

# MVJ College of Engineering, Bengaluru (An Autonomous Institute)

Affiliated to VTU, Belagavi, Approved by AICTE, New Delhi, Recognised by UGC with 2(f) & 12 (B), Accredited by NBA & NAAC

Scheme of Teaching and Examination 2025-26

## **Department of Information Science and Engineering**

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) Effective from the academic year 2025-26

### **III SEMESTER**

|            |         |             |   |   | Teaching Hours/Wee |                          |                   |           |           | Exar        | nination |     |    |
|------------|---------|-------------|---|---|--------------------|--------------------------|-------------------|-----------|-----------|-------------|----------|-----|----|
| Sl.<br>No. |         | Course      | Course Title                                    | Theory/ lecture  Tutorials  Practical/ Drawing  Self-Study Components |                    | Self-Study<br>Components | Duration in Hours | CIE Marks | SEE Marks | Total Marks | Credits  |     |    |
|            | Туре    | Code        |   |   | L                  | T                        | P                 | S         | Dū        |             |          | _   |    |
| 1          | BSC     | MVJIS301    | Mathematics for Computer Science                | MA  | 3                  | 0                        | 0                 | -         | 03        | 50          | 50       | 100 | 3  |
| 2          | IPCC    | MVJIS302    | Operating Systems                               | IS  | 3                  | 0                        | 2                 | -         | 03        | 50          | 50       | 100 | 4  |
| 3          | PCC     | MVJIS303    | Digital Design & Computer Organization          | IS  | 3                  | 0                        | 0                 | -         | 03        | 50          | 50       | 100 | 3  |
| 4          | PCC     | MVJIS304    | Data Structures and Applications                | IS  | 3                  | 0                        | 0                 | -         | 03        | 50          | 50       | 100 | 3  |
| 5          | PCCL    | MVJISL305   | Data Structures Lab                             | IS  | 0                  | 0                        | 2                 | -         | 03        | 50          | 50       | 100 | 1  |
| 6          | ESC     | MVJIS306X   | ETC/ESC/PLC                                     | IS  | 3                  | 0                        | 0                 | -         | 03        | 50          | 50       | 100 | 3  |
| 7          | SCR     | MVJISCR307  | Social Connect and Responsibility               | IS  | 0                  | 0                        | 2                 | -         | 01        | 100         | -        | 100 | 1  |
| 8          | AEC/SEC | MVJA3YY1    | AEC Vertical Level 1                            | Respective<br>Vertical  | 1                  | 0                        | 2                 | -         | 02        | 50          | 50       | 100 | 2  |
|            |         | MVJNS309    | National Service Scheme (NSS).                  | NSS coordinator   |                    |                          |                   |           |           |             |          |     |    |
| 9          | MC      | MVJPE309    | Physical Education (PE) (Sports and Athletics). | PE Director   | 0                  | 0                        | 2                 | -         | -         | 100         | -        | 100 | 0  |
|            |         | MVJYO309    | Yoga.   | Yoga Teacher  |                    |                          |                   |           |           |             |          |     |    |
| 10         | BSC     | MVJMATDIP-I | Additional Mathematics-I                        | MA  | 2                  | 0                        | 0                 | -         | 3         | 100         | -        | 100 | 0  |
|            |         |             |   | Total   |                    |                          |                   |           |           |             |          |     | 20 |

Note: BSC: Basic Science Course, IPCC: Integrated Professional Core Course, PCC: Professional Core Course, ETC: Emerging Technology Course, PLC: Programming Language Course, SCR: Social Connect Responsibility, AEC: Ability Enhancement Course, SEC: Skill Enhancement Course, MC: Mandatory Course (Non-credit), L: Lecture, T: Tutorial, P: Practical, S: Self Study, SDA: Skill Development Activity, CIE: Continuous Internal Evaluation, SEE: Semester End Evaluation.

|           | Engineering Science C  | Course (ESC/ETC/PLC)     |  |
|-----------|--|--------------------------|--|
| MVJIS3061 | Object Oriented Programming with Java                            | MVJIS3063                | Data Analytics with R                    |
| MVJIS3062 | Object Oriented Programming with C++                             | MVJIS3064                | Python Programming for Data Science      |
|           | Ability Enhancement Course – III – MVJAXYYL (X is Sei            | mester, YY is vertical I | Number, L is level of the vertical)      |
| MVJA3011  | Idea Box - Innovation  | MVJA3071                 | IoT – Connecting the world               |
| MVJA3021  | Tomorrow's Engineers – Engineering Solution to Societal Problems | MVJA3081                 | FSIPD –Ideas to Product                  |
| MVJA3031  | Tinkering Lab – Experiment and Conceptualize                     | MVJA3091                 | Software Development - Code your ideas   |
| MVJA3041  | UAV – Develop Drones   | MVJA3101                 | LabVIEW – Graphical Programming          |
| MVJA3051  | Astronomy – Explore the space                                    | MVJA3111                 | CNC Programming – Advanced Manufacturing |
| MVJA3061  | Robotics and Industrial Automation Lab – Design Robots           | MVJA3121                 | NCC                                      |

Professional Core Course (IPCC): Refers to Professional Core Course Theory Integrated with practical of the same course. Credit for IPCC can be 04 and its Teaching—Learning hours (L: T: P) can be considered as (3:0:2) or (2:2:2). The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by only CIE (no SEE). However, questions from the practical part of IPCC shall be included in the SEE question paper. For more details, the regulation governing the Degree of Bachelor of Engineering /Technology (B.E./ B. Tech.) 2025-26 may please be referred.

National Service Scheme /Physical Education/Yoga: All students have to register for any one of the courses namely National Service Scheme (NSS), Physical Education (PE)(Sports and Athletics), and Yoga(YOG) with the concerned coordinator of the course during the first Week of III semesters. Activities shall be carried out between III semester to the VI semester (for 4 semesters). Successful completion of the registered course and requisite CIE score is mandatory for the award of the Degree. The events shall be appropriately scheduled by the colleges and the same shall be reflected in the calendar prepared for the NSS, PE, and Yoga activities. These courses shall not be considered for vertical progression as well as for the calculation of SGPA and CGPA, but completion of the course is mandatory for the award of Degree.

## **IV SEMESTER**

|            |         |              |   |                         | Teaching Hours/Week |           |                       |                          |                   | Exar      | mination  |             |         |
|------------|---------|--------------|---|-------------------------|---------------------|-----------|-----------------------|--------------------------|-------------------|-----------|-----------|-------------|---------|
| SI.<br>No. |         | Course       | Course Title                                    | Teaching<br>Department  | Theory lecture      | Tutorials | Practical/<br>Drawing | Self-Study<br>Components | Duration in Hours | CIE Marks | SEE Marks | Total Marks | Credits |
|            | Туре    | Code         |   |                         | L                   | т         | P                     | s                        | Dn                |           |           |             |         |
| 1          | PCC     | MVJIS401     | Analysis & Design of Algorithms                 | IS                      | 3                   | 0         | 0                     | -                        | 03                | 50        | 50        | 100         | 3       |
| 2          | IPCC    | MVJIS402     | Advanced Java                                   | IS                      | 3                   | 0         | 2                     | -                        | 03                | 50        | 50        | 100         | 4       |
| 3          | IPCC    | MVJIS403     | Database Management Systems                     | IS                      | 3                   | 0         | 2                     | -                        | 03                | 50        | 50        | 100         | 4       |
| 4          | PCCL    | MVJISL404    | Analysis & Design of Algorithms<br>Lab          | IS                      | 0                   | 0         | 2                     | -                        | 03                | 50        | 50        | 100         | 1       |
| 5          | ESC     | MVJIS405X    | ESC/ETC/PLC                                     | IS                      | 3                   | 0         | 0                     | -                        | 03                | 50        | 50        | 100         | 3       |
| 6          | AEC/SEC | MVJA4YY2     | AEC Vertical Level 2                            | Respective<br>Verticals | 1                   | 0         | 2                     | -                        | 02                | 50        | 50        | 100         | 2       |
| 7          | BSC     | MVJBI407     | Biology For Engineers                           | IS                      | 2                   | 0         | 0                     | -                        | 02                | 50        | 50        | 100         | 2       |
| 8          | UHV     | MVJUHV408    | Universal human values course                   | IS                      | 1                   | 0         | 0                     | -                        | 02                | 50        | 50        | 100         | 1       |
|            |         | MVJNS409     | National Service Scheme (NSS).                  | NSS<br>coordinator      |                     |           |                       |                          |                   |           |           |             |         |
| 9          | MC      | MVJPE409     | Physical Education (PE) (Sports and Athletics). | PE Director             | 0                   | 0         | 2                     | -                        | -                 | 100       | -         | 100         | 0       |
|            |         | MVJYO409     | Yoga.   | Yoga Teacher            |                     |           |                       |                          |                   |           |           |             |         |
| 10         | BSC     | MVJMATDIP-II | Additional Mathematics-II                       | MA                      | 2                   | 0         | 0                     | -                        | 3                 | 100       | -         | 100         | 0       |
|            |         |              |   |                         |                     |           |                       |                          |                   |           |           | Total       | 20      |

Note: PCC: Professional Core Course, IPCC: Integrated Professional Core Course, PCCL: Professional Core Course laboratory, ESC: Engineering Science Course, ETC: Emerging Technology Course, PLC: Programming Language Course, AEC: Ability Enhancement Course, SEC: Skill Enhancement Course, BSC: Basic Science Course, UHV: Universal Human Value Course, MC: Mandatory Course (Non-credit), L: Lecture, T: Tutorial, P: Practical, S: Self Study, SDA: Skill Development Activity, CIE: Continuous Internal Evaluation, SEE: Semester End Evaluation.

|           | Engineering Science Course (ESC/ETC/PLC)                                     |                            |  |  |  |  |  |  |  |  |  |  |
|-----------|--|----------------------------|--|--|--|--|--|--|--|--|--|--|
| MVJIS4051 | MVJIS4051 Discrete Mathematical Structures MVJIS4053 Optimization Techniques |                            |  |  |  |  |  |  |  |  |  |  |
| MVJIS4052 | Graph Theory   | MVJIS4054                  | Linear Algebra                               |  |  |  |  |  |  |  |  |  |
|           | Ability Enhancement Course / Skill Enhancement Course – IV - MVJA            | (YYL (X is Semester, YY is | vertical Number, L is level of the vertical) |  |  |  |  |  |  |  |  |  |

| MVJA4012 | Idea Box - Innovation  | MVJA4072 | IoT – Connecting the world               |
|----------|--|----------|--|
| MVJA4022 | Tomorrow's Engineers – Engineering Solution to Societal Problems | MVJA4082 | FSIPD –Ideas to Product                  |
| MVJA4032 | Tinkering Lab – Experiment and Conceptualize                     | MVJA4092 | Software Development - Code your ideas   |
| MVJA4042 | UAV – Develop Drones   | MVJA4102 | LabVIEW – Graphical Programming          |
| MVJA4052 | Astronomy – Explore the space                                    | MVJA4112 | CNC Programming – Advanced Manufacturing |
| MVJA4062 | Robotics and Industrial Automation Lab – Design Robots           | MVJA4122 | NCC                                      |

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## **V SEMESTER**

|            |      |           |   |                        | Tea            | ching I     | Hours/W               | eek                      |                   | Exami     | nation    |             |         |
|------------|------|-----------|---|------------------------|----------------|-------------|-----------------------|--------------------------|-------------------|-----------|-----------|-------------|---------|
| SI.<br>No. | Туре | Course    | Course Title                                    | Teaching<br>Department | Theory lecture | → Tutorials | Practical/<br>Drawing | Self-Study<br>Components | Duration in Hours | CIE Marks | SEE Marks | Total Marks | Credits |
| 1          | HSMC | MVJIS501  | Software Engineering & Project Management       | IS                     | 3              | 0           | 0                     | -                        | 03                | 50        | 50        | 100         | 3       |
| 2          | IPCC | MVJIS502  | Computer Networks                               | IS                     | 3              | 0           | 2                     | -                        | 03                | 50        | 50        | 100         | 4       |
| 3          | PCC  | MVJIS503  | Theory of Computations                          | IS                     | 4              | 0           | 0                     | -                        | 03                | 50        | 50        | 100         | 4       |
| 4          | PCCL | MVJISL504 | Data Visualization Lab                          | IS                     | 0              | 0           | 2                     | -                        | 03                | 50        | 50        | 100         | 1       |
| 5          | PEC  | MVJIS505X | Professional Elective-I                         | IS                     | 3              | 0           | 0                     | -                        | 03                | 50        | 50        | 100         | 3       |
| 6          | PROJ | MVJISP506 | Mini Project                                    | IS                     | 0              | 0           | 4                     | -                        | 03                | 100       | -         | 100         | 2       |
| 7          | AEC  | MVJRMI507 | Research Methodology and IPR                    | IS                     | 3              | 0           | 0                     |                          | 03                | 50        | 50        | 100         | 3       |
| 8          | MC   | MVJENV508 | Environmental Studies                           | cv                     | 2              | 0           | 0                     |                          | 02                | 50        | 50        | 100         | 2       |
|            |      | MVJNS509  | National Service Scheme (NSS).                  | NSS coordinator        |                |             |                       |                          |                   |           |           |             |         |
| 9          | MC   | MVJPE509  | Physical Education (PE) (Sports and Athletics). | PE Director            | 0              | 0           | 2                     | -                        | -                 | 100       | -         | 100         | 0       |
|            |      | MVJYO509  | Yoga.   | Yoga Teacher           |                |             |                       |                          |                   |           |           |             |         |
| i          |      |           |   |                        |                |             |                       |                          |                   |           |           | Total       | 22      |

| Course Code | Professional Elective-I         |
|-------------|---------------------------------|
| MVJIS5051   | Computer Vision                 |
| MVJIS5052   | Artificial Intelligence         |
| MVJIS5053   | Unix System Programming         |
| MVJIS5054   | Distributed Systems             |
| MVJIE5055   | Innovative and Entrepreneurship |

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**Mini-project work:** Mini Project is a laboratory-oriented/hands on course that will provide a platform to students to enhance their practical knowledge and skills by the development of small systems/applications etc. Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini- project can be assigned to an individual student or to a group having not more than 4 students.

#### **CIE procedure for Mini-project:**

- (i) Single discipline: The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two faculty members of the Department, one of them being the Guide. The CIE marks awarded for the Mini-project work shall be based on the evaluation of the project report, project presentation skill, and question and answer sess ion in the ratio of 50:25:25. The marks awarded for the project report shall be the same for all the batches mates.
- (ii) Interdisciplinary: Continuous Internal Evaluation shall be group-wise at the college level with the participation of all the guides of the project.

  The CIE marks awarded for the Mini-project, shall be based on the evaluation of the project report, project presentation skill, and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

No SEE component for Mini-Project.

**Professional Elective Courses (PEC):** A professional elective (PEC) course is intended to enhance the depth and breadth of educational experience in the Engineering and Technology curriculum. Multidisciplinary courses that are added supplement the latest trend and advanced technology in the selected stream of Engineering. Each group will provide an option to select one course. The minimum number of students' strengths for offering a professional elective is 10. However, this conditional shall not be applicable to cases where the admission to the program is less than 10.

## **VI SEMESTER**

|            |         |           |   |                                | Te             | aching F  | lours/We              | eek                      |                  | Examir    | nation    |             |         |
|------------|---------|-----------|---|--------------------------------|----------------|-----------|-----------------------|--------------------------|------------------|-----------|-----------|-------------|---------|
| SI.<br>No. | ,       | Course    | Course Title                                    | Teaching<br>Department         | Theory lecture | Tutorials | Practical/<br>Drawing | Self-Study<br>Components | uration in Hours | CIE Marks | SEE Marks | Total Marks | Credits |
|            | Туре    | Code      |   |                                | L              | Т         | Р                     | S                        | ۵                |           |           |             |         |
| 1          | IPCC    | MVJIS601  | Full Stack Development                          | IS                             | 3              | 0         | 2                     | -                        | 03               | 50        | 50        | 100         | 4       |
| 2          | PCC     | MVJIS602  | Machine Learning                                | IS                             | 3              | 0         | 0                     | -                        | 03               | 50        | 50        | 100         | 3       |
| 3          | PEC     | MVJIS603X | Professional Elective-II                        | IS                             | 3              | 0         | 0                     | -                        | 03               | 50        | 50        | 100         | 3       |
| 4          | OEC     | MVJIS604X | Open Elective-I                                 | IS                             | 3              | 0         | 0                     | -                        | 03               | 50        | 50        | 100         | 3       |
| 5          | PROJ    | MVJISP605 | Project Phase-I                                 | IS                             | 0              | 0         | 4                     | -                        | 03               | 100       | -         | 100         | 2       |
| 6          | PCCL    | MVJISL606 | Machine Learning lab                            | IS                             | 0              | 0         | 2                     | -                        | 03               | 50        | 50        | 100         | 1       |
| 7          | AEC/SDC | MVJA6YY3  | AEC Vertical Level 3                            | Respective Vertical            | 1              | 0         | 2                     | -                        | 02               | 50        | 50        | 100         | 1       |
| 8          | HMSC    | MVJKK608  | Indian Knowledge System                         | IS                             | 1              | 0         | 0                     | -                        | 02               | 50        | 50        | 100         | 1       |
|            |         | MVJNS609  | National Service Scheme (NSS).                  | NSS coordinator                |                |           |                       |                          |                  |           |           |             |         |
| 9          | MC      | MVJPE609  | Physical Education (PE) (Sports and Athletics). | Physical Education<br>Director | 0              | 0         | 2                     | -                        | -                | 100       | -         | 100         | 0       |
|            |         | MVJYO609  | Yoga.   | Yoga Teacher                   |                |           |                       |                          |                  |           |           |             |         |
|            |         |           |   |                                |                |           |                       |                          |                  |           |           | Total       | 18      |

Note: IPCC: Integrated Professional Core Course, PCC: Professional Core Course, PEC: Professional Elective Course, OEC: Open Elective Course, PROJ: Project /Mini Project, PCCL: Professional Core Course laboratory, AEC: Ability Enhancement Course, MC: Mandatory Course (Non-credit), L: Lecture, T: Tutorial, P: Practical S: Self Study, CIE: Continuous Internal Evaluation, SEE: Semester End Evaluation.

| Course Code | Professional Elective-II | Course Code | Open Elective-I                   |
|-------------|--------------------------|-------------|-----------------------------------|
| MVJIS6031   | Blockchain Technology    | MVJIS6041   | Introduction to Data Structures   |
| MVJIS6032   | Internet of Things       | MVJIS6042   | Fundamentals of Operating Systems |
| MVJIS6033   | Compiler Design          | MVJIS6043   | Mobile Application Development    |
| MVJIS6034   | Cloud Computing          | MVJIS6044   | Introduction to AI                |

|          | Ability Enhancement Course / Skill Enhancement Course-V-MVJAXYYL (X is Semester, YY is vertical Number, L is level of the vertical) |          |  |  |  |  |  |  |  |  |  |
|----------|---|----------|--|--|--|--|--|--|--|--|--|
| MVJA6013 | Idea Box - Innovation   | MVJA6073 | IoT – Connecting the world               |  |  |  |  |  |  |  |  |
| MVJA6023 | Tomorrow's Engineers – Engineering Solution to Societal Problems  | MVJA6083 | FSIPD –Ideas to Product                  |  |  |  |  |  |  |  |  |
| MVJA6033 | Tinkering Lab – Experiment and Conceptualize  | MVJA6093 | Software Development - Code your ideas   |  |  |  |  |  |  |  |  |
| MVJA6043 | UAV – Develop Drones  | MVJA6103 | LabVIEW – Graphical Programming          |  |  |  |  |  |  |  |  |
| MVJA6053 | Astronomy – Explore the space   | MVJA6113 | CNC Programming – Advanced Manufacturing |  |  |  |  |  |  |  |  |
| MVJA6063 | Robotics and Industrial Automation Lab – Design Robots  | MVJA6123 | NCC                                      |  |  |  |  |  |  |  |  |

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**Professional Elective Courses (PEC):** A professional elective (PEC) course is intended to enhance the depth and breadth of educational experience in the Engineering and Technology curriculum. Multidisciplinary courses that are added supplement the latest trend and advanced technology in the selected stream of Engineering. Each group will provide an option to select one course. The minimum number of students' strengths for offering professional electives is 10. However, this conditional shall not be applicable to cases where the admission to the program is less than 10.

#### **Open Elective Courses:**

Students belonging to a particular stream of Engineering and Technology are not entitled to the open electives offered by their parent Department. However, they can opt for an elective offered by other Departments, provided they satisfy the prerequisite condition if any. Registration to open electives shall be documented under the guidance of the Program Coordinator/Advisor/Mentor. The minimum numbers of students' strength for offering Open Elective Course is 10. However, this condition shall not be applicable to class where the admission to the program is less than 10.

**Project Phase-I:** Students have to discuss with the mentor /guide and with their help he/she has to complete the literature survey and prepare the report and finally define the problem statement for the project work.

#### **VII SEMESTER**

|            |      |           |                                |                        | Tea            | aching H  | ours/We               | eek                      |                   | Exai      | mination  |             |         |
|------------|------|-----------|--------------------------------|------------------------|----------------|-----------|-----------------------|--------------------------|-------------------|-----------|-----------|-------------|---------|
| SI.<br>No. |      | Course    | Course Title                   | Teaching<br>Department | Theory lecture | Tutorials | Practical/<br>Drawing | Self-Study<br>Components | Duration in Hours | CIE Marks | SEE Marks | Total Marks | Credits |
|            | Туре | Code      |                                |                        | L              | Т         | Р                     | S                        | Dui               |           |           | ·           |         |
| 1          | IPCC | MVJIS701  | Big Data Analytics             | IS                     | 3              | 0         | 2                     | -                        | 03                | 50        | 50        | 100         | 4       |
|            | IPCC | MVJS702   | Parallel Computing             | IS                     | 3              | 0         | 2                     | -                        | 03                | 50        | 50        | 100         | 4       |
| 2          | PCC  | MVJIS703  | Information & Network Security | IS                     | 4              | 0         | 0                     | -                        | 03                | 50        | 50        | 100         | 4       |
| 4          | PEC  | MVJIS704X | Professional Elective-III      | IS                     | 3              | 0         | 0                     | -                        | 03                | 50        | 50        | 100         | 3       |
| 5          | OEC  | MVJIS705X | Open Elective-II               | IS                     | 3              | 0         | 0                     | -                        | 03                | 50        | 50        | 100         | 3       |
| 6          | PROJ | MVJISP706 | Major Project Phase II         | IS                     | 0              | 0         | 12                    | -                        | 03                | 100       | 100       | 200         | 6       |
|            |      |           |                                | _                      | •              |           | •                     | •                        | •                 |           |           | Total       | 24      |

**Note: IPCC:** Integrated Professional Core Course, **PCC**: Professional Core Course, **PEC**: Professional Elective Course, **OEC**: Open Elective Course, **PROJ**: Project / Mini Project, **L:** Lecture, **T:** Tutorial, **P:** Practical **S:** Self Study, **CIE**: Continuous Internal Evaluation, **SEE**: Semester End Evaluation.

| Course Code | Professional Elective-III   | Course Code | Open Elective-II           |
|-------------|-----------------------------|-------------|----------------------------|
| MVJIS7041   | Deep Learning               | MVJIS7051   | Introduction to DBMS       |
| MVJIS7042   | Natural Language Processing | MVJIS7052   | Introduction to Algorithms |
| MVJIS7043   | Embedded Systems            | MVJIS7053   | Software Engineering       |
| MVJIS7044   | Distributed File Systems    | MVJIS7054   | Cloud Computing            |

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#### PROJECT WORK (MVJISP76): The objective of the Project work is

- (i) To encourage independent learning and the innovative attitude of the students.
- (ii) To develop interactive attitude, communication skills, organization, time management, and presentation skills.
- (iii) To impart flexibility and adaptability.
- (iv) To inspire team working.
- (v) To expand intellectual capacity, credibility, judgment and intuition.
- (vi) To adhere to punctuality, setting and meeting deadlines.
- (vii) To install responsibilities to oneself and others.
- (viii) To train students to present the topic of project work in a seminar without any fear, face the audience confidently, enhance communication skills, involve in group discussion to present and exchange ideas.

#### **CIE procedure for Project Work:**

(1) Single discipline: The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the project work, shall be based on the evaluation of the project work Report, project presentation skill, and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(2) Interdisciplinary: Continuous Internal Evaluation shall be group-wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work, shall be based on the evaluation of project work Report, project presentation skill, and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

**SEE procedure for Project Work:** SEE for project work will be conducted by the two examiners appointed by the University. The SEE marks awarded for the project work shall be based on the evaluation of project work Report, project presentation skill, and question and answer session in the ratio 50:25:25.

## **VIII SEMESTER**

|            |        |           | Course Title  | Teaching<br>Department | Teaching Hours/Week |           |                       |                          | Examination                 |     |           | i           |         |
|------------|--------|-----------|---|------------------------|---------------------|-----------|-----------------------|--------------------------|-----------------------------|-----|-----------|-------------|---------|
| SI.<br>No. | Course |           |   |                        | Theory lecture      | Tutorials | Practical/<br>Drawing | Self-Study<br>Components | ation in Hours<br>CIE Marks |     | SEE Marks | Total Marks | Credits |
|            | Туре   | Code      |   |                        | L                   | Т         | Р                     | S                        | Dur                         |     |           | '           |         |
| 1          | PEC    | MVJIS801X | Professional Elective-IV (Online Courses, NPTEL/SWAYAM) | IS                     | -                   | -         | -                     | -                        | 1                           | -   | -         | -           | 3       |
| 2          | OEC    | MVJIS802X | Open Elective-III (Online Courses, NPTEL/SWAYAM)        | IS                     | -                   | -         | -                     | -                        | 1                           | -   | -         | -           | 3       |
| 3          | INT    | MVJISI803 | Internship (Industry/Research) (14-20 weeks)            | IS                     | 0                   | 0         | 12                    | -                        | 03                          | 100 | 100       | 200         | 10      |
|            |        |           |   |                        |                     |           |                       |                          |                             |     |           | Total       | 16      |

Note: PEC: Professional Elective Course, OEC: Open Elective Course, INT: Internship, CIE: Continuous Internal Evaluation, SEE: Semester End Evaluation,

| Course Code | Professional Elective-IV | Course Code | Open Elective-III |
|-------------|--------------------------|-------------|-------------------|
| MVJEE8011   | NPTEL/SWAYAM             | MVJEE8021   | NPTEL/SWAYAM      |
| MVJEE8012   | NPTEL/SWAYAM             | MVJEE8022   | NPTEL/SWAYAM      |
| MVJEE8013   | NPTEL/SWAYAM             | MVJEE8023   | NPTEL/SWAYAM      |
| MVJEE8014   | NPTEL/SWAYAM             | MVJEE8024   | NPTEL/SWAYAM      |

#### **Elucidation:**

At the beginning of IV years of the program i.e., after VI semester, VII semester classwork and VIII semester **Research Internship /Industrial Internship / Rural Internship** shall be permitted to be operated simultaneously by the University so that students have ample opportunity for an internship. In other words, a good percentage of the class shall attend VII semester classwork and a similar percentage of others shall attend to Research Internship or Industrial Internship or Rural Internship.

Research/Industrial /Rural Internship shall be carried out at an Industry, NGO, MSME, Innovation center, Incubation center, Start-up, center of Excellence (CoE), Study Centre established in the parent institute and /or at reputed research organizations/institutes.

The mandatory Research internship /Industry internship / Rural Internship is for 14 to 20 Weeks. The internship shall be considered as a head of passing and shall be considered for the award of a Degree. Those, who do not take up/complete the internship shall be declared to fail and shall have to complete it during the subsequent University examination after satisfying the internship requirements.

**Research internship:** A research internship is intended to offer the flavor of current research going on in the research field. It helps students get familiarized with the field and imparts the skill required for carrying out research.

**Industry internship:** Is an extended period of work experience undertaken by students to supplement their Degree for professional development. It also helps them learn to overcome unexpected obstacles and successfully navigate organizations, perspectives, and cultures. Dealing with contingencies helps students recognize, appreciate, and adapt to organizational realities by tempering their knowledge with practical constraints.

**Rural Internship:** Rural development internship is an initiative of Unnat Bharat Abhiyan Cell, RGIT in association with AICTE to involve students of all departments studying in different academic years for exploring various opportunities in techno-social fields, to connect and work with Rural India for their upliftment.

The faculty coordinator or mentor has to monitor the student's internship progress and interact with them to guide for the successful completion of the internship. The students are permitted to carry out the internship anywhere in India or abroad. University shall not bear any expenses incurred in respect of the internship.

With the consent of the internal guide and Principal of the Institution, students shall be allowed to carry out the internship at their hometown (within or outside the state or abroad), provided favorable facilities are available for the internship and the student remains regularly in contact with the internal guide. University shall not bear any cost involved in carrying out the internship by students. However, students can receive any financial assistance extended by the organization.

**Professional Elective /Open Elective Course:** These are ONLINE courses suggested by the respective Board of Studies. Details of these courses shall be made available for students by the respective board of studies well before starting of semester.

HOD

**Dean Academics**