



**JSPM UNIVERSITY PUNE**

Recognized by UGC u/s 2 (f) of UGC Act 1956 and enacted by the  
State Government of Maharashtra - JSPM University Act, 2022 (Mah.IV of 2023)

**JSPM University Pune**  
**Faculty of Science and Technology**  
**School of Mechanical & Manufacturing**  
**Sciences**



**NEP aligned Curriculum Structure**

**for**

**B.Tech (Mechanical Engineering)**

**(Effective from AY: 2025-26)**



# JSPM University Pune

FACULTY OF SCIENCE & TECHNOLOGY

SCHOOL OF MECHANICAL AND MANUFACTURING SCIENCES

SECOND YEAR BACHELOR OF TECHNOLOGY (Regular)  
(Mechanical Engineering with Specialization in AI and ML)

COURSE STRUCTURE  
(NEP 2020 Aligned)

W. E. F

2024-2025

RELEASE  
DATE

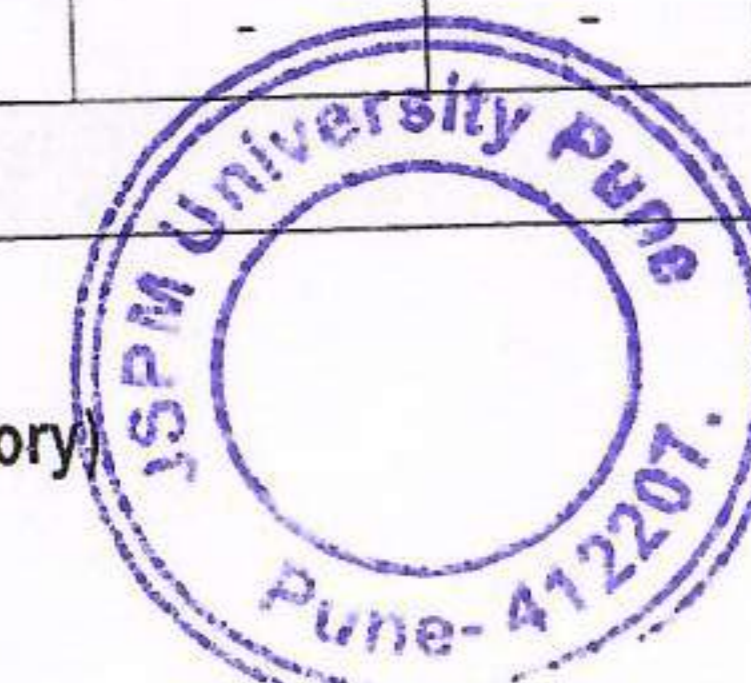
01/07/2025

REVISION  
NO.

1.0 (NEP)

## SEMESTER III (Level 5)

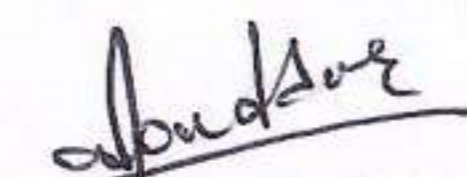
| COURSE       |              |   | TEACHING SCHEME |          |          |          | EXAMINATION SCHEME AND MARKS                  |               |                        |  |  |   |  |                                     | TOTAL     | CREDITS |
|--------------|--------------|---|-----------------|----------|----------|----------|---|---------------|------------------------|--|--|---|--|-------------------------------------|-----------|---------|
| TYPE         | CODE         | COURSE NAME   | Hours / Week    |          |          |          | THEORY<br>(Equal Weightage for CIE and ESE)   |               |                        | PRACTICAL<br>(Equal Weightage for CIE and ESE) |  | ORAL<br>(Equal Weightage for CIE and ESE) |  |                                     |           |         |
|              |              |   | L               | T        | P        | EL       | CONTINUOUS IN SEMESTER EVALUATION (100 Marks) |               |                        | END SEMESTER EXAMINATION (100 / 50 Marks)      | CONTINUOUS IN SEMESTER EVALUATION (50 Marks) | END SEMESTER EXAMINATION (50 Marks)       | CONTINUOUS IN SEMESTER EVALUATION (50 Marks) | END SEMESTER EXAMINATION (50 Marks) |           |         |
|              |              |   |                 |          |          |          | T1 (30 Marks)                                 | T2 (30 Marks) | Assignments (40 Marks) |  |  |   |  |                                     |           |         |
| BSC          | 230GMAB07_03 | Ordinary Differential Equations and Multivariate Calculus | 2               | 1        | -        | -        | 30  | 30            | 40                     | 100  | -  | -   | -  | -                                   | 100       | 3       |
| PCC          | 230GMEB05_03 | Manufacturing Processes                                   | 2               | -        | -        | -        | 30  | 30            | 40                     | 50   | -  | -   | -  | -                                   | 50        | 2       |
|              | 230GMEB13_03 | Solid Mechanics   | 2               | -        | -        | 2        | 30  | 30            | 40                     | 100  | -  | -   | -  | -                                   | 100       | 2.5     |
|              | 230GMEB07_03 | Engineering Thermodynamics                                | 2               | -        | -        | -        | 30  | 30            | 40                     | 50   | -  | -   | -  | -                                   | 50        | 2       |
| MMC          | -            | Multidisciplinary Minor Course                            | 1               | -        | 2        | -        | -   | -             | -                      | -  | 50   | 50  | 50   | 50                                  | 100       | 2       |
| IOC          | -            | Interdisciplinary Open Course                             | 2               | -        | -        | -        | 30  | 30            | 40                     | 100  | -  | -   | -  | -                                   | 100       | 2       |
| VEC (HSMC)   | 230USYB02_03 | Professional Laws, Ethics, Values and Harmony             | 2               | -        | -        | -        | 30  | 30            | 40                     | 50   | -  | -   | -  | -                                   | 50        | 1       |
| LC           | 230GMEB06_03 | Workshop Practices  | -               | -        | 2        | -        | -   | -             | -                      | -  | 50   | 50  | -  | -                                   | 50        | 1       |
|              | 230GMEB14_03 | Solid Mechanics Lab                                       | -               | -        | 2        | -        | -   | -             | -                      | -  | 50   | 50  | -  | -                                   | 50        | 1       |
|              | 230GMEB08_03 | Engineering Thermodynamics Lab                            | -               | -        | 2        | -        | -   | -             | -                      | -  | 50   | 50  | -  | -                                   | 50        | 1       |
| LLC          | 231UPYB02_03 | Mindfulness and Wellbeing                                 | 1               | -        | -        | 2        | -   | -             | -                      | -  | -  | -   | 50   | -                                   | 50        | 1.5     |
| <b>TOTAL</b> |              |   | <b>14</b>       | <b>1</b> | <b>8</b> | <b>4</b> |   |               |                        |  |  |   |  | <b>750</b>                          | <b>20</b> |         |




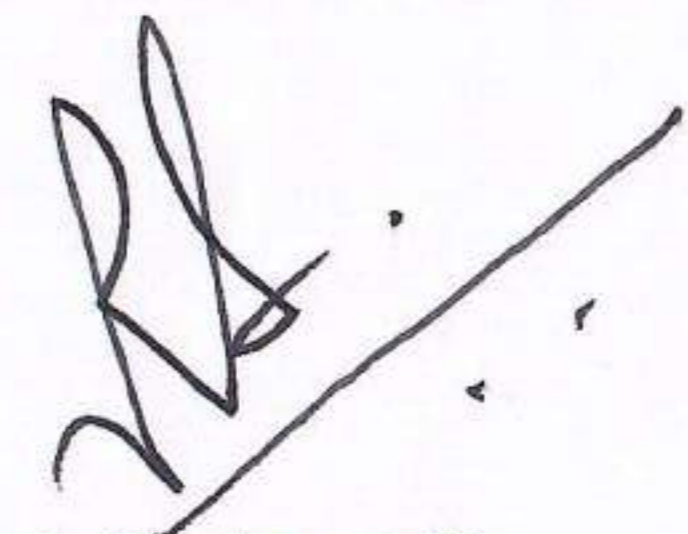
| Multidisciplinary Minor Course (MMC) |              |                                     |               |                                  |              |   |
|--------------------------------------|--------------|-------------------------------------|---------------|----------------------------------|--------------|---|
| Sem.                                 | Course Code  | Course Name                         | Course Code   | Course Name                      | Course Code  | Course Name   |
| III                                  | 230GMTB01_03 | Sensors and Actuators               | 230GCSB116_03 | Data Science and Analytics       | 230GCEB43_03 | Environmental Impact Assessment and Auditing              |
|                                      |              |                                     |               |                                  |              | 230GCSB131_03<br>Basics of AIML                           |
| IV                                   | 230GETB09_04 | Wireless Sensor Network             | 230GCSB122_04 | Business Intelligence            | 230GCEB44_04 | Solid Waste Management                                    |
|                                      |              |                                     |               |                                  |              | 240GCSB111_04<br>Foundations of Artificial Intelligence   |
| V                                    | 230GETB34_05 | Internet of Things and Applications | 230GCSB119_05 | Web Application Development      | 240GCEB37_05 | Smart Transportation System                               |
|                                      |              |                                     |               |                                  |              | 230GCSB115_05<br>Machine Learning with Python             |
| VI                                   | 230GETB36_06 | Microcontroller and Applications    | 230GCSB123_06 | Mobile Application Development   | 240GCEB38_06 | Engineering Geology                                       |
|                                      |              |                                     |               |                                  |              | 240GCSB112_06<br>Foundations of Artificial Neural Network |
| VII                                  | 230GETB41_07 | Introduction to Embedded Systems    | 230GCSB130_07 | Basics of Linux Operating System | 230GCEB40_07 | Sustainable Materials                                     |
|                                      |              |                                     |               |                                  |              | 240GCSB113_07<br>Foundations of Deep Learning             |
| VII                                  | 230GETB40_07 | Electronic Instrumentation          | 230GCSB125_07 | Internet and Cloud Computing     | 230GCEB45_07 | Environmental Quality Monitoring                          |
|                                      |              |                                     |               |                                  |              | 230GCSB136_07<br>Multi Model Learning                     |

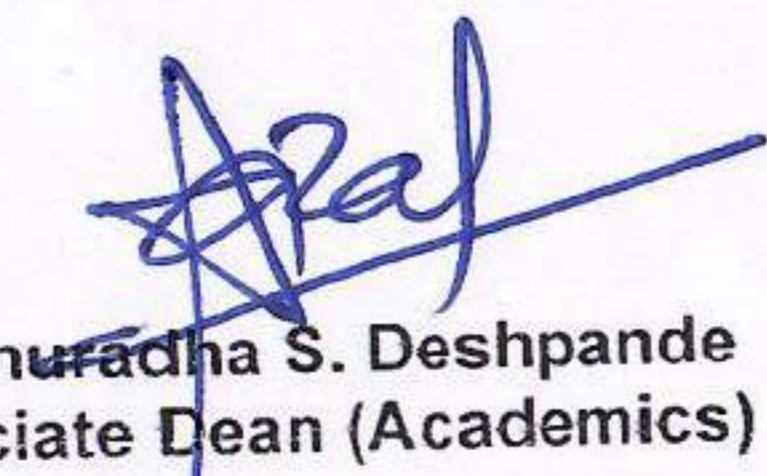


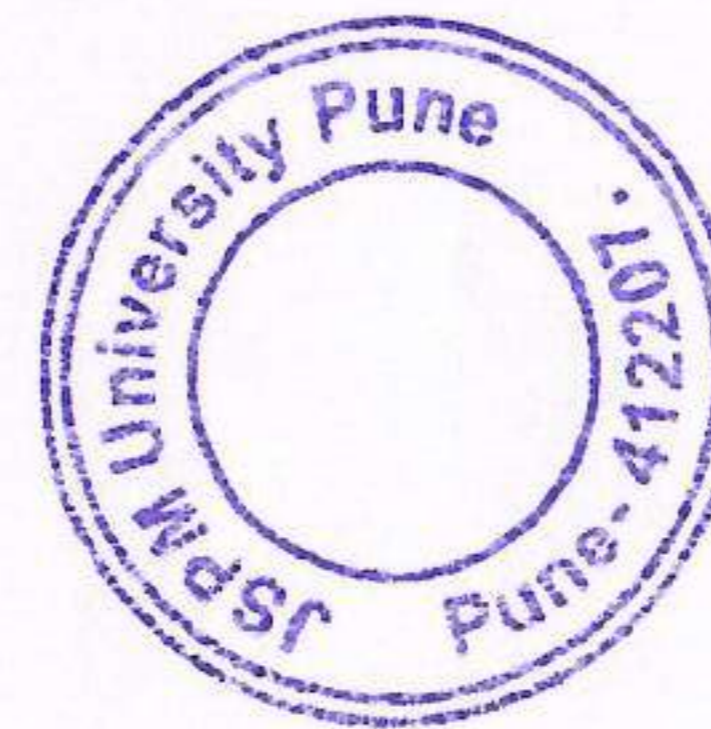
| Interdisciplinary Open Course (IOC) |              |               |              |                          |              |                                       |
|-------------------------------------|--------------|---------------|--------------|--------------------------|--------------|---------------------------------------|
| Sem.                                | Course Code  | Course Name   | Course Code  | Course Name              | Course Code  | Course Name                           |
| III                                 | 230GCEB29_03 | Smart Cities  | 230VBCB04_03 | Basics of Accounting     | 230GCEB31_03 | E-Waste Management                    |
|                                     |              |               |              |                          | 230HFGM25_03 | Intellectual Property                 |
| V                                   | 230GETB33_05 | EV Technology | 230VBCB14_05 | E-Commerce               | 230HFGM29_05 | Hazards and Chemical Safety           |
|                                     |              |               |              |                          | 230HFSB15_05 | Introduction to Microscopy Techniques |
| VII                                 | 230GETB42_07 | Smart Grid    | 230VBBB25_07 | Economics for Management | 230GETB35_07 | Sustainable Energy System             |
|                                     |              |               |              |                          | 240VBBB06_07 | Introduction to Digital Marketing     |
|                                     |              |               |              |                          | 250GBTB01_03 | Bioengineering                        |
|                                     |              |               |              |                          | 230VMSM09_05 | Business Ethics and Sustainability    |
|                                     |              |               |              |                          | 230UPYB34_07 | Psychology at Workplace               |

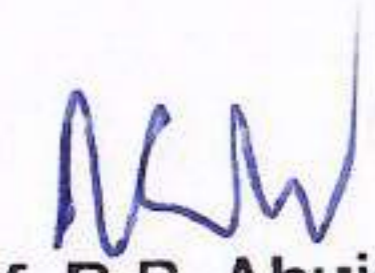
  
**Dr. Sunil Waddar**  
 Programme Coordinator

  
**Prof. P. M. Ambad**  
 Director, School of Mechanical and  
 Manufacturing Sciences

  
**Prof. R. S. Deshpande**  
 Dean, Faculty of Science and Technology

  
**Dr. Anuradha S. Deshpande**  
 Associate Dean (Academics)



  
**Prof. B.B. Ahuja**  
 Vice Chancellor, JSPM University Pune



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FACULTY OF SCIENCE & TECHNOLOGY

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SECOND YEAR BACHELOR OF TECHNOLOGY (Lateral)  
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### SEMESTER III (Level 5)

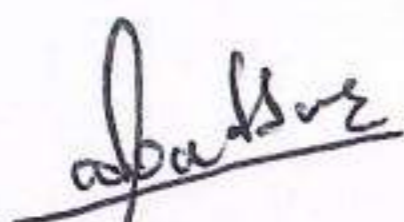
| COURSE       |              | TEACHING SCHEME                        | EXAMINATION SCHEME AND MARKS |          |           |          |  |                  |                           |  |   |  |   |  | TOTAL      | CREDITS   |
|--------------|--------------|--|------------------------------|----------|-----------|----------|--|------------------|---------------------------|--|---|--|---|--|------------|-----------|
| TYPE         | CODE         | COURSE NAME                            | Hours / Week                 |          |           |          | THEORY<br>(Equal Weightage for CIE and ESE)      |                  |                           |  | PRACTICAL<br>(Equal Weightage for CIE and ESE)  |  | ORAL<br>(Equal Weightage for CIE and ESE)       |  |            |           |
|              |              |  | L                            | T        | P         | EL       | CONTINUOUS IN SEMESTER EVALUATION<br>(100 Marks) |                  |                           | END SEMESTER EXAMINATION<br>(100 / 50 Marks) | CONTINUOUS IN SEMESTER EVALUATION<br>(50 Marks) | END SEMESTER EXAMINATION<br>(50 Marks) | CONTINUOUS IN SEMESTER EVALUATION<br>(50 Marks) | END SEMESTER EXAMINATION<br>(50 Marks) |            |           |
|              |              |  |                              |          |           |          | T1<br>(30 Marks)                                 | T2<br>(30 Marks) | Assignments<br>(40 Marks) |  |   |  |   |  |            |           |
| BSC          | 230GMAL01_03 | Linear Algebra and Univariate Calculus | 3                            | 1        | -         | -        | 30   | 30               | 40                        | 100  | -   | -                                      | -   | -                                      | 100        | 4         |
| PCC          | 230GMEB05_03 | Manufacturing Processes                | 2                            | -        | -         | -        | 30   | 30               | 40                        | 50   | -   | -                                      | -   | -                                      | 50         | 2         |
|              | 230GMEB13_03 | Solid Mechanics                        | 2                            | -        | -         | 2        | 30   | 30               | 40                        | 100  | -   | -                                      | -   | -                                      | 100        | 2.5       |
|              | 230GMEB07_03 | Engineering Thermodynamics             | 2                            | -        | -         | -        | 30   | 30               | 40                        | 50   | -   | -                                      | -   | -                                      | 50         | 2         |
| MMC          | -            | Multidisciplinary Minor Course         | 1                            | -        | 2         | -        | -  | -                | -                         | -  | 50  | 50                                     | 50  | 50                                     | 100        | 2         |
| IOC          | -            | Interdisciplinary Open Course          | 2                            | -        | -         | -        | 30   | 30               | 40                        | 100  | -   | -                                      | -   | -                                      | 100        | 2         |
| VSC          | 230IDCB01_03 | Design Thinking and Creativity         | 1                            | -        | -         | 2        | -  | -                | -                         | -  | -   | -                                      | 50  | 50                                     | 50         | 1.5       |
| AEC (HSMC)   | 230UENB01_03 | Effective Communication Skills         | 1                            | -        | 2         | -        | 30   | 30               | 40                        | 50   | -   | -                                      | -   | -                                      | 50         | 2         |
| LC           | 230GMEB06_03 | Workshop Practices                     | -                            | -        | 2         | -        | -  | -                | -                         | -  | 50  | 50                                     | -   | -                                      | 50         | 1         |
|              | 230GMEB14_03 | Solid Mechanics Lab                    | -                            | -        | 2         | -        | -  | -                | -                         | -  | 50  | 50                                     | -   | -                                      | 50         | 1         |
|              | 230GMEB08_03 | Engineering Thermodynamics Lab         | -                            | -        | 2         | -        | -  | -                | -                         | -  | 50  | 50                                     | -   | -                                      | 50         | 1         |
| <b>TOTAL</b> |              |  | <b>14</b>                    | <b>1</b> | <b>10</b> | <b>4</b> |  |                  |                           |  |   |  |   |  | <b>750</b> | <b>21</b> |




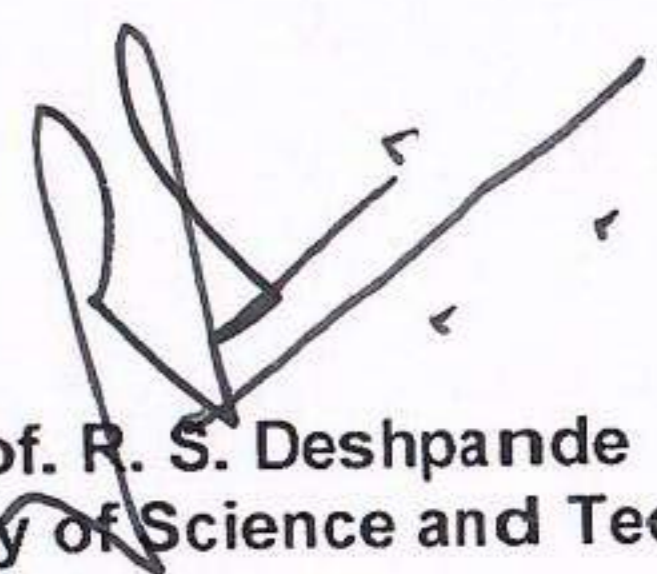
| Sem. | Multidisciplinary Minor Course (MMC) |                                     |                                  |  |  |
|------|--------------------------------------|-------------------------------------|----------------------------------|--|--|
| III  | Course Code                          | 230GMTB01_03                        | 230GCSB116_03                    | 230GCEB43_03                                 | 230GCSB131_03                            |
|      | Course Name                          | Sensors and Actuators               | Data Science and Analytics       | Environmental Impact Assessment and Auditing | Basics of AIML                           |
| IV   | Course Code                          | 230GETB09_04                        | 230GCSB122_04                    | 230GCEB44_04                                 | 240GCSB111_04                            |
|      | Course Name                          | Wireless Sensor Network             | Business Intelligence            | Solid Waste Management                       | Foundations of Artificial Intelligence   |
| V    | Course Code                          | 230GETB34_05                        | 230GCSB119_05                    | 240GCEB37_05                                 | 230GCSB115_05                            |
|      | Course Name                          | Internet of Things and Applications | Web Application Development      | Smart Transportation System                  | Machine Learning with Python             |
| VI   | Course Code                          | 230GETB36_06                        | 230GCSB123_06                    | 240GCEB38_06                                 | 240GCSB112_06                            |
|      | Course Name                          | Microcontroller and Applications    | Mobile Application Development   | Engineering Geology                          | Foundations of Artificial Neural Network |
| VII  | Course Code                          | 230GETB41_07                        | 230GCSB130_07                    | 230GCEB40_07                                 | 240GCSB113_07                            |
|      | Course Name                          | Introduction to Embedded Systems    | Basics of Linux Operating System | Sustainable Materials                        | Foundations of Deep Learning             |
| VII  | Course Code                          | 230GETB40_07                        | 230GCSB125_07                    | 230GCEB45_07                                 | 230GCSB136_07                            |
|      | Course Name                          | Electronic Instrumentation          | Internet and Cloud Computing     | Environmental Quality Monitoring             | Multi Model Learning                     |

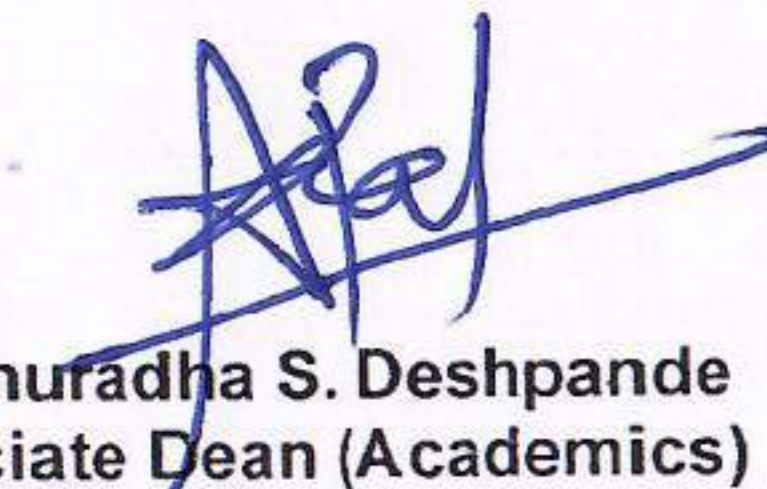


| Sem. | Interdisciplinary Open Course (IOC) |               |                          |                             |                                       |                                    |
|------|-------------------------------------|---------------|--------------------------|-----------------------------|---------------------------------------|------------------------------------|
| III  | Course Code                         | 230GCEB29_03  | 230VBCB04_03             | 230GCEB31_03                | 230HFGM25_03                          | 250GBTB01_03                       |
|      | Course Name                         | Smart Cities  | Basics of Accounting     | E-Waste Management          | Intellectual Property                 | Bioengineering                     |
| V    | Course Code                         | 230GETB33_05  | 230VBCB14_05             | 230HFGM29_05                | 230HFSB15_05                          | 230VMSM09_05                       |
|      | Course Name                         | EV Technology | E-Commerce               | Hazards and Chemical Safety | Introduction to Microscopy Techniques | Business Ethics and Sustainability |
| VII  | Course Code                         | 230GETB42_07  | 230VBBB25_07             | 230GETB35_07                | 240VBBB06_07                          | 230UPYB34_07                       |
|      | Course Name                         | Smart Grid    | Economics for Management | Sustainable Energy System   | Introduction to Digital Marketing     | Psychology at Workplace            |


  
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## SEMESTER IV (Level 5)

| TYPE                | CODE         | COURSE NAME   | TEACHING SCHEME |                  |                  |                           | EXAMINATION SCHEME AND MARKS                     |    |    |  |   |  |   |  | TOTAL      | CREDITS   |   |
|---------------------|--------------|---|-----------------|------------------|------------------|---------------------------|--|----|----|--|---|--|---|--|------------|-----------|---|
|                     |              |   | Hours / Week    |                  |                  |                           | THEORY<br>(Equal Weightage for CIE and ESE)      |    |    |  | PRACTICAL<br>(Equal Weightage for CIE and ESE)  |  | ORAL<br>(Equal Weightage for CIE and ESE)       |  |            |           |   |
|                     |              |   | L               | T                | P                | EL                        | CONTINUOUS IN SEMESTER EVALUATION<br>(100 Marks) |    |    | END SEMESTER EXAMINATION<br>(100 / 50 Marks) | CONTINUOUS IN SEMESTER EVALUATION<br>(50 Marks) | END SEMESTER EXAMINATION<br>(50 Marks) | CONTINUOUS IN SEMESTER EVALUATION<br>(50 Marks) | END SEMESTER EXAMINATION<br>(50 Marks) |            |           |   |
|                     |              |   |                 | T1<br>(30 Marks) | T2<br>(30 Marks) | Assignments<br>(40 Marks) |  |    |    |  |   |  |   |  |            |           |   |
| BSC                 | 230GMAB08_04 | Vector Calculus and Partial Differential Equations      | 2               | 1                | -                | -                         | 30   | 30 | 40 | 100  | -   | -                                      | -   | -                                      | 100        | 3         |   |
| PCC                 | 230GMEB15_04 | Fluid Mechanics   | 2               | -                | -                | 2                         | 30   | 30 | 40 | 100  | -   | -                                      | -   | -                                      | 100        | 2.5       |   |
|                     | 230GMEB09_04 | Kinematics of Mechanisms and Machines                   | 2               | -                | -                | -                         | 25   |    |    | 75   | -   | -                                      | -   | -                                      | 50         | 2         |   |
|                     | 230GMEB10_04 | Mechanical Measurements and Metrology                   | 2               | -                | -                | 2                         | 30   | 30 | 40 | 100  | -   | -                                      | -   | -                                      | 100        | 2.5       |   |
| MMC                 | -            | Multidisciplinary Minor Course                          | 1               | -                | 2                | -                         | -  | -  | -  | -  | 50  | 50                                     | 50  | 50                                     | 100        | 2         |   |
| EEC                 | 231GCEB02_04 | Environment and Sustainability                          | 2               | -                | -                | -                         | 30   | 30 | 40 | 50   | -   | -                                      | -   | -                                      | 50         | 2         |   |
| SEC                 | 230GMEB11_04 | Machine Drawing   | 2               | -                | 2                | -                         | -  | -  | -  | -  | 50  | 50                                     | 50  | 50                                     | 100        | 3         |   |
| AEC<br>(HSMC)       | 230UENB02_04 | Communicative Proficiency Skills                        | 1               | -                | 2                | -                         | 30   | 30 | 40 | 50   | -   | -                                      | -   | -                                      | 50         | 2         |   |
| LC                  | 230GMEB17_04 | Theory of Machines Lab                                  | -               | -                | 2                | -                         | -  | -  | -  | -  | 50  | 50                                     | -   | -                                      | 50         | 1         |   |
| IITP/<br>FP/C<br>EP | 230GMEB12_04 | Internship/Field Project/Community Engagement Programme | 4 to 6 Weeks    |                  |                  |                           | -  | -  | -  | -  | -   | -                                      | -   | 50                                     | 50         | 50        | 2 |
| <b>TOTAL</b>        |              |   | <b>14</b>       | <b>1</b>         | <b>8</b>         | <b>4</b>                  |  |    |    |  |   |  |   |  | <b>750</b> | <b>22</b> |   |
| MLC#                | -            | Audit Course  | -               | -                | 2                | -                         | -  | -  | -  | -  | -   | -                                      | -   | 50                                     | -          | 50        | 1 |



| Sem. | Multidisciplinary Minor Course (MMC) |                                     |                                  |  |  |
|------|--------------------------------------|-------------------------------------|----------------------------------|--|--|
| III  | Course Code                          | 230GMTB01_03                        | 230GCSB116_03                    | 230GCEB43_03                                 | 230GCSB131_03                            |
|      | Course Name                          | Sensors and Actuators               | Data Science and Analytics       | Environmental Impact Assessment and Auditing | Basics of AIML                           |
| IV   | Course Code                          | 230GETB09_04                        | 230GCSB122_04                    | 230GCEB44_04                                 | 240GCSB111_04                            |
|      | Course Name                          | Wireless Sensor Network             | Business Intelligence            | Solid Waste Management                       | Foundations of Artificial Intelligence   |
| V    | Course Code                          | 230GETB34_05                        | 230GCSB119_05                    | 240GCEB37_05                                 | 230GCSB115_05                            |
|      | Course Name                          | Internet of Things and Applications | Web Application Development      | Smart Transportation System                  | Machine Learning with Python             |
| VI   | Course Code                          | 230GETB36_06                        | 230GCSB123_06                    | 240GCEB38_06                                 | 240GCSB112_06                            |
|      | Course Name                          | Microcontroller and Applications    | Mobile Application Development   | Engineering Geology                          | Foundations of Artificial Neural Network |
| VII  | Course Code                          | 230GETB41_07                        | 230GCSB130_07                    | 230GCEB40_07                                 | 240GCSB113_07                            |
|      | Course Name                          | Introduction to Embedded Systems    | Basics of Linux Operating System | Sustainable Materials                        | Foundations of Deep Learning             |
| VII  | Course Code                          | 230GETB40_07                        | 230GCSB125_07                    | 230GCEB45_07                                 | 230GCSB136_07                            |
|      | Course Name                          | Electronic Instrumentation          | Internet and Cloud Computing     | Environmental Quality Monitoring             | Multi Model Learning                     |

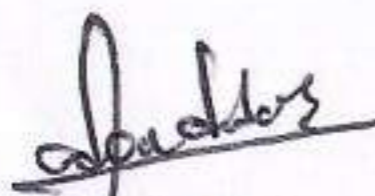



| Sem. | Mandatory Learning Course (MLC#) Audit Course |  |
|------|---|--|
| IV   | Course Code                                   | 230GMEB98_04                             |
|      | Course Name                                   | Advanced Excel                           |
| V    | Course Code                                   | 230GMEB97_05                             |
|      | Course Name                                   | Data Analytics with Tableau and Power BI |
| VI   | Course Code                                   | 230GMEB99_06                             |
|      | Course Name                                   | Structured Query Language                |
| VII  | Course Code                                   | 230UPOB02_07                             |
|      | Course Name                                   | Introduction to Indian Constitution      |

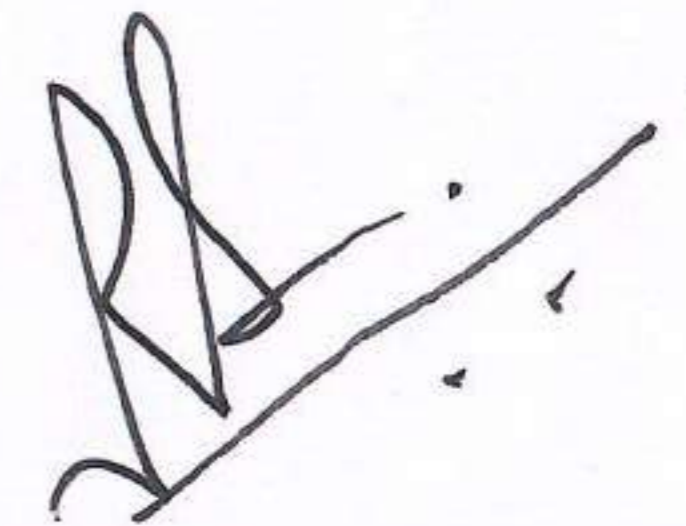
**Note:** A **Diploma** will be awarded if a student exits after second year.

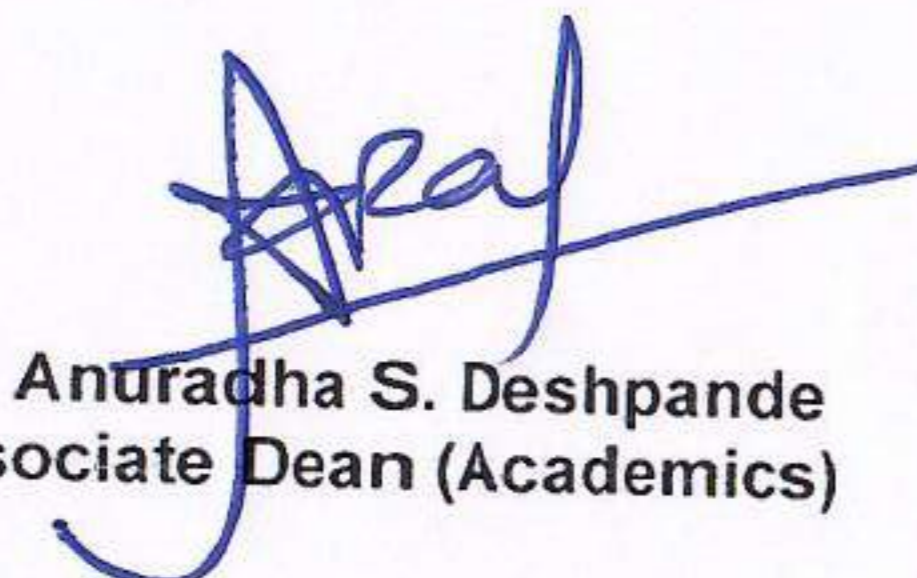
For "Exit" at the end of Second Year the student must complete: (Total credits = 8).

- An internship / OJT of 8 - 10 weeks (4 credits) over and above semester 2 internship of minimum 4 weeks.
- Additional Course 1 (4 credits) (Vocational Skill Course (VSC) or Skill Enhancement Course (SEC)).


  
**Dr. Sunil Waddar**  
 Programme Coordinator

  
**Prof. P. M. Ambad**  
 Director, School of Mechanical and  
 Manufacturing Sciences

  
**Dr. R. S. Deshpande**  
 Dean, Faculty of Science and Technology

  
**Dr. Anuradha S. Deshpande**  
 Associate Dean (Academics)



  
**Prof. B.B. Ahuja**  
 Vice Chancellor, JSPM University Pune



# JSPM University Pune

FACULTY OF SCIENCE & TECHNOLOGY

SCHOOL OF MECHANICAL AND MANUFACTURING SCIENCES

COURSE STRUCTURE  
(NEP 2020 Aligned)

W. E. F

2024-2025

RELEASE DATE

01/07/2025

SECOND YEAR BACHELOR OF TECHNOLOGY (Lateral)  
(Mechanical Engineering with Specialization in AI and ML)

REVISION NO.

1.0 (NEP)

## SEMESTER IV (Level 5)

| TYPE         | CODE         | COURSE NAME   | TEACHING SCHEME |          |          |          | EXAMINATION SCHEME AND MARKS                  |               |                        |   |  |                                     |  |                                     | TOTAL      | CREDITS   |   |
|--------------|--------------|---|-----------------|----------|----------|----------|---|---------------|------------------------|---|--|-------------------------------------|--|-------------------------------------|------------|-----------|---|
|              |              |   | Hours / Week    |          |          |          | THEORY<br>(Equal Weightage for CIE and ESE)   |               |                        |   | PRACTICAL<br>(Equal Weightage for CIE and ESE) |                                     | ORAL<br>(Equal Weightage for CIE and ESE)    |                                     |            |           |   |
|              |              |   | L               | T        | P        | EL       | CONTINUOUS IN SEMESTER EVALUATION (100 Marks) |               |                        | END SEMESTER EXAMINATION (100 / 50 Marks) | CONTINUOUS IN SEMESTER EVALUATION (50 Marks)   | END SEMESTER EXAMINATION (50 Marks) | CONTINUOUS IN SEMESTER EVALUATION (50 Marks) | END SEMESTER EXAMINATION (50 Marks) |            |           |   |
|              |              |   |                 |          |          |          | T1 (30 Marks)                                 | T2 (30 Marks) | Assignments (40 Marks) |   |  |                                     |  |                                     |            |           |   |
| BSC          | 230GMAL02_04 | Multivariate Calculus and differential Equations        | 3               | 1        | -        | -        | 30  | 30            | 40                     | 100                                       | -  | -                                   | -  | -                                   | 100        | 4         |   |
| PCC          | 230GMEB15_04 | Fluid Mechanics   | 2               | -        | -        | 2        | 30  | 30            | 40                     | 100                                       | -  | -                                   | -  | -                                   | 100        | 2.5       |   |
|              | 230GMEB09_04 | Kinematics of Mechanisms and Machines                   | 2               | -        | -        | -        | 25  |               |                        | 75  | -  | -                                   | -  | -                                   | 50         | 2         |   |
|              | 230GMEB10_04 | Mechanical Measurements and Metrology                   | 2               | -        | -        | 2        | 30  | 30            | 40                     | 100                                       | -  | -                                   | -  | -                                   | 100        | 2.5       |   |
| MMC          | -            | Multidisciplinary Minor Course                          | 1               | -        | 2        | -        | -   | -             | -                      | -   | 50   | 50                                  | 50   | 50                                  | 100        | 2         |   |
| EEC          | 231GCEB02_04 | Environment and Sustainability                          | 2               | -        | -        | -        | 30  | 30            | 40                     | 50  | -  | -                                   | -  | -                                   | 50         | 2         |   |
| SEC          | 230GMEB11_04 | Machine Drawing   | 2               | -        | 2        | -        | -   | -             | -                      | -   | 50   | 50                                  | 50   | 50                                  | 100        | 3         |   |
| AEC (HSMC)   | 230UENB02_04 | Communicative Proficiency Skills                        | 1               | -        | 2        | -        | 30  | 30            | 40                     | 50  | -  | -                                   | -  | -                                   | 50         | 2         |   |
| LC           | 230GMEB17_04 | Theory of Machines Lab                                  | -               | -        | 2        | -        | -   | -             | -                      | -   | 50   | 50                                  | -  | -                                   | 50         | 1         |   |
| IITP/FP/CEP  | 230GMEB12_04 | Internship/Field Project/Community Engagement Programme | 4 to 6 Weeks    |          |          |          | -   | -             | -                      | -   | -  | -                                   | -  | 50                                  | 50         | 50        | 2 |
| <b>TOTAL</b> |              |   | <b>15</b>       | <b>1</b> | <b>8</b> | <b>4</b> |   |               |                        |   |  |                                     |  |                                     | <b>750</b> | <b>23</b> |   |
| MLC#         | -            | Audit Course  | -               | -        | 2        | -        | -   | -             | -                      | -   | -  | -                                   | 50   | -                                   | 50         | 1         |   |

L-Lecture  
Format No.: JSPMUni/ACAD/001

T-Tutorial  
Rev. No.:1.0

P-Practical Session (Laboratory)  
Rev. Date:01/07/2025

EL-Experiential Learning  
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| Sem. | Multidisciplinary Minor Course (MMC) |                                     |                                  |  |  |
|------|--------------------------------------|-------------------------------------|----------------------------------|--|--|
| III  | Course Code                          | 230GMTB01_03                        | 230GCSB116_03                    | 230GCEB43_03                                 | 230GCSB131_03                            |
|      | Course Name                          | Sensors and Actuators               | Data Science and Analytics       | Environmental Impact Assessment and Auditing | Basics of AIML                           |
| IV   | Course Code                          | 230GETB09_04                        | 230GCSB122_04                    | 230GCEB44_04                                 | 240GCSB111_04                            |
|      | Course Name                          | Wireless Sensor Network             | Business Intelligence            | Solid Waste Management                       | Foundations of Artificial Intelligence   |
| V    | Course Code                          | 230GETB34_05                        | 230GCSB119_05                    | 240GCEB37_05                                 | 230GCSB115_05                            |
|      | Course Name                          | Internet of Things and Applications | Web Application Development      | Smart Transportation System                  | Machine Learning with Python             |
| VI   | Course Code                          | 230GETB36_06                        | 230GCSB123_06                    | 240GCEB38_06                                 | 240GCSB112_06                            |
|      | Course Name                          | Microcontroller and Applications    | Mobile Application Development   | Engineering Geology                          | Foundations of Artificial Neural Network |
| VII  | Course Code                          | 230GETB41_07                        | 230GCSB130_07                    | 230GCEB40_07                                 | 240GCSB113_07                            |
|      | Course Name                          | Introduction to Embedded Systems    | Basics of Linux Operating System | Sustainable Materials                        | Foundations of Deep Learning             |
| VII  | Course Code                          | 230GETB40_07                        | 230GCSB125_07                    | 230GCEB45_07                                 | 230GCSB136_07                            |
|      | Course Name                          | Electronic Instrumentation          | Internet and Cloud Computing     | Environmental Quality Monitoring             | Multi Model Learning                     |

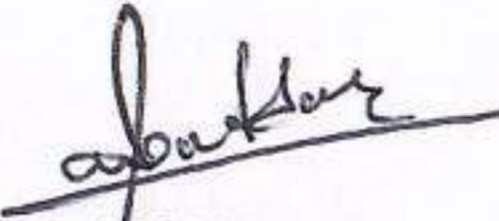



| Sem. | Mandatory Learning Course (MLC#) Audit Course |  |
|------|---|--|
| IV   | Course Code                                   | 230GMEB98_04                             |
|      | Course Name                                   | Advanced Excel                           |
| V    | Course Code                                   | 230GMEB97_05                             |
|      | Course Name                                   | Data Analytics with Tableau and Power BI |
| VI   | Course Code                                   | 230GMEB99_06                             |
|      | Course Name                                   | Structured Query Language                |
| VII  | Course Code                                   | 230UPOB02_07                             |
|      | Course Name                                   | Introduction to Indian Constitution      |

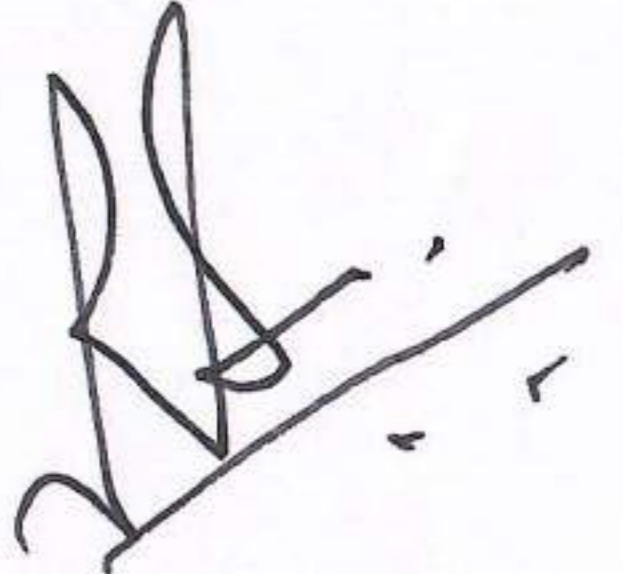
Note: A **Diploma** will be awarded if a student exits after second year.

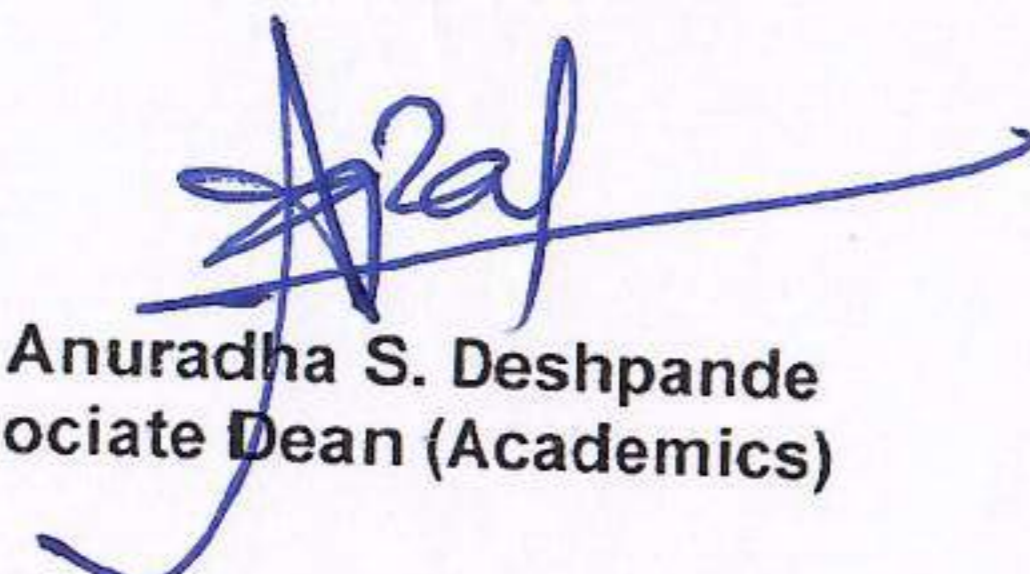
For "Exit" at the end of Second Year the student must complete: (Total credits = 8).

- An internship / OJT of 8 - 10 weeks (4 credits) over and above semester 2 internship of minimum 4 weeks.
- Additional Course 1 (4 credits) (Vocational Skill Course (VSC) or Skill Enhancement Course (SEC)).


  
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