deemed University)

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## Centre for Artificial Intelligence

### Scheme of Evaluation

## B. Tech. VII Semester (*Artificial Intelligence (AI) and Data Science*)

(for batch admitted in academic session 2024-25)

| S. No.  | Course Code | Category Code | Course Name   | Maximum Marks Allotted |                     |                  |                  |                       |                  |            |      | Total Marks | Contact Hours per week |    |    | Total Credits   | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|---|-------------|---------------|---|------------------------|---------------------|------------------|------------------|-----------------------|------------------|------------|------|-------------|------------------------|----|----|-----------------|------------------|--------------------------|------------------------------|
|   |             |               |   | Theory Block           |                     |                  |                  | Practical Block       |                  | MOOCs      |      |             |                        |    |    |                 |                  |                          |                              |
|   |             |               |   | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation | Assignment | Exam |             |                        |    |    |                 |                  |                          |                              |
|   |             |               |   | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  |                       |                  |            |      |             |                        |    |    |                 |                  |                          |                              |
| 1.  | 272441XX    | DE            | Departmental Elective <sup>#</sup> (DE-3)                       | 20                     | 20                  | 30               | 30               | -                     | -                | -          | -    | 100         | 3                      | -  | -  | 3               | Blended          | PP                       | 2 Hrs                        |
| 2.  | 272441XX    | DE            | Departmental Elective <sup>*</sup> (DE-4)                       | -                      | -                   | -                | -                | -                     | -                | 25         | 75   | 100         | 3                      | -  | -  | 3               | Online           | MCQ                      | 3 Hrs                        |
| 3.  | 272441XX    | OC            | Open Category Course <sup>*</sup> (OC-2)                        | -                      | -                   | -                | -                | -                     | -                | 25         | 75   | 100         | 2                      | 1  | -  | 3               | Online           | MCQ                      | 3 Hrs                        |
| 4.  | 272441XX    | SPC           | Specialization Course <sup>#</sup> (SPC-3)                      | 20                     | 20                  | 30               | 30               | -                     | -                | -          | -    | 100         | 2                      | 1  | -  | 3               | Blended          | MCQ                      | 2 Hrs                        |
| 5.  | SIP4XXXX    | SEP           | Skill Enhancement Program/ Research Internship/ On Job Training | -                      | -                   | -                | -                | -                     | 50               | -          | -    | 50          | -                      | -  | 2  | 1 <sup>**</sup> | Experiential     | SO                       | -                            |
| 6.  | 27244101    | DLC           | Creative Problem Solving  | -                      | -                   | -                | -                | -                     | 50               | -          | -    | 50          | -                      | -  | 2  | 1               | Experiential     | SO                       | -                            |
| Total   |             |               |   | 40                     | 40                  | 60               | 60               | -                     | 100              | 50         | 150  | 500         | 10                     | 02 | 04 | 14              | -                | -                        | -                            |
| Additional Course for Honours or Minor Degree: Permitted to ont for maximum two additional courses for the award of Honours or Minor Degree |             |               |   |                        |                     |                  |                  |                       |                  |            |      |             |                        |    |    |                 |                  |                          |                              |

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

<sup>#</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

<sup>\*</sup> Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

<sup>\*\*</sup>These credits will be transferred from the Skill Enhancement Program/Research Internship/On Job Training.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 0  | 2  | 1   | 1  | 1   | 0   | 1  | 0   | 0   | 0   | 0   | 0   | 1   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |       |    |      | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-------|----|------|---------------|
| Face to Face     | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ   | OB | SO   |               |
| 0                | 6      | 6       | 2            | 0            | 3                   | 0  | 9     | 0  | 2    |               |
| 0                | 42.85  | 42.85   | 14.3         | 0            | 21.41               | 0  | 64.29 | 0  | 14.3 | Credits %     |



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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. VIII Semester (*Artificial Intelligence (AI) and Data Science*)

(for batch admitted in academic session 2024-25)

| S. No.  | Course Code | Category Code | Course Name   | Maximum Marks Allotted |                     |                  |                  |                       |                  |            |      | Total Marks | Contact Hours per week |   |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|---|-------------|---------------|---|------------------------|---------------------|------------------|------------------|-----------------------|------------------|------------|------|-------------|------------------------|---|----|---------------|------------------|--------------------------|------------------------------|
|   |             |               |   | Theory Block           |                     |                  |                  | Practical Block       |                  | MOOCs      |      |             |                        |   |    |               |                  |                          |                              |
|   |             |               |   | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation | Assignment | Exam |             |                        |   |    |               |                  |                          |                              |
|   |             |               |   | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  |                       |                  |            |      |             |                        |   |    |               |                  |                          |                              |
| 1.  | 272442XX    | DE            | Departmental Elective* (DE-5)                                   | -                      | -                   | -                | -                | -                     | -                | 25         | 75   | 100         | 3                      | - | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 2.  | 272442XX    | OC            | Open Category Course* (OC-3)                                    | -                      | -                   | -                | -                | -                     | -                | 25         | 75   | 100         | 3                      | - | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 3.  | 27244201    | PBL           | Industry Internship/ Research Internship/ Innovation & Start-up | -                      | -                   | -                | -                | 280                   | 120              | -          | -    | 400         | -                      | - | 20 | 10            | Experiential     | SO                       | -                            |
| 4.  | 27244202    | PDC           | Professional Development <sup>##</sup>                          | -                      | -                   | -                | -                | -                     | 50               | -          | -    | 50          | -                      | - | 4  | 2             | Interactive      | SO                       | -                            |
| Total   |             |               |   | -                      | -                   | -                | -                | 280                   | 170              | 50         | 150  | 650         | 06                     | - | 24 | 18            | -                | -                        | -                            |
| Summer Semester of six-eight week duration will be conducted to complete any backlog courses.   |             |               |   |                        |                     |                  |                  |                       |                  |            |      |             |                        |   |    |               |                  |                          |                              |
| Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree |             |               |   |                        |                     |                  |                  |                       |                  |            |      |             |                        |   |    |               |                  |                          |                              |

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\*Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

<sup>##</sup> Evaluation will be based on participation/laurels brought by the students to the institution in national/state level technical and other events during the complete tenure of the UG programme (participation in professional chapter activities, club activities, cultural events, sports, personality development activities, collaborative events, MOOCs, technical events, institute/department committees, etc.)

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 0  | 1  | 0   | 1  | 0   | 0   | 0  | 0   | 0   | 1   | 1   | 0   | 0   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |       |    |       | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-------|----|-------|---------------|
| Interactive      | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ   | OB | SO    |               |
| 2                | 6      | 0       | 10           | 0            | 0                   | 0  | 6     | 0  | 12    | 18            |
| 11.11            | 33.33  | 0       | 55.56        | 0            | 0                   | 0  | 33.33 | 0  | 66.67 | Credits %     |



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**Centre for Artificial Intelligence**



**Semester-Wise General Scheme Structure & Important Guidelines for Flexible Curriculum**

**(Batch admitted in Academic Session 2024-25 onwards)**

**Abbreviations Used**

|             |   |
|-------------|---|
| <b>L</b>    | Lecture   |
| <b>T</b>    | Tutorial  |
| <b>P</b>    | Practical   |
| <b>HSMC</b> | Humanities and Social Sciences including Management Courses |
| <b>BSC</b>  | Basic Science Courses                                       |
| <b>ESC</b>  | Engineering Science Courses                                 |
| <b>DC</b>   | Departmental Core   |
| <b>DE</b>   | Departmental Elective                                       |
| <b>SPC</b>  | Specialization Courses                                      |
| <b>OC</b>   | Open Category   |
| <b>DLC</b>  | Departmental Laboratory Courses                             |
| <b>MOOC</b> | Massive Open Online Course                                  |
| <b>MWS</b>  | Mandatory Workshop  |
| <b>SP</b>   | Semester Proficiency  |
| <b>SIP</b>  | Skill Internship Program                                    |
| <b>SLP</b>  | Self-learning Presentation                                  |
| <b>PDC</b>  | Professional Development Component                          |
| <b>PBL</b>  | Project Based Learning                                      |
| <b>PC</b>   | Professional Certification                                  |
| <b>MAC</b>  | Mandatory Audit Course                                      |
| <b>NEC</b>  | Novel Engaging Course                                       |



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## Centre for Artificial Intelligence



### Scheme of Evaluation

### B. Tech. I Semester (*Artificial Intelligence (AI) and Machine Learning*)

(for batch admitted in academic session 2024-25)

| S. No.  | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|---|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|   |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|   |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|   |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |             |                        |    |    |               |                  |                          |                              |
| 1.  | 28241101    | DC            | Digital Logic Design   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 2.  | 28241102    | DC            | Foundations of Machine Learning  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | 2             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.  | 28241103    | DC            | Internet and Web Technologies  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.  | 28241104    | DC            | Problem Solving and Programming  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 5.  | 28241105    | BSC           | Linear Algebra   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.  | 28241106    | DLC           | Problem Solving and Programming Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.  | 28241107    | DLC           | Internet and Web Technologies Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.  | 28241108    | SP            | Semester Proficiency <sup>S</sup>  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.  | 28241109    | PBL           | Micro Project-I <sup>#</sup>   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 10.   | 28241110    | HSMC          | Language Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Blended          | AO                       | -                            |
| 11.   | NECXXXXX    | NEC           | Novel Engaging Course (Activity Based Learning)  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| Total   |             |               |  | 100                    | 100                 | 150              | 150              | 380                   | 120              | 1000        | 12                     | 03 | 10 | 20            | -                | -                        | -                            |
| 12.   | 28241111    | MAC           | Universal Human Values & Professional Ethics (UHVPE)   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 13.   | 28241112    | MWS           | Mandatory Workshop on Indian Constitution and Traditional Knowledge at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |
| Induction programme of three weeks (MC): Physical activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visits to local Areas, Familiarization to Dept./Branch & Innovations. |             |               |  |                        |                     |                  |                  |                       |                  |             |                        |    |    |               |                  |                          |                              |
| Skill Internship Program (Soft Skill): Minimum 45 hours duration: To be Credited in II Semester.  |             |               |  |                        |                     |                  |                  |                       |                  |             |                        |    |    |               |                  |                          |                              |

<sup>\$</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

<sup>#</sup> Micro Project-I will be presented and evaluated through an interdisciplinary project evaluation committee.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 1    | 1   | 0   | 4  | 0  | 0   | 0  | 2   | 1   | 1  | 0   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |             |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 15               | 1           | 1       | 1            | 2            | 3                   | 3  | 11  | 0  | 3  | 20            |
| 75               | 5           | 5       | 5            | 10           | 15                  | 15 | 55  | 0  | 15 | Credits %     |





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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. II Semester (*Artificial Intelligence (AI) and Machine Learning*)

(for batch admitted in academic session 2024-25)

| S. No. | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--------|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|        |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|        |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|        |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |             |                        |    |    |               |                  |                          |                              |
| 1.     | 28241201    | BSC           | Discrete Structures  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 2.     | 28241202    | DC            | Modern Computer Architecture   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.     | 28241203    | DC            | Object Oriented Programming  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.     | 28241204    | DC            | Data Structures  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 5.     | 28241205    | ESC           | Basic Electrical & Electronics Engineering   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | 2             | Face to Face     | MCQ                      | 2 Hrs                        |
| 6.     | 28241206    | DLC           | Object Oriented Programming Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.     | 28241207    | DLC           | Data Structures Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.     | 28241208    | DLC           | Basic Electrical & Electronics Engineering Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 9.     | 28241209    | SP            | Semester Proficiency <sup>\$</sup>   | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 10.    | 28241210    | PBL           | Micro Project-II <sup>#</sup>  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 11.    | NECXXXX     | NEC           | Novel Engaging Course (Activity Based Learning)  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| 12.    | SIP1XXXX    | SIP           | Skill Internship Program (Soft Skill)  | -                      | -                   | -                | -                | 60                    | -                | 60          | -                      | -  | -  | 2**           | Experiential     | SO                       | -                            |
| Total  |             |               |  | 100                    | 100                 | 150              | 150              | 440                   | 120              | 1060        | 11                     | 04 | 10 | 22            | -                | -                        | -                            |
| 13.    | 28241211    | MAC           | Sustainability & Environmental Science   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 14.    | 28241212    | MWS           | Mandatory Workshop on Indian Knowledge System at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |

Summer Semester of six-eight week duration will be conducted for makeup of I & II semester examination.

<sup>\$</sup>Semester Proficiency- includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\*\*These credits will be transferred from the Skill Internship Program (Soft Skill).

# Micro Project-II will be presented and evaluated through an interdisciplinary project evaluation committee.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 1   | 1   | 3  | 0  | 0   | 0  | 3   | 1   | 1  | 0   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |             |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 15               | 1           | 0       | 3            | 3            | 6                   | 3  | 8   | 0  | 5  | 22            |
| 68               | 4           | 0       | 14           | 14           | 27                  | 14 | 36  | 0  | 23 | Credits %     |



# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (Deemed University)

(Declared Under Distinct Category by Ministry of Education, Government of India)



NAAC Accredited with A++ Grade

## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. III Semester (*Artificial Intelligence (AI) and Machine Learning*)

(for batch admitted in academic session 2024-25)

| S. No.   | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|  |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|  |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|  |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |             |                        |    |    |               |                  |                          |                              |
| 1.   | 28242101    | BSC           | Probability and Random Processes   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | 1  | -  | 4             | Face to Face     | PP                       | 2 Hrs                        |
| 2.   | 28242102    | DC            | Design & Analysis of Algorithms  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.   | 28242103    | DC            | Database Management System   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.   | 28242104    | DC            | Computer Networks  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 5.   | 28242105    | DC            | Operating Systems  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 6.   | 28242106    | DLC           | Problem Solving through Python Programming   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.   | 28242107    | DLC           | Design & Analysis of Algorithms Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.   | 28242108    | SP            | Semester Proficiency <sup>S</sup>  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.   | 28242109    | PBL           | Macro Project-I <sup>#</sup> [Database Management System Lab]                          | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 10.  | 28242110    | SLP           | Self-learning/Presentation <sup>SSS</sup> (SWAYAM/NPTEL/MOOC)                          | -                      | -                   | -                | -                | 40                    | -                | 40          | -                      | -  | 2  | 1             | Mentoring        | SO                       | -                            |
| 11.  | NECXXXXX    | NEC           | Novel Engaging Course (Activity Based Learning)  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| Total  |             |               |  | 100                    | 100                 | 150              | 150              | 350                   | 90               | 940         | 11                     | 06 | 10 | 22            | -                | -                        | -                            |
| 12.  | 28242111    | MAC           | Cyber Security   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 13.  | 28242112    | MWS           | Mandatory Workshop on Internet of Things(IoT) at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |
| Skill Internship Program (Institute Level) (Qualifier): Minimum 30 hours duration: To be Credited in IV Semester |             |               |  |                        |                     |                  |                  |                       |                  |             |                        |    |    |               |                  |                          |                              |

**Skill Internship Program (Institute Level) (Qualifier): Minimum 30 hours duration: To be Credited in IV Semester**

<sup>S</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

**MCQ:** Multiple Choice Question      **AO:** Assignment + Oral      **PP:** Pen Paper      **SO:** Submission + Oral      **OB:** Open Book

<sup>#</sup> Macro Project-I will be presented and evaluated through an interdisciplinary project evaluation committee.

<sup>SSS</sup> Compulsory registration for one online course using SWAYAM/NPTEL/ MOOC, evaluation through attendance and presentation.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 1   | 0   | 4  | 0  | 0   | 0  | 2   | 1   | 1  | 1   | 1   | 0   | 1   | 1   | 1   |

| Mode of Learning |             |         |           |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|-----------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Mentoring | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 17               | 1           | 0       | 1         | 1            | 2            | 4                   | 2  | 12  | 0  | 4  | 22            |
| 78               | 4           | 0       | 4         | 4            | 10           | 18                  | 9  | 55  | 0  | 18 | Credits %     |



# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (Deemed University)

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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. IV Semester (*Artificial Intelligence (AI) and Machine Learning*)

(for batch admitted in academic session 2024-25)

| S. No. | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--------|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|        |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|        |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|        |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |             |                        |    |    |               |                  |                          |                              |
| 1.     | 28242201    | DC            | Machine Learning   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 2.     | 28242202    | DC            | Theory of Computation  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 3.     | 28242203    | DC            | Software Engineering   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.     | 28242204    | DC            | Network and Web Security   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 5.     | 28242205    | BSC           | Calculus and optimization Techniques   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.     | 28242206    | DLC           | Machine Learning Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.     | 28242207    | DLC           | Java Programming Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.     | 28242208    | DLC           | Competitive Programming Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 9.     | 28242209    | SP            | Semester Proficiency <sup>\$</sup>   | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 10.    | 28242210    | PBL           | Macro Project-II <sup>#</sup>  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 11.    | 28242211    | PC            | Professional Certification   | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Blended          | SO                       | -                            |
| 12.    | NECXXXXX    | NEC           | Novel Engaging Course (Activity Based Learning)                                | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| 13.    | SIP3XXXX    | SIP           | Skill Internship Program   | -                      | -                   | -                | -                | 60                    | -                | 60          | -                      | -  | -  | 2**           | Experiential     | SO                       | -                            |
| Total  |             |               |  | 100                    | 100                 | 150              | 150              | 490                   | 120              | 1110        | 11                     | 05 | 12 | 24            | -                | -                        | -                            |
| 14.    | 28242212    | MAC           | Project Management, Economics & Financing                                      | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 15.    | 28242213    | MWS           | Mandatory Workshop on Computer Vision at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |
| 16.    | 28242214    | MWS           | Mandatory Workshop on Life Skills at Department Level (Duration: Two Days)     |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |

Summer Semester of six-eight week duration will be conducted for makeup of previous semester examination.

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

<sup>\$</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

<sup>#</sup> Macro Project-II will be presented and evaluated through an interdisciplinary project evaluation committee.

<sup>\*\*</sup>These credits will be transferred from the Skill Internship Program.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 1   | 0   | 4  | 0  | 0   | 0  | 3   | 1   | 1  | 0   | 0   | 0   | 2   | 1   | 2   |

| Mode of Learning |             |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 16               | 1           | 1       | 3            | 3            | 6                   | 3  | 9   | 0  | 6  | 24            |
| 66               | 4           | 4       | 13           | 13           | 25                  | 13 | 37  | 0  | 25 | Credits %     |



# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (Deemed University)

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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. V Semester (*Artificial Intelligence (AI) and Machine Learning*)

(for batch admitted in academic session 2024-25)

| S. No. | Course Code | Category Code | Course Name   | Maximum Marks Allotted |                     |                  |                  |                       |                  |       |            | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--------|-------------|---------------|---|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------|------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|        |             |               |   | Theory Block           |                     |                  |                  | Practical Block       |                  | MOOCs |            |             |                        |    |    |               |                  |                          |                              |
|        |             |               |   | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation | Exam  | Assignment |             |                        |    |    |               |                  |                          |                              |
|        |             |               |   | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |       |            |             |                        |    |    |               |                  |                          |                              |
| 1.     | 28243101    | DC            | Optimization Techniques in Machine Learning                               | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 2.     | 28243102    | DC            | Cloud Computing & Big Data  | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.     | 28243103    | DC            | Soft Computing Techniques   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.     | 282431XX    | DE            | Departmental Elective* (DE-1)   | -                      | -                   | -                | -                | -                     | -                | 25    | 75         | 100         | 3                      | -  | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 5.     | 282431XX    | SPC           | Specialization Course (SPC-1)   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.     | 28243104    | DLC           | Optimization Techniques in Machine Learning Lab                           | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.     | 28243105    | DLC           | Cloud Computing & Big Data Lab  | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.     | 28243106    | SP            | Semester Proficiency <sup>s</sup>   | -                      | -                   | -                | -                | 50                    | -                | -     | -          | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.     | 28243107    | PBL           | Cornerstone Project   | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 4  | 2             | Experiential     | SO                       | -                            |
| Total  |             |               |   | 80                     | 80                  | 120              | 120              | 260                   | 90               | 25    | 75         | 850         | 11                     | 04 | 10 | 20            | -                | -                        | -                            |
| 10.    | 28243108    | MAC           | Supply Chain Management   | 20                     | 20                  | 30               | 30               | -                     | -                |       |            | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 11.    | 28243109    | MWS           | Mandatory Workshop on Blockchain at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |       |            |             |                        |    |    | GRADE         | Interactive      | MCQ                      |                              |

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

<sup>s</sup>Semester Proficiency- includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 3  | 1  | 1   | 0  | 2   | 0   | 1  | 1   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 13               | 3      | 0       | 2            | 2            | 6                   | 2  | 9   | 0  | 3  | 20            |
| 65               | 15     | 0       | 10           | 10           | 30                  | 10 | 45  | 0  | 15 | Credits %     |



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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. VI Semester (*Artificial Intelligence (AI) and Machine Learning*)

(for batch admitted in academic session 2024-25)

| S. No. | Course Code | Category Code | Course Name   | Maximum Marks Allotted |                     |                  |                  |                       |                  |       |            | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--------|-------------|---------------|---|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------|------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|        |             |               |   | Theory Block           |                     |                  |                  | Practical Block       |                  | MOOCs |            |             |                        |    |    |               |                  |                          |                              |
|        |             |               |   | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation | Exam  | Assignment |             |                        |    |    |               |                  |                          |                              |
|        |             |               |   | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  |                       |                  |       |            |             |                        |    |    |               |                  |                          |                              |
| 1.     | 28243201    | DC            | Deep Learning   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 2.     | 28243202    | DC            | Image Processing and Computer Vision  | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.     | 282432XX    | DE            | Departmental Elective* (DE-2)   | -                      | -                   | -                | -                | -                     | -                | 25    | 75         | 100         | 3                      | -  | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 4.     | 282432XX    | OC            | Open Category Course (OC-1)   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 5.     | 282432XX    | SPC           | Specialization Course (SPC-2)   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.     | 28243203    | DLC           | Deep Learning Lab   | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.     | 28243204    | DLC           | Image Processing and Computer Vision Lab  | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.     | 28243205    | SP            | Semester Proficiency <sup>s</sup>   | -                      | -                   | -                | -                | 50                    | -                | -     | -          | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.     | 28243206    | PBL           | Capstone Project  | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 4  | 2             | Experiential     | SO                       | -                            |
| Total  |             |               |   | 80                     | 80                  | 120              | 120              | 260                   | 90               | 25    | 75         | 850         | 12                     | 03 | 10 | 20            | -                | -                        | -                            |
| 10.    | 28243207    | MAC           | Disaster Management   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 11.    | 28243208    | MWS           | Mandatory Workshop on Intellectual Property Rights at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |       |            |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |

Skill Enhancement Program/Research Internship/On Job Training for Four weeks duration (mandatory)

Summer Semester of six-eight week duration will be conducted for makeup of Previous semester examination.

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

<sup>s</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 2  | 1  | 1   | 1  | 2   | 0   | 1  | 0   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 13               | 3      | 0       | 2            | 2            | 6                   | 2  | 9   | 0  | 3  | 20            |
| 65               | 15     | 0       | 10           | 10           | 30                  | 10 | 45  | 0  | 15 | Credits %     |



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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. VII Semester (*Artificial Intelligence (AI) and Machine Learning*)

(for batch admitted in academic session 2024-25)

| S. No.  | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |   |                  |            |      | Total Marks | Contact Hours per week |    |    | Total Credits   | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|---|-------------|---------------|--|------------------------|---------------------|------------------|------------------|---|------------------|------------|------|-------------|------------------------|----|----|-----------------|------------------|--------------------------|------------------------------|
|   |             |               |  | Theory Block           |                     |                  |                  | Practical Block                               |                  | MOOCs      |      |             |                        |    |    |                 |                  |                          |                              |
|   |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation<br>Lab Work & Sessional | Major Evaluation | Assignment | Exam |             |                        |    |    |                 |                  |                          |                              |
|   |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  |   |                  |            |      |             |                        |    |    |                 |                  |                          |                              |
| 1.  | 282441XX    | DE            | Departmental Elective <sup>#</sup> (DE-3)                          | 20                     | 20                  | 30               | 30               | -   | -                | -          | -    | 100         | 3                      | -  | -  | 3               | Blended          | PP                       | 2 Hrs                        |
| 2.  | 282441XX    | DE            | Departmental Elective <sup>*</sup> (DE-4)                          | -                      | -                   | -                | -                | -   | -                | 25         | 75   | 100         | 3                      | -  | -  | 3               | Online           | MCQ                      | 3 Hrs                        |
| 3.  | 282441XX    | OC            | Open Category Course <sup>*</sup> (OC-2)                           | -                      | -                   | -                | -                | -   | -                | 25         | 75   | 100         | 2                      | 1  | -  | 3               | Online           | MCQ                      | 3 Hrs                        |
| 4.  | 282441XX    | SPC           | Specialization Course <sup>#</sup> (SPC-3)                         | 20                     | 20                  | 30               | 30               | -   | -                | -          | -    | 100         | 2                      | 1  | -  | 3               | Blended          | MCQ                      | 2 Hrs                        |
| 5.  | SIP4XXXX    | SEP           | Skill Enhancement Program/<br>Research Internship/ On Job Training | -                      | -                   | -                | -                | -   | 50               | -          | -    | 50          | -                      | -  | 2  | 1 <sup>**</sup> | Experiential     | SO                       | -                            |
| 6.  | 28244101    | DLC           | Creative Problem Solving   | -                      | -                   | -                | -                | -   | 50               | -          | -    | 50          | -                      | -  | 2  | 1               | Experiential     | SO                       | -                            |
| Total   |             |               |  | 40                     | 40                  | 60               | 60               | -   | 100              | 50         | 150  | 500         | 10                     | 02 | 04 | 14              | -                | -                        | -                            |
| Additional Course for Honours or Minor Degree: Permitted to ont for maximum two additional courses for the award of Honours or Minor Degree |             |               |  |                        |                     |                  |                  |   |                  |            |      |             |                        |    |    |                 |                  |                          |                              |

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

# Course run through MITS-DU MOOCs

\*\*These credits will be transferred from the Skill Enhancement Program/Research Internship/On Job Training.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 0  | 2  | 1   | 1  | 1   | 0   | 1  | 0   | 0   | 0   | 0   | 0   | 1   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |       |    |      | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-------|----|------|---------------|
| Face to Face     | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ   | OB | SO   |               |
| 0                | 6      | 6       | 2            | 0            | 3                   | 0  | 9     | 0  | 2    |               |
| 0                | 42.85  | 42.85   | 14.3         | 0            | 21.41               | 0  | 64.29 | 0  | 14.3 | Credits %     |





**MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR**  
(Deemed University)

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**Centre for Artificial Intelligence**  
**Scheme of Evaluation**

**B. Tech. VIII Semester (*Artificial Intelligence (AI) and Machine Learning*)**

(for batch admitted in academic session 2024-25)

| S. No.  | Course Code | Category Code | Course Name   | Maximum Marks Allotted |                     |                  |                  |                       |                  |            |      | Total Marks | Contact Hours per week |   |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|---|-------------|---------------|---|------------------------|---------------------|------------------|------------------|-----------------------|------------------|------------|------|-------------|------------------------|---|----|---------------|------------------|--------------------------|------------------------------|
|   |             |               |   | Theory Block           |                     |                  |                  | Practical Block       |                  | MOOCs      |      |             |                        |   |    |               |                  |                          |                              |
|   |             |               |   | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation | Assignment | Exam |             |                        |   |    |               |                  |                          |                              |
|   |             |               |   | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  |                       |                  |            |      |             |                        |   |    |               |                  |                          |                              |
| 1.  | 282442XX    | DE            | Departmental Elective* (DE-5)                                   | -                      | -                   | -                | -                | -                     | -                | 25         | 75   | 100         | 3                      | - | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 2.  | 282442XX    | OC            | Open Category Course* (OC-3)                                    | -                      | -                   | -                | -                | -                     | -                | 25         | 75   | 100         | 3                      | - | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 3.  | 28244201    | PBL           | Industry Internship/ Research Internship/ Innovation & Start-up | -                      | -                   | -                | -                | 280                   | 120              | -          | -    | 400         | -                      | - | 20 | 10            | Experiential     | SO                       | -                            |
| 4.  | 28244202    | PDC           | Professional Development <sup>##</sup>                          | -                      | -                   | -                | -                | -                     | 50               | -          | -    | 50          | -                      | - | 4  | 2             | Interactive      | SO                       | -                            |
| Total   |             |               |   | -                      | -                   | -                | -                | 280                   | 170              | 50         | 150  | 650         | 06                     | - | 24 | 18            | -                | -                        | -                            |
| Summer Semester of six-eight week duration will be conducted to complete any backlog courses.   |             |               |   |                        |                     |                  |                  |                       |                  |            |      |             |                        |   |    |               |                  |                          |                              |
| Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree |             |               |   |                        |                     |                  |                  |                       |                  |            |      |             |                        |   |    |               |                  |                          |                              |

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\*Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

<sup>##</sup> Evaluation will be based on participation/laurels brought by the students to the institution in national/state level technical and other events during the complete tenure of the UG programme (participation in professional chapter activities, club activities, cultural events, sports, personality development activities, collaborative events, MOOCs, technical events, institute/department committees, etc.)

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 0  | 1  | 0   | 1  | 0   | 0   | 0  | 0   | 0   | 1   | 1   | 0   | 0   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |       |    |       | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-------|----|-------|---------------|
| Interactive      | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ   | OB | SO    |               |
| 2                | 6      | 0       | 10           | 0            | 0                   | 0  | 6     | 0  | 12    | 18            |
| 11.11            | 33.33  | 0       | 55.56        | 0            | 0                   | 0  | 33.33 | 0  | 66.67 | Credits %     |



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**Centre for Artificial Intelligence**



**Semester-Wise General Scheme Structure & Important Guidelines for Flexible Curriculum**

**(Batch admitted in Academic Session 2024-25 onwards)**

**Abbreviations Used**

|             |   |
|-------------|---|
| <b>L</b>    | Lecture   |
| <b>T</b>    | Tutorial  |
| <b>P</b>    | Practical   |
| <b>HSMC</b> | Humanities and Social Sciences including Management Courses |
| <b>BSC</b>  | Basic Science Courses                                       |
| <b>ESC</b>  | Engineering Science Courses                                 |
| <b>DC</b>   | Departmental Core   |
| <b>DE</b>   | Departmental Elective                                       |
| <b>SPC</b>  | Specialization Courses                                      |
| <b>OC</b>   | Open Category   |
| <b>DLC</b>  | Departmental Laboratory Courses                             |
| <b>MOOC</b> | Massive Open Online Course                                  |
| <b>MWS</b>  | Mandatory Workshop  |
| <b>SP</b>   | Semester Proficiency  |
| <b>SIP</b>  | Skill Internship Program                                    |
| <b>SLP</b>  | Self-learning Presentation                                  |
| <b>PDC</b>  | Professional Development Component                          |
| <b>PBL</b>  | Project Based Learning                                      |
| <b>PC</b>   | Professional Certification                                  |
| <b>MAC</b>  | Mandatory Audit Course                                      |
| <b>NEC</b>  | Novel Engaging Course                                       |



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## Centre for Artificial Intelligence



### Scheme of Evaluation

### B. Tech. I Semester (*Information Technology (Artificial Intelligence and Robotics)*)

(for batch admitted in academic session 2024-25)

| S. No.  | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|---|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|   |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|   |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|   |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |             |                        |    |    |               |                  |                          |                              |
| 1.  | 24241101    | DC            | Digital Logic Design   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 2.  | 24241102    | DC            | Foundations of Artificial Intelligence and Robotics  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | 2             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.  | 24241103    | DC            | Electronic Systems   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 4.  | 24241104    | DC            | Problem Solving and Programming  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 5.  | 24241105    | BSC           | Linear Algebra   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.  | 24241106    | DLC           | Problem Solving and Programming Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.  | 24241107    | DLC           | Electronic Systems Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.  | 24241108    | SP            | Semester Proficiency <sup>S</sup>  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.  | 24241109    | PBL           | Micro Project-I <sup>#</sup>   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 10.   | 24241110    | HSMC          | Language Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Blended          | AO                       | -                            |
| 11.   | NECXXXXX    | NEC           | Novel Engaging Course (Activity Based Learning)  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| Total   |             |               |  | 100                    | 100                 | 150              | 150              | 380                   | 120              | 1000        | 12                     | 03 | 10 | 20            | -                | -                        | -                            |
| 12.   | 24241111    | MAC           | Universal Human Values & Professional Ethics (UHVPE)   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 13.   | 24241112    | MWS           | Mandatory Workshop on Indian Constitution and Traditional Knowledge at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |
| Induction programme of three weeks (MC): Physical activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visits to local Areas, Familiarization to Dept./Branch & Innovations. |             |               |  |                        |                     |                  |                  |                       |                  |             |                        |    |    |               |                  |                          |                              |
| Skill Internship Program (Soft Skill): Minimum 45 hours duration: To be Credited in II Semester.  |             |               |  |                        |                     |                  |                  |                       |                  |             |                        |    |    |               |                  |                          |                              |

<sup>\$</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

<sup>#</sup> Micro Project-I will be presented and evaluated through an interdisciplinary project evaluation committee.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 1    | 1   | 0   | 4  | 0  | 0   | 0  | 2   | 1   | 1  | 0   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |             |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 15               | 1           | 1       | 1            | 2            | 6                   | 3  | 8   | 0  | 3  | 20            |
| 75               | 5           | 5       | 5            | 10           | 30                  | 15 | 40  | 0  | 15 | Credits %     |



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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. II Semester (*Information Technology (Artificial Intelligence and Robotics)*)

(for batch admitted in academic session 2024-25)

| S. No. | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--------|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|        |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|        |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|        |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |             |                        |    |    |               |                  |                          |                              |
| 1.     | 24241201    | BSC           | Discrete Structures  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 2.     | 24241202    | DC            | Modern Computer Architecture   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.     | 24241203    | DC            | Object Oriented Programming  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.     | 24241204    | DC            | Data Structures  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 5.     | 24241205    | DC            | Sensors and Actuators  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | 2             | Face to Face     | MCQ                      | 2 Hrs                        |
| 6.     | 24241206    | DLC           | Object Oriented Programming Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.     | 24241207    | DLC           | Data Structures Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.     | 24241208    | DLC           | Sensors and Actuators Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 9.     | 24241209    | SP            | Semester Proficiency <sup>\$</sup>   | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 10.    | 24241210    | PBL           | Micro Project-II <sup>#</sup>  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 11.    | NECXXXXX    | NEC           | Novel Engaging Course (Activity Based Learning)  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| 12.    | SIP1XXXX    | SIP           | Skill Internship Program (Soft Skill)  | -                      | -                   | -                | -                | 60                    | -                | 60          | -                      | -  | -  | 2**           | Experiential     | SO                       | -                            |
| Total  |             |               |  | 100                    | 100                 | 150              | 150              | 440                   | 120              | 1060        | 11                     | 04 | 10 | 22            | -                | -                        | -                            |
| 13.    | 24241211    | MAC           | Sustainability & Environmental Science   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 14.    | 24241212    | MWS           | Mandatory Workshop on Indian Knowledge System at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |

Summer Semester of six-eight week duration will be conducted for makeup of I & II semester examination.

<sup>\$</sup>Semester Proficiency- includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\*\*These credits will be transferred from the Skill Internship Program (Soft Skill).

# Micro Project-II will be presented and evaluated through an interdisciplinary project evaluation committee.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 1   | 0   | 4  | 0  | 0   | 0  | 3   | 1   | 1  | 0   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |             |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 15               | 1           | 0       | 3            | 3            | 6                   | 3  | 8   | 0  | 5  | 22            |
| 68               | 4           | 0       | 14           | 14           | 27                  | 14 | 36  | 0  | 23 | Credits %     |



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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. III Semester (*Information Technology (Artificial Intelligence and Robotics)*)

(for batch admitted in academic session 2024-25)

| S. No.   | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|  |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|  |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|  |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |             |                        |    |    |               |                  |                          |                              |
| 1.   | 24242101    | BSC           | Probability and Random Processes   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | 1  | -  | 4             | Face to Face     | PP                       | 2 Hrs                        |
| 2.   | 24242102    | DC            | Design & Analysis of Algorithms  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.   | 24242103    | DC            | Control System   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 4.   | 24242104    | DC            | Computer Networks  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 5.   | 24242105    | DC            | Operating Systems  | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 6.   | 24242106    | DLC           | Problem Solving through Python Programming   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.   | 24242107    | DLC           | Design & Analysis of Algorithms Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.   | 24242108    | SP            | Semester Proficiency <sup>S</sup>  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.   | 24242109    | PBL           | Macro Project-I <sup>#</sup>   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 10.  | 24242110    | SLP           | Self-learning/Presentation <sup>SSS</sup><br>(SWAYAM/NPTEL/MOOC)                       | -                      | -                   | -                | -                | 40                    | -                | 40          | -                      | -  | 2  | 1             | Mentoring        | SO                       | -                            |
| 11.  | NECXXXXX    | NEC           | Novel Engaging Course (Activity Based Learning)  | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| Total  |             |               |  | 100                    | 100                 | 150              | 150              | 350                   | 90               | 940         | 11                     | 06 | 10 | 22            | -                | -                        | -                            |
| 12.  | 24242111    | MAC           | Cyber Security   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 13.  | 24242112    | MWS           | Mandatory Workshop on Internet of Things(IoT) at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |
| Skill Internship Program (Institute Level) (Qualifier): Minimum 30 hours duration: To be Credited in IV Semester |             |               |  |                        |                     |                  |                  |                       |                  |             |                        |    |    |               |                  |                          |                              |

**Skill Internship Program (Institute Level) (Qualifier): Minimum 30 hours duration: To be Credited in IV Semester**

<sup>S</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question      AO: Assignment + Oral      PP: Pen Paper      SO: Submission + Oral      OB: Open Book

<sup>#</sup> Macro Project-I will be presented and evaluated through an interdisciplinary project evaluation committee.

<sup>SSS</sup> Compulsory registration for one online course using SWAYAM/NPTEL/ MOOC, evaluation through attendance and presentation.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 1   | 0   | 4  | 0  | 0   | 0  | 2   | 1   | 1  | 1   | 1   | 0   | 1   | 1   | 1   |

| Mode of Learning |             |         |           |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|-----------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Mentoring | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 17               | 1           | 0       | 1         | 1            | 2            | 7                   | 2  | 9   | 0  | 4  | 22            |
| 78               | 4           | 0       | 4         | 4            | 10           | 32                  | 9  | 41  | 0  | 18 | Credits %     |



# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (Deemed University)

(Declared Under Distinct Category by Ministry of Education, Government of India)



NAAC Accredited with A++ Grade

## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. IV Semester (*Information Technology (Artificial Intelligence and Robotics)*)

(for batch admitted in academic session 2024-25)

| S. No.  | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |                       |                  | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|---|-------------|---------------|--|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|   |             |               |  | Theory Block           |                     |                  |                  | Practical Block       |                  |             |                        |    |    |               |                  |                          |                              |
|   |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation |             |                        |    |    |               |                  |                          |                              |
|   |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |             |                        |    |    |               |                  |                          |                              |
| 1.  | 24242201    | DC            | Robot Kinematics   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 2.  | 24242202    | DC            | Network and Web Security   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.  | 24242203    | DC            | Database Management System   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.  | 24242204    | DC            | Software Engineering   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 5.  | 24242205    | BSC           | Calculus and optimization Techniques   | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.  | 24242206    | DLC           | Robot Kinematics Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.  | 24242207    | DLC           | Database Management System Lab   | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.  | 24242208    | DLC           | Competitive Programming Lab  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 9.  | 24242209    | SP            | Semester Proficiency <sup>\$</sup>   | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 10.   | 24242210    | PBL           | Macro Project-II <sup>#</sup>  | -                      | -                   | -                | -                | 70                    | 30               | 100         | -                      | -  | 2  | 1             | Experiential     | SO                       | -                            |
| 11.   | 24242211    | PC            | Professional Certification   | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | -  | 2  | 1             | Blended          | SO                       | -                            |
| 12.   | NECXXXXX    | NEC           | Novel Engaging Course (Activity Based Learning)                                | -                      | -                   | -                | -                | 50                    | -                | 50          | -                      | 1  | -  | 1             | Interactive      | SO                       | -                            |
| 13.   | SIP3XXXX    | SIP           | Skill Internship Program   | -                      | -                   | -                | -                | 60                    | -                | 60          | -                      | -  | -  | 2**           | Experiential     | SO                       | -                            |
| Total   |             |               |  | 100                    | 100                 | 150              | 150              | 490                   | 120              | 1110        | 11                     | 05 | 12 | 24            | -                | -                        | -                            |
| 14.   | 24242212    | MAC           | Project Management, Economics & Financing                                      | 20                     | 20                  | 30               | 30               | -                     | -                | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 15.   | 24242213    | MWS           | Mandatory Workshop on Computer Vision at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |
| 16.   | 24242214    | MWS           | Mandatory Workshop on Life Skills at Department Level (Duration: Two Days)     |                        |                     |                  |                  |                       |                  |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |
| Summer Semester of six-eight week duration will be conducted for makeup of previous semester examination.                                   |             |               |  |                        |                     |                  |                  |                       |                  |             |                        |    |    |               |                  |                          |                              |
| Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree |             |               |  |                        |                     |                  |                  |                       |                  |             |                        |    |    |               |                  |                          |                              |

Summer Semester of six-eight week duration will be conducted for makeup of previous semester examination.

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

<sup>\$</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

<sup>#</sup> Macro Project-II will be presented and evaluated through an interdisciplinary project evaluation committee.

<sup>\*\*</sup>These credits will be transferred from the Skill Internship Program.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 1   | 0   | 4  | 0  | 0   | 0  | 3   | 1   | 1  | 0   | 0   | 0   | 2   | 1   | 2   |

| Mode of Learning |             |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|-------------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Interactive | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 16               | 1           | 1       | 3            | 3            | 6                   | 3  | 9   | 0  | 6  | 24            |
| 66               | 4           | 4       | 13           | 13           | 25                  | 13 | 37  | 0  | 25 | Credits %     |





# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (Deemed University)

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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. V Semester (*Information Technology (Artificial Intelligence and Robotics)*)

(for batch admitted in academic session 2024-25)

| S. No.  | Course Code | Category Code | Course Name   | Maximum Marks Allotted |                     |                  |                  |                       |                  |       |            | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|---|-------------|---------------|---|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------|------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|   |             |               |   | Theory Block           |                     |                  |                  | Practical Block       |                  | MOOCs |            |             |                        |    |    |               |                  |                          |                              |
|   |             |               |   | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation | Exam  | Assignment |             |                        |    |    |               |                  |                          |                              |
|   |             |               |   | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |       |            |             |                        |    |    |               |                  |                          |                              |
| 1.  | 24243101    | DC            | Theory of Computation   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 2.  | 24243102    | DC            | Cloud Computing and Virtualization  | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.  | 24243103    | DC            | Robot Operating System  | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 4.  | 242431XX    | DE            | Departmental Elective* (DE-1)   | -                      | -                   | -                | -                | -                     | -                | 25    | 75         | 100         | 3                      | -  | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 5.  | 242431XX    | SPC           | Specialization Course (SPC-1)   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.  | 24243104    | DLC           | Robot Operating System Lab  | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.  | 24243105    | DLC           | Cloud Computing and Virtualization Lab                                    | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.  | 24243106    | SP            | Semester Proficiency <sup>S</sup>   | -                      | -                   | -                | -                | 50                    | -                | -     | -          | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.  | 24243107    | PBL           | Cornerstone Project   | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 4  | 2             | Experiential     | SO                       | -                            |
| Total   |             |               |   | 80                     | 80                  | 120              | 120              | 260                   | 90               | 25    | 75         | 850         | 11                     | 04 | 10 | 20            | -                | -                        | -                            |
| 10.   | 24243110    | MAC           | Supply Chain Management   | 20                     | 20                  | 30               | 30               | -                     | -                |       |            | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 11.   | 24243111    | MWS           | Mandatory Workshop on Blockchain at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |       |            |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |
| Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree |             |               |   |                        |                     |                  |                  |                       |                  |       |            |             |                        |    |    |               |                  |                          |                              |

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

<sup>S</sup>Semester Proficiency-- includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 3  | 1  | 1   | 0  | 2   | 0   | 1  | 1   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 13               | 3      | 0       | 2            | 2            | 6                   | 2  | 9   | 0  | 3  |               |
| 65               | 15     | 0       | 10           | 10           | 30                  | 10 | 45  | 0  | 15 | Credits %     |



# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (Deemed University)

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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. VI Semester (*Information Technology (Artificial Intelligence and Robotics)*)

(for batch admitted in academic session 2024-25)

| S. No. | Course Code | Category Code | Course Name   | Maximum Marks Allotted |                     |                  |                  |                       |                  |       |            | Total Marks | Contact Hours per week |    |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|--------|-------------|---------------|---|------------------------|---------------------|------------------|------------------|-----------------------|------------------|-------|------------|-------------|------------------------|----|----|---------------|------------------|--------------------------|------------------------------|
|        |             |               |   | Theory Block           |                     |                  |                  | Practical Block       |                  | MOOCs |            |             |                        |    |    |               |                  |                          |                              |
|        |             |               |   | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation | Exam  | Assignment |             |                        |    |    |               |                  |                          |                              |
|        |             |               |   | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  | Lab Work & Sessional  |                  |       |            |             |                        |    |    |               |                  |                          |                              |
| 1.     | 24243201    | DC            | AI for Robotics   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 2.     | 24243202    | DC            | Image Processing and Computer Vision  | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | MCQ                      | 2 Hrs                        |
| 3.     | 242432XX    | DE            | Departmental Elective* (DE-2)   | -                      | -                   | -                | -                | -                     | -                | 25    | 75         | 100         | 3                      | -  | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 4.     | 242432XX    | OC            | Open Category Course (OC-1)   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | 1  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 5.     | 242432XX    | SPC           | Specialization Course (SPC-2)   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 3                      | -  | -  | 3             | Face to Face     | PP                       | 2 Hrs                        |
| 6.     | 24243203    | DLC           | AI for Robotics Lab   | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 7.     | 24243204    | DLC           | Image Processing and Computer Vision Lab  | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 2  | 1             | Experimental     | AO                       | -                            |
| 8.     | 24243205    | SP            | Semester Proficiency <sup>s</sup>   | -                      | -                   | -                | -                | 50                    | -                | -     | -          | 50          | -                      | -  | 2  | 1             | Face to Face     | SO                       | -                            |
| 9.     | 24243206    | PBL           | Capstone Project  | -                      | -                   | -                | -                | 70                    | 30               | -     | -          | 100         | -                      | -  | 4  | 2             | Experiential     | SO                       | -                            |
| Total  |             |               |   | 80                     | 80                  | 120              | 120              | 260                   | 90               | 25    | 75         | 850         | 12                     | 03 | 10 | 20            | -                | -                        | -                            |
| 10.    | 24243207    | MAC           | Disaster Management   | 20                     | 20                  | 30               | 30               | -                     | -                | -     | -          | 100         | 2                      | -  | -  | GRADE         | Blended          | MCQ                      | 1.5 Hrs                      |
| 11.    | 24243208    | MWS           | Mandatory Workshop on Intellectual Property Rights at Department Level (Duration: Two Days) |                        |                     |                  |                  |                       |                  |       |            |             |                        |    |    | GRADE         | Interactive      | MCQ                      | -                            |

Skill Enhancement Program/Research Internship/On Job Training for Four weeks duration (mandatory)

Summer Semester of six-eight week duration will be conducted for makeup of Previous semester examination.

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

<sup>s</sup>Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 2  | 1  | 1   | 1  | 2   | 0   | 1  | 0   | 0   | 0   | 1   | 1   | 1   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |     |    |    | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-----|----|----|---------------|
| Face to Face     | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ | OB | SO |               |
| 13               | 3      | 0       | 2            | 2            | 6                   | 2  | 9   | 0  | 3  | 20            |
| 65               | 15     | 0       | 10           | 10           | 30                  | 10 | 45  | 0  | 15 | Credits %     |



# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (Deemed University)

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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. VII Semester (*Information Technology (Artificial Intelligence and Robotics)*)

(for batch admitted in academic session 2024-25)

| S. No.  | Course Code | Category Code | Course Name  | Maximum Marks Allotted |                     |                  |                  |   |                  |            |      | Total Marks | Contact Hours per week |    |    | Total Credits   | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|---|-------------|---------------|--|------------------------|---------------------|------------------|------------------|---|------------------|------------|------|-------------|------------------------|----|----|-----------------|------------------|--------------------------|------------------------------|
|   |             |               |  | Theory Block           |                     |                  |                  | Practical Block                               |                  | MOOCs      |      |             |                        |    |    |                 |                  |                          |                              |
|   |             |               |  | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation<br>Lab Work & Sessional | Major Evaluation | Assignment | Exam |             |                        |    |    |                 |                  |                          |                              |
|   |             |               |  | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  |   |                  |            |      |             |                        |    |    |                 |                  |                          |                              |
| 1.  | 242441XX    | DE            | Departmental Elective <sup>#</sup> (DE-3)                          | 20                     | 20                  | 30               | 30               | -   | -                | -          | -    | 100         | 3                      | -  | -  | 3               | Blended          | PP                       | 2 Hrs                        |
| 2.  | 242441XX    | DE            | Departmental Elective <sup>*</sup> (DE-4)                          | -                      | -                   | -                | -                | -   | -                | 25         | 75   | 100         | 3                      | -  | -  | 3               | Online           | MCQ                      | 3 Hrs                        |
| 3.  | 242441XX    | OC            | Open Category Course <sup>*</sup> (OC-2)                           | -                      | -                   | -                | -                | -   | -                | 25         | 75   | 100         | 2                      | 1  | -  | 3               | Online           | MCQ                      | 3 Hrs                        |
| 4.  | 242441XX    | SPC           | Specialization Course <sup>#</sup> (SPC-3)                         | 20                     | 20                  | 30               | 30               | -   | -                | -          | -    | 100         | 2                      | 1  | -  | 3               | Blended          | MCQ                      | 2 Hrs                        |
| 5.  | SIP4XXXX    | SEP           | Skill Enhancement Program/<br>Research Internship/ On Job Training | -                      | -                   | -                | -                | -   | 50               | -          | -    | 50          | -                      | -  | 2  | 1 <sup>**</sup> | Experiential     | SO                       | -                            |
| 6.  | 24244101    | DLC           | Creative Problem Solving   | -                      | -                   | -                | -                | -   | 50               | -          | -    | 50          | -                      | -  | 2  | 1               | Experiential     | SO                       | -                            |
| Total   |             |               |  | 40                     | 40                  | 60               | 60               | -   | 100              | 50         | 150  | 500         | 10                     | 02 | 04 | 14              | -                | -                        | -                            |
| Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree |             |               |  |                        |                     |                  |                  |   |                  |            |      |             |                        |    |    |                 |                  |                          |                              |

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

# Course run through MITS-DU MOOCs

\*\*These credits will be transferred from the Skill Enhancement Program/Research Internship/On Job Training.

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 0  | 2  | 1   | 1  | 1   | 0   | 1  | 0   | 0   | 0   | 0   | 0   | 1   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |       |    |      | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-------|----|------|---------------|
| Face to Face     | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ   | OB | SO   |               |
| 0                | 6      | 6       | 2            | 0            | 3                   | 0  | 9     | 0  | 2    |               |
| 0                | 42.85  | 42.85   | 14.3         | 0            | 21.41               | 0  | 64.29 | 0  | 14.3 | Credits %     |



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## Centre for Artificial Intelligence Scheme of Evaluation

### B. Tech. VIII Semester (*Information Technology (Artificial Intelligence and Robotics)*)

(for batch admitted in academic session 2024-25)

| S. No.  | Course Code | Category Code | Course Name   | Maximum Marks Allotted |                     |                  |                  |                       |                  |            |      | Total Marks | Contact Hours per week |   |    | Total Credits | Mode of Learning | Mode of Major Evaluation | Duration of Major Evaluation |
|---|-------------|---------------|---|------------------------|---------------------|------------------|------------------|-----------------------|------------------|------------|------|-------------|------------------------|---|----|---------------|------------------|--------------------------|------------------------------|
|   |             |               |   | Theory Block           |                     |                  |                  | Practical Block       |                  | MOOCs      |      |             |                        |   |    |               |                  |                          |                              |
|   |             |               |   | Continuous Evaluation  |                     |                  | Major Evaluation | Continuous Evaluation | Major Evaluation | Assignment | Exam |             |                        |   |    |               |                  |                          |                              |
|   |             |               |   | Minor Evaluation I     | Minor Evaluation II | Quiz/ Assignment |                  |                       |                  |            |      |             |                        |   |    |               |                  |                          |                              |
| 1.  | 242442XX    | DE            | Departmental Elective* (DE-5)                                   | -                      | -                   | -                | -                | -                     | -                | 25         | 75   | 100         | 3                      | - | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 2.  | 242442XX    | OC            | Open Category Course* (OC-3)                                    | -                      | -                   | -                | -                | -                     | -                | 25         | 75   | 100         | 3                      | - | -  | 3             | Online           | MCQ                      | 3 Hrs                        |
| 3.  | 24244201    | PBL           | Industry Internship/ Research Internship/ Innovation & Start-up | -                      | -                   | -                | -                | 280                   | 120              | -          | -    | 400         | -                      | - | 20 | 10            | Experiential     | SO                       | -                            |
| 4.  | 24244202    | PDC           | Professional Development <sup>##</sup>                          | -                      | -                   | -                | -                | -                     | 50               | -          | -    | 50          | -                      | - | 4  | 2             | Interactive      | SO                       | -                            |
| Total   |             |               |   | -                      | -                   | -                | -                | 280                   | 170              | 50         | 150  | 650         | 06                     | - | 24 | 18            | -                | -                        | -                            |
| Summer Semester of six-eight week duration will be conducted to complete any backlog courses.   |             |               |   |                        |                     |                  |                  |                       |                  |            |      |             |                        |   |    |               |                  |                          |                              |
| Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree |             |               |   |                        |                     |                  |                  |                       |                  |            |      |             |                        |   |    |               |                  |                          |                              |

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

\*Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

<sup>##</sup> Evaluation will be based on participation/laurels brought by the students to the institution in national/state level technical and other events during the complete tenure of the UG programme (participation in professional chapter activities, club activities, cultural events, sports, personality development activities, collaborative events, MOOCs, technical events, institute/department committees, etc.)

| HSMC | BSC | ESC | DC | DE | SPC | OC | DLC | NEC | SP | SIP | SLP | PDC | PBL | MAC | MWS |
|------|-----|-----|----|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 0    | 0   | 0   | 0  | 1  | 0   | 1  | 0   | 0   | 0  | 0   | 0   | 1   | 1   | 0   | 0   |

| Mode of Learning |        |         |              |              | Mode of Examination |    |       |    |       | Total Credits |
|------------------|--------|---------|--------------|--------------|---------------------|----|-------|----|-------|---------------|
| Interactive      | Online | Blended | Experiential | Experimental | PP                  | AO | MCQ   | OB | SO    |               |
| 2                | 6      | 0       | 10           | 0            | 0                   | 0  | 6     | 0  | 12    | 18            |
| 11.11            | 33.33  | 0       | 55.56        | 0            | 0                   | 0  | 33.33 | 0  | 66.67 | Credits %     |