



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 Computer Science and Engineering (DATA SCIENCE)

Annexure – I

CREDIT FRAMEWORK STRUCTURE

| Semester | | I | II | III | IV | V | VI | VII | VIII | Total Credits |
|--|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------------|
| Basic Science Course | BSC/ESC | 7 | 7 | | | | | | | 14 |
| Engineering Science Course | | 6 | 6 | | | | | | | 12 |
| Program Core Course (PCC) | Program Courses | 2 | 2 | 13 | 10 | 7 | 4 | 6 | | 44 |
| Program Elective Course (PEC) | | | | | | 4 | 6 | 6 | 4 | 20 |
| Multidisciplinary Minor (MDM) | Multidisciplinary Courses | | | 2 | 3 | 3 | 3 | 3 | | 14 |
| Open Elective (OE) Other than a particular program | | | | | | 2 | 3 | 3 | | 08 |
| Vocational and Skill Enhancement Course (VSEC) | Skill Courses | | 2 | 1 | 1 | 2 | 2 | | | 08 |
| Ability Enhancement Course (AEC -01, AEC-02) | Humanities Social Science and Management (HSSM) | 1 | 1 | | | 2 | | | | 04 |
| Entrepreneurship/Economics/Management Courses | | | | 2 | 2 | | | | | 04 |
| Indian Knowledge System (IKS) | | | 2 | | | | | | | 02 |
| Value Education Course (VEC) | | | | 2 | 2 | | | | | 04 |
| Research Methodology | Experiential Learning Courses | | | | | | | | 4 | 04 |
| Comm. Engg. Project (CEP)/ Field Project (FP) | | | | | 2 | | | | | 02 |
| Project | | | | | | | 2 | 2 | | 04 |
| Internship/OJT | | | | | | | | | 12 | 12 |
| Co-curricular Courses (CC) | Liberal Learning Courses | 2 | 2 | | | | | | | 04 |
| Total Credits (Major) | | 20 | 160 |

| | | | | |
|----------------|------------------|-----------------|---------|---------------------------|
| | | July 2025 | 3.0 | Applicable for 2025-26 |
| Chairman - BoS | Dean – Academics | Date of Release | Version | |



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 Computer Science and Engineering (DATA SCIENCE)

GROUP I : SEMESTER I

| Sr No | Course Category | CourseCode | Course Title | Hours per Week | | | Credits | Maximum Marks | | | | Minimum Passing Marks | Duration of ESE |
|--------------|-----------------|------------|-------------------------------------|----------------|----------|-----------|-----------|---------------------|----------------------|---------------------|------------|-----------------------|-----------------|
| | | | | L | T | P | | Mid-Sem Examination | Continual Assessment | End Sem Examination | Total | | |
| 1. | BSC | 25DS101T | Engineering Chemistry | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 2. | BSC | 25DS101P | Engineering Chemistry Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 3. | BSC | 25DS102T | Linear Algebra and Calculus | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 4. | BSC | 25DS102T | Linear Algebra and Calculus Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 5. | ESC | 25DS103T | Logic building using C | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 6. | ESC | 25DS103P | Logic building using C Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 7. | ESC | 25DS104T | Digital Electronics | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 8. | ESC | 25DS104P | Digital Electronics Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 9. | PCC | 25DS105P | Data Science workshop – I | - | - | 4 | 2 | - | 25 | 25 | 50 | 25 | - |
| 10. | AEC | 25DS106P | Business Communication Skills I Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 11. | IKS | 25DS107T | Indian Knowledge Systems | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 12. | CC | 25DS108T | Co-curricular Courses - I | 2 | | | 2 | - | 50 | - | 50 | 25 | - |
| Total | | | | 13 | 0 | 14 | 20 | 60 | 260 | 330 | 650 | 312 | |

| | | | | |
|----------------|------------------|-----------------|---------|---------------------------|
| | | July 2025 | 3.0 | Applicable for 2025-26 |
| Chairman - BoS | Dean – Academics | Date of Release | Version | |



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 Computer Science and Engineering (DATA SCIENCE)

GROUP I : SEMESTER II

| Sr No | Course Category | CourseCode | Course Title | Hours per Week | | | Credits | Maximum Marks | | | | Minimum Passing Marks | Duration of ESE |
|--------------|-----------------|------------|---|----------------|----------|-----------|-----------|---------------------|----------------------|---------------------|------------|-----------------------|-----------------|
| | | | | L | T | P | | Mid-Sem Examination | Continual Assessment | End Sem Examination | Total | | |
| 1. | BSC | 25DS201T | Engineering Physics and Materials Science | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 2. | BSC | 25DS201P | Engineering Physics and Materials Science Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 3. | BSC | 25DS202T | Statistics and Probability | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 4. | BSC | 25DS202T | Statistics and Probability Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 5. | ESC | 25DS203T | Data Structures | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 6. | ESC | 25DS203P | Data Structures Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 7. | ESC | 25DS204T | Introduction to Data Science | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 8. | PCC | 25DS205P | Data Science workshop – II | - | - | 4 | 2 | - | 25 | 25 | 50 | 25 | - |
| 9. | AEC | 25DS206P | Business Communication Skills – II Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 10. | SEC | 25DS207T | Design Thinking | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 11. | CC | 25DS208T | Co-curricular Courses – II | 2 | - | - | 2 | - | 50 | - | 50 | 25 | - |
| Total | | | | 14 | 0 | 12 | 20 | 70 | 245 | 335 | 650 | 308 | |

| | | | | |
|----------------|------------------|-----------------|---------|---------------------------|
| | | July 2025 | 3.0 | Applicable for 2025-26 |
| Chairman - BoS | Dean – Academics | Date of Release | Version | |



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 Computer Science and Engineering (DATA SCIENCE)

SEMESTER III

| Sr No | Course Category | CourseCode | Course Title | Hours per Week | | | Credits | Maximum Marks | | | | Minimum Passing Marks | Duration of ESE |
|--------------|-----------------|------------|---|----------------|----------|-----------|-----------|---------------------|----------------------|---------------------|------------|-----------------------|-----------------|
| | | | | L | T | P | | Mid-Sem Examination | Continual Assessment | End Sem Examination | Total | | |
| 1. | PCC | 25DS301T | Mathematics for Data Science | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 2. | PCC | 25DS302T | Computer Architecture & Organization | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 3. | PCC | 25DS303T | Database Management Systems | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 4. | PCC | 25DS303P | Database Management Systems Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 5. | PCC | 25DS304P | Data Acquisition & Internet of Things Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 6. | PCC | 25DS305P | Web Technology Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 7. | PCC | 25DS306T | Data Science Workshop – III | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 8. | VEC | 25ES301T | Constitution of India | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 9. | HSSM | 25ES302T | Fundamentals of Entrepreneurship | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 10. | SEC | 25DS341P | Career Development I | - | - | 2 | 1 | - | 50 | - | 50 | 25 | - |
| 11. | MDM | 25DS331M | MDM-I (Refer MDM basket) | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| Total | | | | 15 | 0 | 10 | 20 | 90 | 240 | 370 | 700 | 329 | |

| | | | | |
|----------------|------------------|-----------------|---------|---------------------------|
| | | July 2025 | 3.0 | Applicable for 2025-26 |
| Chairman - BoS | Dean – Academics | Date of Release | Version | |



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 Computer Science and Engineering (DATA SCIENCE)

SEMESTER IV

| Sr No | Course Category | CourseCode | Course Title | Hours per Week | | | Credits | Maximum Marks | | | | Minimum Passing Marks | Duration of ESE |
|--------------|-----------------|------------|--|----------------|----------|-----------|-----------|---------------------|----------------------|---------------------|------------|-----------------------|-----------------|
| | | | | L | T | P | | Mid-Sem Examination | Continual Assessment | End Sem Examination | Total | | |
| 1. | PCC | 25DS401T | Analysis of Algorithms | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 2. | PCC | 25DS401P | Analysis of Algorithms Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | |
| 3. | PCC | 25DS402T | Object Oriented Programming | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 4. | PCC | 25DS402P | Object Oriented Programming Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | |
| 5. | PCC | 25DS403P | Data Handling & Visualization Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | |
| 6. | PCC | 25DS404P | Data Science Workshop – IV | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | |
| 7. | VEC | 25ES401T | Environmental Science | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 8. | HSSM | 25ES402T | Fundamentals of Economics and Management | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 9. | SEC | 25DS441P | Career Development - II | - | - | 2 | 1 | - | 50 | - | 50 | 25 | - |
| 10. | CEP | 25DS405P | Mini Project* | - | - | 4 | 2 | - | 50 | - | 50 | 25 | - |
| 11. | MDM | 25DS431M | MDM-II (Refer MDM basket) | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| Total | | | | 13 | 0 | 14 | 20 | 80 | 280 | 340 | 700 | 331 | |

* Field Project or Community engagement project in the major discipline

| | | | | |
|----------------|------------------|-----------------|---------|---------------------------|
| | | July 2025 | 3.0 | Applicable for 2025-26 |
| Chairman - BoS | Dean – Academics | Date of Release | Version | |



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 Computer Science and Engineering (DATA SCIENCE)

SEMESTER V

| Sr No | Course Category | CourseCode | Course Title | Hours per Week | | | Credits | Maximum Marks | | | | Minimum Passing Marks | Duration of ESE |
|--------------|-----------------|------------|-------------------------------------|----------------|---|-----------|-----------|---------------------|----------------------|---------------------|------------|-----------------------|-----------------|
| | | | | L | T | P | | Mid-Sem Examination | Continual Assessment | End Sem Examination | Total | | |
| 1. | PCC | 25DS501T | Operating Systems | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 2. | PCC | 25DS502T | Machine Learning | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 3. | PCC | 25DS502P | Machine Learning Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 4. | PEC | 25DS503T | Professional Elective - I | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 5. | PEC | 25DS503P | Professional Elective – I Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 6. | PEC | 25DS504P | Professional Elective – II Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 7. | PCC | 25DS505P | Data Science Workshop – V | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 8. | VSC | 25DS506P | Technical Skill Development - I | - | - | 4 | 2 | - | 50 | - | 50 | 25 | - |
| 9. | AEC | 25DS541P | English for Engineers | - | - | 4 | 2 | - | 50 | - | 50 | 25 | - |
| 10. | MDM | 25DS531M | MDM – III (Refer MDM basket) | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 11. | OE | 25DS561O | Open Elective – I (Refer OE basket) | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| Total | | | | 12 | | 16 | 20 | 70 | 270 | 310 | 650 | 309 | |

| | | | | |
|----------------|------------------|-----------------|---------|---------------------------|
| | | July 2025 | 3.0 | Applicable for 2025-26 |
| Chairman - BoS | Dean – Academics | Date of Release | Version | |



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 Computer Science and Engineering (DATA SCIENCE)

SEMESTER VI

| Sr No | Course Category | CourseCode | Course Title | Hours per Week | | | Credits | Maximum Marks | | | | Minimum Passing Marks | Duration of ESE |
|--------------|-----------------|------------|--------------------------------------|----------------|----------|-----------|-----------|---------------------|----------------------|---------------------|------------|-----------------------|-----------------|
| | | | | L | T | P | | Mid-Sem Examination | Continual Assessment | End Sem Examination | Total | | |
| 1. | PCC | 25DS601T | Deep Learning | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 2. | PCC | 25DS601T | Deep Learning Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 3. | PEC | 25DS602T | Professional Elective - III | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 4. | PEC | 25DS603P | Professional Elective – IV Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 5. | PEC | 25DS604P | Professional Elective – V Lab | - | - | 4 | 2 | - | 25 | 25 | 50 | 25 | - |
| 6. | VSC | 25DS605P | Technical Skill Development -II | - | - | 4 | 2 | - | 50 | - | 50 | 25 | - |
| 7. | PROJ | 25DS606P | Project - I | - | - | 4 | 2 | - | 50 | 50 | 100 | 50 | - |
| 8. | MDM | 25DS631M | MDM – IV (Refer MDM basket) | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 9. | OE | 25DS661O | Open Elective – II (Refer OE basket) | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| Total | | | | 12 | 0 | 16 | 20 | 80 | 255 | 365 | 700 | 330 | |

| | | | | |
|----------------|------------------|-----------------|---------|---------------------------|
| | | July 2025 | 3.0 | Applicable for 2025-26 |
| Chairman - BoS | Dean – Academics | Date of Release | Version | |



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 Computer Science and Engineering (DATA SCIENCE)

SEMESTER VII

| Sr No | Course Category | CourseCode | Course Title | Hours per Week | | | Credits | Maximum Marks | | | | Minimum Passing Marks | Duration |
|--------------|-----------------|------------|--|----------------|----------|-----------|-----------|---------------------|----------------------|---------------------|------------|-----------------------|----------|
| | | | | L | T | P | | Mid-Sem Examination | Continual Assessment | End Sem Examination | Total | | |
| 1. | PCC | 25DS701T | Theory of Computation | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 2. | PEC | 25DS702T | Professional Elective - V | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 3. | PEC | 25DS702P | Professional Elective - V Lab | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 4. | PEC | 25DS703T | Professional Elective - VI | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 5. | PCC | 25DS704P | Cloud-Based Data Science & DevOps for ML Lab | - | - | 4 | 2 | - | 25 | 25 | 50 | 25 | - |
| 6. | PCC | 25DS705P | Data Science Workshop – VII | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | - |
| 7. | PROJ | 25DS706P | Project - II | - | - | 4 | 2 | - | 50 | 50 | 100 | 50 | - |
| 8. | MDM | 25DS731M | MDM – V (Refer MDM basket) | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 9. | OE | 25DS761O | Open Elective – III (Refer OE basket) | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| Total | | | | 14 | 0 | 12 | 20 | 90 | 215 | 395 | 700 | 328 | |

| | | | | |
|----------------|------------------|-----------------|---------|---------------------------|
| | | July 2025 | 3.0 | Applicable for 2025-26 |
| Chairman - BoS | Dean – Academics | Date of Release | Version | |



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 Computer Science and Engineering (DATA SCIENCE)

SEMESTER VIII

Option A

| Sr No | Course Category | CourseCode | Course Title | Hours per Week | | | Credits | Maximum Marks | | | | Minimum Passing Marks | Duration |
|--------------|-----------------|-------------|--|----------------|----------|-----------|-----------|---------------------|----------------------|---------------------|------------|-----------------------|----------|
| | | | | L | T | P | | Mid-Sem Examination | Continual Assessment | End Sem Examination | Total | | |
| 1. | RM | 25ES801T | Research Methodology [#] | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 2. | RM | 25ES801T | Big Data Research Lab | - | - | 4 | 2 | - | 25 | 25 | 50 | 25 | |
| 3. | PEC | 25DS802T | Professional Elective-VII [#] | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 4. | PEC | 25DS802P | Professional Elective-VII Lab [#] | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | |
| 5. | OJT | 25DS803P(i) | Industry/Research Internship* | - | - | 24 | 12 | - | 300 | 100 | 400 | 200 | |
| Total | | | | 5 | 0 | 30 | 20 | 30 | 380 | 240 | 650 | 318 | |

Option B

| Sr No | Course Category | CourseCode | Course Title | Hours per Week | | | Credits | Maximum Marks | | | | Minimum Passing Marks | Duration |
|--------------|-----------------|-------------|---|----------------|----------|-----------|-----------|---------------------|----------------------|---------------------|------------|-----------------------|----------|
| | | | | L | T | P | | Mid-Sem Examination | Continual Assessment | End Sem Examination | Total | | |
| 6. | RM | 25ES801T | Research Methodology [#] | 2 | - | - | 2 | 10 | 10 | 30 | 50 | 23 | 1.5 |
| 7. | RM | 25ES801T | Big Data Research Lab | - | - | 4 | 2 | - | 25 | 25 | 50 | 25 | |
| 8. | PEC | 25DS802T | Professional Elective-VII [#] | 3 | - | - | 3 | 20 | 20 | 60 | 100 | 45 | 3 |
| 9. | PEC | 25DS802P | Professional Elective-VII Lab [#] | - | - | 2 | 1 | - | 25 | 25 | 50 | 25 | |
| 10. | OJT | 25DS803P(i) | Institutional Internship [§] & Project III | - | - | 24 | 12 | - | 300 | 100 | 400 | 200 | |
| Total | | | | 5 | 0 | 30 | 20 | 30 | 380 | 240 | 650 | 318 | |

Option B is available to students only after recommendation of the concerned Head of the department. The project and internship should contribute towards career development plan of the students.

[#] Courses to be mapped with NPTEL/SWAYAM/MOOC offered course in that semester. Exam will be conducted by NPTEL/Institute

* One semester internship in any industry to be carried.

[§] Two NPTEL courses of total six credits (as per choice of student) or Institutional Internship by IEDC, SVP CET.

| | | | | |
|----------------|------------------|-----------------|---------|---------------------------|
| | | July 2025 | 3.0 | Applicable for 2025-26 |
| Chairman - BoS | Dean - Academics | Date of Release | Version | |



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 Computer Science and Engineering (DATA SCIENCE)

A. Basket for Multi-Disciplinary Minor Courses (MDM)

| Semester | Course Category | Course Code | Name of Course |
|----------|-----------------|-------------|---------------------------|
| III | MDM-I | 25DS331M | Data Analytics with Excel |
| IV | MDM-II | 25DS431M | Data Analytics with R |
| V | MDM-III | 25DS531M | Data Engineering |
| VI | MDM-IV | 25DS631M | Data Modelling and SQL |
| VII | MDM-V | 25DS731M | Tools for Data Science |

| | | | | |
|---|---|-----------------|---------|---------------------------|
|  |  | July 2025 | 3.0 | Applicable for 2025-26 |
| Chairman - BoS | Dean – Academics | Date of Release | Version | |



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 Computer Science and Engineering (DATA SCIENCE)

B. Basket for Program Elective Courses (PEC)

| Semester | Course Category | Course Code | Name of Course |
|----------|-----------------|----------------|--|
| V | PEC-I | 25DS503T(i) | Software Engineering |
| V | PEC-I | 25DS503T(ii) | Decision Support System & Intelligent System |
| V | PEC-I Lab | 25DS503P(i) | Software Engineering Lab |
| V | PEC-I Lab | 25DS503P(ii) | Decision Support System & Intelligent System Lab |
| V | PEC-II Lab | 25DS504P(i) | Data Center & Cloud Computing Lab |
| V | PEC-II Lab | 25DS504P(ii) | Information Extraction & Retrieval Lab |
| VI | PEC-III | 25DS602T (i) | Soft Computing |
| VI | PEC-III | 25DS602T (ii) | Computer Network |
| VI | PEC-III | 25DS602T (iii) | Bioinformatics |
| VI | PEC-IV Lab | 25DS603P (i) | Full Stack Development Lab |
| VI | PEC-IV Lab | 25DS603P (ii) | Natural Language Processing Lab |
| VI | PEC-V Lab | 25DS604P (i) | Data Modeling & Simulation Lab |
| VI | PEC-V Lab | 25DS604P (ii) | Advanced Java Programming Lab |
| VII | PEC-VI | 25DS702T (i) | Big Data Analytics & Business Intelligence |
| VII | PEC-VI | 25DS702T (ii) | Predictive Analytics |
| VII | PEC-VI Lab | 25DS702P (i) | Big Data Analytics & Business Intelligence Lab |
| VII | PEC-VI Lab | 25DS702P (ii) | Predictive Analytics Lab |
| VII | PEC-VII | 25DS703T(i) | Data Warehousing and Mining |
| VII | PEC-VII | 25DS703T(ii) | Cyber Security for Data Science |
| VIII | PEC-VIII | 25DS802T (i) | Natural Language Processing |
| VIII | PEC-VIII | 25DS802T (ii) | GenAI |
| VIII | PEC-VIII Lab | 25DS802P (i) | Natural Language Processing Lab |
| VIII | PEC-VIII Lab | 25DS802P (ii) | GenAI Lab |

| | | | | |
|----------------|------------------|-----------------|---------|---------------------------|
| | | July 2025 | 3.0 | Applicable for 2025-26 |
| Chairman - BoS | Dean – Academics | Date of Release | Version | |



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26
Computer Science and Engineering (DATA SCIENCE)

C. Basket for Open Elective Courses (OE)

| Semester | Course Category | Course Code | Name of Course |
|----------|-----------------|-------------|-------------------------|
| V | OE-I | 25DS561O | Data Analytics |
| VI | OE-II | 25DS661O | Business Intelligence |
| VII | OE-III | 25DS761O | Android App Development |

| | | | | |
|---|---|-----------------|---------|---------------------------|
|  |  | July 2025 | 3.0 | Applicable for 2025-26 |
| Chairman - BoS | Dean – Academics | Date of Release | Version | |



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 Computer Science and Engineering (DATA SCIENCE)

EXIT OPTIONS

Award of UG Certificate in Major with 40 credits and an additional 8 credits (After First Year)

| EXIT COURSES | | | |
|--------------|--|--------------------|---------|
| S.N. | Course name | Mode of conduction | Credits |
| 1. | Data Science For Engineers By Prof. Ragunathan Rengasamy, Prof. Shankar Narasimhan IIT Madras | NPTEL Swayam | 2 |
| 2. | Foundation of Data Science By Dinesh Kumar Indian Institute of Management Bangalore (IIMB) | NPTEL Swayam | 2 |
| 3. | Internship | Offline/Online | 4 |

Award of UG Diploma in Major with 80 credits and an additional 8 credits (After Second Year)

| EXIT COURSES | | | |
|--------------|---|--------------------|---------|
| S.N. | Course name | Mode of conduction | Credits |
| 1. | Introduction to Machine Learning By Prof. Balaraman Ravindran IIT Madras | NPTEL Swayam | 4 |
| 2. | Internship | Offline/Online | 4 |

Award of UG Degree in Major with 60 credits and an additional 8 credits (After Third Year)

| EXIT COURSES | | | |
|--------------|-----------------|--------------------|---------|
| S.N. | Course name | Mode of conduction | Credits |
| 1. | Cloud Computing | NPTEL Swayam | 4 |
| 2. | Internship | Offline/Online | 4 |

| | | | | |
|----------------|------------------|-----------------|---------|---------------------------|
| | | July 2025 | 3.0 | Applicable for 2025-26 |
| Chairman - BoS | Dean – Academics | Date of Release | Version | |