

**RAFFLES UNIVERSITY, NEEMRANA**

**School of Engineering & Technology (SOE&T)**

**Department of Computer Science & Engineering**

**1<sup>st</sup> Semester**

| S. No.       | Category | Code     | Course Title   | Hours Per Week |           |           | Credits   | Marks      |            |             |     |
|--------------|----------|----------|--|----------------|-----------|-----------|-----------|------------|------------|-------------|-----|
|              |          |          |  | L              | T         | P         |           | CIE        | ESE        | Total       |     |
| 1            | BSC      | BSC-101  | Engineering Physics (Common to all) (Major Core)         | 3              | 1         | THEORY    | 4         | 40         | 60         | 100         |     |
| 2            | BSC      | BSC-102  | Engineering Mathematics I (Major Core)                   | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 3            | ESC      | ESC-101  | Computer Fundamentals (Ability Enhancement)              | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 4            | ESC      | ESC-102  | Basics of Mechanical Engineering (Multidisciplinary)     | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 5            | MC       | MC-I     | Environmental Studies (Minor stream) (Multidisciplinary) | 2              | 0         |           | 2         | 40         | 60         | 100         |     |
| 6            | HSMC     | HSMC-101 | <b>Communicative English (Common to all)</b>             | 2              | 0         |           | 2         | 40         | 60         | 100         |     |
| 7            | ESC      | ESC-103  | <b>Branch wise Workshop Practice Lab (Minor Stream)</b>  | PRACTICAL      |           |           | 2         | 1          | 60         | 40          | 100 |
| 8            | BSC      | BSC-103  | Engineering Physics I Lab (Minor Stream)                 |                |           |           | 2         | 1          | 60         | 40          | 100 |
| 9            | ESC      | ESC-104  | Computer Fundamentals Lab(Ability Enhancement)           |                |           |           | 2         | 1          | 60         | 40          | 100 |
| 10           | HSMC     | HSMC-102 | Language Lab ( Skill Enhancement Course)                 |                |           |           | 2         | 1          | 60         | 40          | 100 |
| <b>TOTAL</b> |          |          |  | <b>16</b>      | <b>01</b> | <b>08</b> | <b>21</b> | <b>480</b> | <b>520</b> | <b>1000</b> |     |

**\*CIE (Continues Internal Evaluation)**

**\*ESE (End Semester Exam)**

RAFFLES UNIVERSITY, NEEMRANA

School of Engineering & Technology (SOE&T)

Department of Computer Science & Engineering

2<sup>nd</sup> Semester

| S. No.       | Category | Code    | Course Title   | Hours Per Week |           |           | Credits   | Marks      |            |             |     |
|--------------|----------|---------|--|----------------|-----------|-----------|-----------|------------|------------|-------------|-----|
|              |          |         |  | L              | T         | P         |           | CIE        | ESE        | Total       |     |
| 1            | BSC      | BSC-104 | Communicative English II                             | 2              | 0         | THEORY    | 2         | 40         | 60         | 100         |     |
| 2            | BSC      | BSC-105 | Engineering MathematicsII (Major Core)               | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 3            | ESC      | ESC-105 | Programming with C (Ability Enhancement)             | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 4            | ESC      | ESC-106 | Basics of Electrical Engineering (Multidisciplinary) | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 5            | ESC      | ESC-107 | Engineering Mechanics (Major Core)                   | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 6            | BSC      | BSC-106 | <b>Engineering Chemistry (Common to all)</b>         | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 7            | ESC      | ESC-108 | BEE Lab (Minor Stream)                               | PRACTICAL      |           |           | 2         | 1          | 60         | 40          | 100 |
| 8            | ESC      | ESC-109 | Engineering Drawing Lab (Skill Enhancement Course)   |                |           |           | 2         | 1          | 60         | 40          | 100 |
| 9            | ESC      | ESC-110 | Programming with C (Ability Enhancement)             |                |           |           | 2         | 1          | 60         | 40          | 100 |
| 10           | BSC      | BSC-108 | <b>Engineering Chemistry Lab (Minor Stream)</b>      |                |           |           | 2         | 1          | 60         | 40          | 100 |
| <b>TOTAL</b> |          |         |  | <b>17</b>      | <b>01</b> | <b>10</b> | <b>21</b> | <b>480</b> | <b>520</b> | <b>1000</b> |     |

\*CIE (Continues Internal Evaluation)

\*ESE (End Semester Exam)

**RAFFLES UNIVERSITY, NEEMRANA**

**School of Engineering & Technology (SOE&T)**

**Department of Computer Science & Engineering**

**3<sup>rd</sup> Semester**

| S. No.       | Category | Code        | Course Title                                | Hours Per Week |           |           | Credits   | Marks      |            |             |     |
|--------------|----------|-------------|---|----------------|-----------|-----------|-----------|------------|------------|-------------|-----|
|              |          |             |   | L              | T         | P         |           | CIE        | ESE        | Total       |     |
| 1            | PCC      | PCC-CSE-201 | Data Structure & Algorithm using C          | 3              | 0         | THEORY    | 3         | 40         | 60         | 100         |     |
| 2            | PCC      | PCC-CSE-202 | Object Oriented Programming through C++     | 3              |           |           | 3         | 40         | 60         | 100         |     |
| 3            | PCC      | PCC-CSE-203 | Database Management System                  | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 4            | PCC      | PCC-CSE-204 | Unix & Shell Programming                    | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 5            | BSC      | BSC-201     | Mathematics-III                             | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 6            | HSMC     | HSMC-201    | Human Values                                | 2              | 0         |           | 2         | 40         | 60         | 100         |     |
| 7            | PCC      | PCC-CSE-205 | Data Structure & Algorithm using C Lab      | PRACTICAL      |           |           | 2         | 1          | 60         | 40          | 100 |
| 8            | PCC      | PCC-CSE-206 | Object Oriented Programming through C++ Lab |                |           |           | 2         | 1          | 60         | 40          | 100 |
| 9            | PCC      | PCC-CSE-207 | Database Management System Lab              |                |           |           | 2         | 1          | 60         | 40          | 100 |
| 10           | PCC      | PCC-CSE-209 | Unix & Shell Programming Lab                |                |           |           | 2         | 1          | 60         | 40          | 100 |
| <b>TOTAL</b> |          |             |   | <b>15</b>      | <b>02</b> | <b>08</b> | <b>21</b> | <b>480</b> | <b>520</b> | <b>1000</b> |     |

**\*CIE (Continues Internal Evaluation)**

**\*ESE (End Semester Exam)**

RAFFLES UNIVERSITY, NEEMRANA

School of Engineering & Technology (SOE&T)

Department of Computer Science & Engineering  
4<sup>th</sup> Semester

| S. No.       | Category | Code        | Course Title                             | Hours Per Week |           |           | Credits   | Marks      |            |             |     |
|--------------|----------|-------------|--|----------------|-----------|-----------|-----------|------------|------------|-------------|-----|
|              |          |             |  | L              | T         | P         |           | CIE        | ESE        | Total       |     |
| 1            | PCC      | PCC-CSE-209 | Digital Electronics                      | 2              | 1         | THEORY    | 3         | 40         | 60         | 100         |     |
| 2            | PCC      | PCC-CSE-210 | Discrete Mathematics                     | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 3            | PCC      | PCC-CSE-211 | Computer Organization & Architecture     | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 4            | PCC      | PCC-CSE-212 | Design & Analysis of Algorithm           | 2              | 1         |           | 3         | 40         | 60         | 100         |     |
| 5            | PCC      | PCC-CSE-213 | Operating Systems                        | 2              | 1         |           | 3         | 40         | 60         | 100         |     |
| 6            | HSMC     | HSMC-401    | Organizational Behaviour                 | 2              | 0         |           | 2         | 40         | 60         | 100         |     |
| 7            | MC       | MC-III      | Constitutional Law                       | 2              | 0         |           | 2         | 40         | 60         | 100         |     |
| 8            | PCC      | PCC-CSE-214 | Computer Organization & Architecture Lab | PRACTICAL      |           |           | 2         | 1          | 60         | 40          | 100 |
| 9            | PCC      | PCC-CSE-215 | Operating Systems Lab                    |                |           |           | 2         | 1          | 60         | 40          | 100 |
| 10           | PCC      | PCC-CSE-216 | Design & Analysis of Algorithm Lab       |                |           |           | 2         | 1          | 60         | 40          | 100 |
| <b>TOTAL</b> |          |             |  | <b>16</b>      | <b>03</b> | <b>06</b> | <b>22</b> | <b>460</b> | <b>540</b> | <b>1000</b> |     |

\*CIE (Continues Internal Evaluation)

\*ESE (End Semester Exam)

RAFFLES UNIVERSITY, NEEMRANA

School of Engineering & Technology (SOE&T)

Department of Computer Science & Engineering  
5<sup>th</sup> Semester

| S. No.       | Category | Code            | Course Title                          | Hours Per Week |           |           | Credits   | Marks      |            |             |     |
|--------------|----------|-----------------|---------------------------------------|----------------|-----------|-----------|-----------|------------|------------|-------------|-----|
|              |          |                 |                                       | L              | T         | P         |           | CIE        | ESE        | Total       |     |
| 1            | PCC      | PCC-CSE-301     | Data Communication                    | 2              | 1         | THEORY    | 3         | 40         | 60         | 100         |     |
| 2            | PCC      | PCC-CSE-302     | Software Engineering                  | 2              | 1         |           | 3         | 40         | 60         | 100         |     |
| 3            | PCC      | PCC-CSE-303     | Formal Language & Automata Theory     | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 4            | PCC      | PCC-CSE-304     | Java Programming                      | 2              | 1         |           | 3         | 40         | 60         | 100         |     |
| 5            | HSMC     | HSMC-CSE-301    | Human Resource Management             | 2              | 0         |           | 2         | 40         | 60         | 100         |     |
| 6            | PEC      | PEC-CSE-301-303 | Elective-I                            | 2              | 0         |           | 2         | 40         | 60         | 100         |     |
| 7            | PCC      | PCC-CSE-305     | Software Engineering Lab              | PRACTICAL      |           |           | 2         | 1          | 60         | 40          | 100 |
| 8            | PCC      | PCC-CSE-306     | Java Programming Lab                  |                |           |           | 2         | 1          | 60         | 40          | 100 |
| 9            | PCC      | PCC-CSE-307     | Data Communication Lab                |                |           |           | 2         | 1          | 60         | 40          | 100 |
| 10           | PROJ     | PROJ-CSE-301    | Industrial Training / Project Seminar |                |           |           | 4         | 1          | 60         | 40          | 100 |
| <b>TOTAL</b> |          |                 |                                       | <b>13</b>      | <b>03</b> | <b>10</b> | <b>20</b> | <b>480</b> | <b>520</b> | <b>1000</b> |     |

\*CIE (Continues Internal Evaluation)

\*ESE (End Semester Exam)

| PROFESSIONAL ELECTIVE COURSE (PEC); Elective-I |             |                  |                    |        |
|--|-------------|------------------|--------------------|--------|
| S. No.   | Code        | Course title     | Preferred Semester | Credit |
| 1  | PEC-CSE 301 | Soft Computing   | V                  | 3      |
| 2  | PEC-CSE 302 | Image Processing | V                  | 3      |
| 3  | PEC-CSE 303 | Embedded System  | V                  | 3      |

**RAFFLES UNIVERSITY, NEEMRANA**

**School of Engineering & Technology (SOE&T)**

**Department of Computer Science & Engineering**

**6<sup>th</sup> Semester**

| S.No.        | Category | Code            | Course Title               | Hours Per Week |           |           | Credits   | Marks      |            |             |     |
|--------------|----------|-----------------|----------------------------|----------------|-----------|-----------|-----------|------------|------------|-------------|-----|
|              |          |                 |                            | L              | T         | P         |           | CIE        | ESE        | Total       |     |
| 1            | PCC      | PCC-CSE-308     | Compiler Design            | 3              | 0         | THEORY    | 3         | 40         | 60         | 100         |     |
| 2            | PCC      | PCC-CSE-309     | Data Mining & Ware-housing | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 3            | PCC      | PCC-CSE-310     | Computer Network           | 3              | 0         |           | 3         | 40         | 60         | 100         |     |
| 4            | PEC      | PEC-CSE-304-306 | Elective-II                | 2              | 1         |           | 3         | 40         | 60         | 100         |     |
| 5            | PEC      | PEC-CSE-307-309 | Elective-III               | 2              | 1         |           | 3         | 40         | 60         | 100         |     |
| 6            | OEC      | OEC-CSE-301-303 | Open Elective-I            | 2              | 1         |           | 3         | 40         | 60         | 100         |     |
| 7            | PCC      | PCC-CSE-311     | Compiler Design Lab        | PRACTICAL      |           |           | 2         | 1          | 60         | 40          | 100 |
| 8            | PCC      | PCC-CSE-312     | Computer Network Lab       |                |           |           | 2         | 1          | 60         | 40          | 100 |
| 9            | PEC      | PEC-CSE-310     | Elective-III Lab           |                |           |           | 2         | 1          | 60         | 40          | 100 |
| 10           | HSMC     | HSMC-CSE-302    | Aanandam                   |                |           |           | 4         | 2          | 60         | 40          | 100 |
| <b>TOTAL</b> |          |                 |                            | <b>15</b>      | <b>03</b> | <b>08</b> | <b>23</b> | <b>480</b> | <b>520</b> | <b>1000</b> |     |

\*CIE (Continues Internal Evaluation)

\*ESE (End Semester Exam)

| PROFESSIONAL ELECTIVE COURSE (PEC); Elective-II |             |  |                    |        |
|---|-------------|--|--------------------|--------|
| S. No.  | Code        | Course title                           | Preferred Semester | Credit |
| 1   | PEC-CSE-304 | Distributed Systems                    | VI                 | 3      |
| 2   | PEC-CSE-305 | Theory of Computation                  | VI                 | 3      |
| 3   | PEC-CSE-306 | Speech and Natural Language Processing | VI                 | 3      |

| PROFESSIONAL ELECTIVE COURSE (PEC); Elective-III |             |                             |                    |        |
|--|-------------|-----------------------------|--------------------|--------|
| S. No.   | Code        | Course title                | Preferred Semester | Credit |
| 1  | PEC-CSE-307 | Advanced Operating Systems  | VI                 | 3      |
| 2  | PEC-CSE-308 | Real Time Systems           | VI                 | 3      |
| 3  | PEC-CSE-309 | Web and Internet Technology | VI                 | 3      |

| OPEN ELECTIVE COURSE (OEC); Open Elective-I |             |                                    |                    |        |
|---|-------------|------------------------------------|--------------------|--------|
| S. No.                                      | Code        | Course title                       | Preferred Semester | Credit |
| 1   | OEC-CSE-301 | Management of Employee Performance | VI                 | 3      |
| 2   | OEC-CSE-302 | Cyber Laws and Ethics              | VI                 | 3      |
| 3   | OEC-CSE-303 | Non-Conventional Energy Sources    | VI                 | 3      |

**RAFFLES UNIVERSITY, NEEMRANA**

**School of Engineering & Technology (SOE&T)**

**Department of Computer Science & Engineering  
7<sup>th</sup> Semester**

| S. No.       | Category | Code            | Course Title                         | Hours Per Week |           |           | Credits   | Marks      |            |             |     |
|--------------|----------|-----------------|--------------------------------------|----------------|-----------|-----------|-----------|------------|------------|-------------|-----|
|              |          |                 |                                      | L              | T         | P         |           | CIE        | ESE        | Total       |     |
| 1            | PCC      | PCC-CSE-401     | Network security & Cryptography      | 3              | 0         | THEORY    | 3         | 40         | 60         | 100         |     |
| 2            | PEC      | PEC-CSE-401-403 | Elective-IV                          | 2              | 1         |           | 3         | 40         | 60         | 100         |     |
| 3            | PEC      | PEC-CSE-404-406 | Elective-V                           | 2              | 1         |           | 3         | 40         | 60         | 100         |     |
| 4            | OEC      | OEC-CSE-401-403 | Open Elective-II                     | 2              | 1         |           | 3         | 40         | 60         | 100         |     |
| 5            | PCC      | PCC-CSE-401     | Network security & Cryptography Lab  | PRACTICAL      |           |           | 2         | 1          | 60         | 40          | 100 |
| 6            | PEC      | PEC-CSE-407     | Elective-IV Lab                      |                |           |           | 2         | 1          | 60         | 40          | 100 |
| 7            | PROJ     | PROJ-CSE-302    | Industrial Training /Project Seminar |                |           |           | 4         | 2          | 120        | 80          | 200 |
| 8            | PROJ     | PROJ-CSE-401    | Minor Project-II                     |                |           |           | 12        | 6          | 120        | 80          | 200 |
| <b>TOTAL</b> |          |                 |                                      | <b>09</b>      | <b>03</b> | <b>20</b> | <b>22</b> | <b>520</b> | <b>480</b> | <b>1000</b> |     |

\*CIE (Continues Internal Evaluation)

\*ESE (End Semester Exam)

| <b>PROFESSIONAL ELECTIVE COURSE (PEC); Elective-IV</b> |             |                                     |                    |        |
|--|-------------|-------------------------------------|--------------------|--------|
| S. No.   | Code        | Course title                        | Preferred Semester | Credit |
| 1  | PEC-CSE-401 | Data Analytics                      | VII                | 3      |
| 2  | PEC-CSE-402 | Parallel and Distributed Algorithms | VII                | 3      |
| 3  | PEC-CSE-403 | Neural Networks and Deep Learning   | VII                | 3      |

| <b>PROFESSIONAL ELECTIVE COURSE (PEC); Elective-V</b> |             |                                 |                    |        |
|---|-------------|---------------------------------|--------------------|--------|
| S. No.  | Code        | Course title                    | Preferred Semester | Credit |
| 1   | PEC-CSE-404 | Multi-Agent Intelligent Systems | VII                | 3      |
| 2   | PEC-CSE-405 | Internet-of-Things              | VII                | 3      |
| 3   | PEC-CSE-406 | Cloud Computing                 | VII                | 3      |

| <b>OPEN ELECTIVE COURSE (OEC); Open Elective-II</b> |             |   |                    |        |
|---|-------------|---|--------------------|--------|
| S. No.  | Code        | Course title                            | Preferred Semester | Credit |
| 1   | OEC-CSE-401 | Economics Polices in India              | VII                | 3      |
| 2   | OEC-CSE-402 | Reliability and Maintenance Engineering | VII                | 3      |
| 3   | OEC-CSE-403 | Management Training and Development     | VII                | 3      |

RAFFLES UNIVERSITY, NEEMRANA

School of Engineering & Technology (SOE&T)

Department of Computer Science & Engineering  
8<sup>th</sup> Semester

| S. No.       | Category | Code            | Course Title                                 | Hours Per Week |           |           | Credits   | Marks      |            |             |     |
|--------------|----------|-----------------|--|----------------|-----------|-----------|-----------|------------|------------|-------------|-----|
|              |          |                 |  | L              | T         | P         |           | CIE        | ESE        | Total       |     |
| 1            | PCC      | PEC-CSE-404     | Artificial Intelligence & Expert systems     | 3              | 1         | THEORY    | 4         | 40         | 60         | 100         |     |
| 2            | PEC      | PEC-CSE-407-409 | Elective-VI                                  | 3              | 1         |           | 4         | 40         | 60         | 100         |     |
| 3            | PCC      | PCC-CSE-405     | Artificial Intelligence & Expert systems Lab | PRACTICAL      |           |           | 4         | 2          | 60         | 40          | 100 |
| 4            | SI       | SI-CSE-401      | Seminar                                      |                |           |           | 4         | 2          | 60         | 40          | 100 |
| 5            | PROJ     | PROJ-CSE-402    | Major Project                                |                |           |           | 16        | 8          | 360        | 240         | 600 |
| <b>TOTAL</b> |          |                 |  | <b>06</b>      | <b>02</b> | <b>24</b> | <b>20</b> | <b>560</b> | <b>440</b> | <b>1000</b> |     |

\*CIE (Continues Internal Evaluation)

\*ESE (End Semester Exam)

| PROFESSIONAL ELECTIVE COURSE (PEC); Elective-VI |             |                            |                    |        |
|---|-------------|----------------------------|--------------------|--------|
| S. No.  | Code        | Course title               | Preferred Semester | Credit |
| 1   | PEC-CSE-407 | Optimization Techniques    | VIII               | 3      |
| 2   | PEC-CSE-408 | Human Computer Interaction | VIII               | 3      |
| 3   | PEC-CSE-409 | Digital Signal Processing  | VIII               | 3      |