

**SYMBIOSIS INSTITUTE OF TECHNOLOGY**  
**BACHELOR OF TECHNOLOGY (INFORMATION TECHNOLOGY)**  
**PROGRAMME STRUCTURE 2017-21**

- 1. OBJECTIVE**
- B. Tech is a full-time four year graduation programme, which aims at transforming a student into a technically sound professional. The syllabus contains courses on basic sciences, technical arts, humanities & liberal arts and professional courses. The mix of these courses has been evolved with an aim to produce professionals who have knowledge not only of Engineering but who are good managers to contribute in a cross-functional team and have human values. Being a professional programme it ensures a healthy balance between theoretical foundation and practical exposure to the present day world. The emphasis is to develop all round personality that would enable the students to take up the challenges of the corporate world and also become responsible citizens of the society.
- 2. DURATION** Four Years Full Time
- 3. INTAKE** 60 Students
- 4. RESERVATION**
- I. Within the sanctioned intake:
- a) Scheduled Castes – 15%
  - b) Scheduled Tribes – 7.5%
  - c) Differently Able - 3%
- II. Over and above the sanctioned intake:
- a) Kashmiri Migrants - 2 Seats
  - b) International Students – 15%
- 5. ELIGIBILITY**
- Passed 10+2 examination with Physics and Mathematics as compulsory subjects along with one of Chemistry/ Biotechnology/ Biology/ Technical Vocational subjects. Obtained at least 45% marks (40% in case of candidate belonging to reserved category) in the above subjects taken together.
- B. Tech (Lateral entry to second year) :
- a) Passed Diploma examination from an AICTE approved Institution; with at least 45% marks (40% in case of candidates belonging to reserved category) in appropriate branch of

Engineering / Technology.

- b) Passed B.Sc. Degree from a recognized University as defined by UGC, with at least 45% marks (40% in case of candidates belonging to reserved category) and passed XII standard with mathematics as a subject.
- c) Provided that in case of students belonging to B. Sc. Stream, shall clear the subjects of Engineering Graphics / Engineering Drawing and Engineering Mechanics of the first year Engineering program along with the second year subjects.
- d) Provided further that, the students belonging to B. Sc. Stream shall be considered only after filling the supernumerary seats in this category with students belonging to the Diploma stream.
- e) Provided further that students, who have passed Diploma in Engineering and Technology from an AICTE approved Institution or B. Sc. Degree from a recognized University as defined by UGC, shall also be eligible for admission to the first year Engineering Degree courses subject to vacancies in the first year class in case the vacancies at lateral entry are exhausted. However the admissions shall be based strictly on the eligibility criteria as mentioned in A, B,C, and D above.

A candidate who has completed qualifying qualification from any Foreign Board / University must obtain an equivalence certificate from Association of Indian Universities (AIU).

**6. SELECTION PROCEDURE**

Merit list by valid score of Symbiosis Entrance Test (SET) or Joint Entrance Examination (JEE - Main) or Maharashtra Common Entrance Test ( MHT-CET)

**7. MEDIUM OF INSTRUCTION**

English

**8. PROGRAMME PATTERN**

Semester Pattern - 8 Semesters

**9. COURSES & SPECIALIZATION**

As per Annexure A

**10. FEE****Indian Students**

|                   |                      |
|-------------------|----------------------|
| Academic Fee p.a. | Rs. 2,25,000         |
| Institute Deposit | Rs. 10,000           |
| <b>Total</b>      | <b>Rs. 2, 35,000</b> |

**International Students**

|                   |                     |
|-------------------|---------------------|
| Academic Fee p.a. | Rs. 3,40,000        |
| Institute Deposit | Rs. 10,000          |
| <b>Total</b>      | <b>Rs. 3,50,000</b> |

**11. ASSESSMENT**

All internal courses will have 100% component as internal evaluation at the institute level. All external courses will have 40% internal component and 60% component as external [University] examination. The internal and external will be separate heads of passing.

**12. STANDARD OF PASSING**

The assessment of the student for each examination is done, based on relative performance. Maximum Grade Point (GP) is 10 corresponding to O (Outstanding). For all courses, a student is required to pass both internal and external examination separately with a minimum Grade Point of 4 corresponding to Grade P. Students securing less than 40% absolute marks in each head of passing will be declared FAIL. The University awards a degree to the student who has achieved a minimum CGPA of 4 out of maximum of 10 CGPA for the programme.

**13. AWARD OF DEGREE**

**Bachelor of Technology (Information Technology)** will be awarded at the end of semester VIII examination by taking into consideration the performance of all semester examinations after obtaining minimum 4.00 CGPA out of 10 CGPA.

Programme Structure is approved by the Academic Council subject to its norms & conditions. Any provision in the Programme Structure which violates the basic rules & regulations is deemed to be termed "Null & Void".

Head - Academic



### Annexure A Semester I

| Catalog Course Code   | Course Code | Course Title                                     | Nature | Teaching Scheme |          |           | Practical |           | Examination Scheme Marks |            | Total Credits | Total Marks |
|---|-------------|--|--------|-----------------|----------|-----------|-----------|-----------|--------------------------|------------|---------------|-------------|
|   |             |  |        | L               | T        | Lab       | CA        | ESE       | CA                       | ESE        |               |             |
| T7385   | 070124101   | Engineering Mathematics I                        | BS     | 4               | 2        | -         | -         | -         | 50                       | 75         | 5             | 125         |
| T7381   | 070124102   | Chemistry  | BS     | 3               | -        | -         | -         | -         | 30                       | 45         | 3             | 75          |
| T7382   | 070124103   | Chemistry Lab                                    | BS     | -               | -        | 2         | 10        | 15        | -                        | -          | 1             | 25          |
| T7540   | 070124104   | Basic Electrical and Electronics Engineering     | ES     | 3               | -        | -         | -         | -         | 30                       | 45         | 3             | 75          |
| T7593   | 070124105   | Basic Electrical and Electronics Engineering Lab | ES     | -               | -        | 2         | 10        | 15        | -                        | -          | 1             | 25          |
| T7414   | 070124106   | Engineering Mechanics                            | ES     | 3               | -        | -         | -         | -         | 30                       | 45         | 3             | 75          |
| T7415   | 070124107   | Engineering Mechanics Lab                        | ES     | -               | -        | 2         | 10        | 15        | -                        | -          | 1             | 25          |
| T7924   | 070124108   | Engineering Graphics                             | ES     | 2               | -        | -         | -         | -         | 20                       | 30         | 2             | 50          |
| T7925   | 070124109   | Engineering Graphics Lab                         | ES     | -               | -        | 4         | 20        | 30        | -                        | -          | 2             | 50          |
| T7943   | 070124110   | Technical English & Communication Skill          | MC     | 2               | -        | -         | -         | -         | 50                       | -          | 2             | 50          |
| T7944   | 070124111   | Technical English & Communication Skill Lab      | MC     | -               | -        | 2         | 10        | 15        | -                        | -          | 1             | 25          |
| <b>Inter Institute Course I (Choose any one course from 212 to 214)</b> |             |  |        |                 |          |           |           |           |                          |            |               |             |
| T7945   | 070124112   | Law for Engineers                                | OE     | 2               | -        | -         | -         | -         | 50                       | -          | 2             | 50          |
| T7946   | 070124113   | Economics for Engineers                          | OE     | 2               | -        | -         | -         | -         | 50                       | -          | 2             | 50          |
| T4609   | 070124114   | My Nutrition Guide                               | OE     | 2               | -        | -         | -         | -         | 50                       | -          | 2             | 50          |
| <b>Total</b>  |             |  |        | <b>19</b>       | <b>2</b> | <b>12</b> | <b>60</b> | <b>90</b> | <b>260</b>               | <b>240</b> | <b>26</b>     | <b>650</b>  |

### Semester II

| Catalog Course Code | Course Code | Course Title                            | Nature | Teaching Scheme |   |     | Practical |     | Examination Scheme Marks |     | Total Credits | Total Marks |
|---------------------|-------------|---|--------|-----------------|---|-----|-----------|-----|--------------------------|-----|---------------|-------------|
|                     |             |   |        | L               | T | Lab | CA        | ESE | CA                       | ESE |               |             |
| T7387               | 070124201   | Engineering Mathematics II              | BS     | 4               | 2 | -   | -         | -   | 50                       | 75  | 5             | 125         |
| T7391               | 070124202   | Physics                                 | BS     | 3               | - | -   | -         | -   | 30                       | 45  | 3             | 75          |
| T7392               | 070124203   | Physics Lab                             | BS     | -               | - | 2   | 10        | 15  | -                        | -   | 1             | 25          |
| T7418               | 070124204   | Environmental and Civil Engineering     | ES     | 3               | - | -   | -         | -   | 30                       | 45  | 3             | 75          |
| T7458               | 070124205   | Environmental and Civil Engineering Lab | ES     | -               | - | 2   | 10        | 15  | -                        | -   | 1             | 25          |
| T7934               | 070124206   | C Programming                           | PC     | 2               | - | -   | -         | -   | 20                       | 30  | 2             | 50          |
| T7935               | 070124207   | C Programming Lab                       | PC     | -               | - | 4   | 20        | 30  | -                        | -   | 2             | 50          |
| T7947               | 070124208   | Computational Thinking and              | PC     | 2               | - | -   | -         | -   | 20                       | 30  | 2             | 50          |

|              |           |                                  |    |           |          |           |           |            |            |            |           |            |  |
|--------------|-----------|----------------------------------|----|-----------|----------|-----------|-----------|------------|------------|------------|-----------|------------|--|
|              |           | problem solving                  |    |           |          |           |           |            |            |            |           |            |  |
| T7658        | 070124209 | Workshop Practice                | ES | -         | -        | 4         | 20        | 30         | -          | -          | 2         | 50         |  |
| T7604        | 070124210 | Basic Mechanical Engineering     | ES | 3         | -        | -         | -         | -          | 30         | 45         | 3         | 75         |  |
| T7605        | 070124211 | Basic Mechanical Engineering Lab | ES | -         | -        | 2         | 10        | 15         | -          | -          | 1         | 25         |  |
| <b>Total</b> |           |                                  |    | <b>17</b> | <b>2</b> | <b>14</b> | <b>70</b> | <b>105</b> | <b>180</b> | <b>270</b> | <b>25</b> | <b>625</b> |  |

**Semester III**

| Catalog Course Code | Course Code | Course Title                                 | Nature | Teaching Scheme |          |          | Examination Scheme Marks |           |            |            | Total Credits | Total Marks |
|---------------------|-------------|--|--------|-----------------|----------|----------|--------------------------|-----------|------------|------------|---------------|-------------|
|                     |             |  |        | L               | T        | Lab      | Practical                |           | CA         | ESE        |               |             |
|                     |             |  |        |                 |          |          | CA                       | ESE       |            |            |               |             |
| T7995               | 070124301   | Discrete Mathematics and Probability Theory  | BS     | 3               | 2        | -        | -                        | -         | 40         | 60         | 4             | 100         |
| T7512               | 070124302   | Programming Paradigms                        | PC     | 3               | -        | -        | -                        | -         | 30         | 45         | 3             | 75          |
| T7513               | 070124303   | Programming Paradigms Lab                    | PC     | -               | -        | 2        | 10                       | 15        | -          | -          | 1             | 25          |
| T7495               | 070124304   | Fundamentals of Data Structures              | PC     | 4               | -        | -        | -                        | -         | 40         | 60         | 4             | 100         |
| T7496               | 070124305   | Fundamentals of Data Structures Lab          | PC     | -               | -        | 4        | 20                       | 30        | -          | -          | 2             | 50          |
| T7996               | 070124306   | Computer Organization                        | PC     | 3               | -        | -        | -                        | -         | 30         | 45         | 3             | 75          |
| T7997               | 070124307   | Digital Electronics and Logic Design         | PC     | 3               | -        | -        | -                        | -         | 30         | 45         | 3             | 75          |
| T7555               | 070124308   | Digital Electronics and Logic Design Lab     | PC     | -               | -        | 2        | 10                       | 15        | -          | -          | 1             | 25          |
| T2353               | 070124309   | Inter Institute Course II : Entrepreneurship | OE     | 2               | -        | -        | -                        | -         | 50         | -          | 2             | 50          |
| T8000               | 070124310   | Service Learning                             | HS     | 4               | -        | -        | -                        | -         | 100        | -          | 4             | 100         |
| <b>Total</b>        |             |  |        | <b>22</b>       | <b>2</b> | <b>8</b> | <b>40</b>                | <b>60</b> | <b>320</b> | <b>255</b> | <b>27</b>     | <b>675</b>  |

**Semester IV**

| Catalog Course Code                                 | Course Code | Course Title                   | Nature | Teaching Scheme |          |           | Examination Scheme Marks |           |            |            | Total Credits | Total Marks  |
|---|-------------|--------------------------------|--------|-----------------|----------|-----------|--------------------------|-----------|------------|------------|---------------|--------------|
|   |             |                                |        | L               | T        | Lab       | Practical                |           | CA         | ESE        |               |              |
|   |             |                                |        |                 |          |           | CA                       | ESE       |            |            |               |              |
| T7388   | 070124401   | Engineering Mathematics-III    | BS     | 3               | 2        | -         | -                        | -         | 40         | 60         | 4             | 100          |
| T7998   | 070124402   | Operating Systems              | PC     | 4               | -        | -         | -                        | -         | 40         | 60         | 4             | 100          |
| T7999   | 070124403   | Java Programming               | PC     | 4               | -        | -         | -                        | -         | 40         | 60         | 4             | 100          |
| TE7001  | 070124404   | Java Programming Lab           | PC     | -               | -        | 4         | 20                       | 30        | -          | -          | 2             | 50           |
| TE7002  | 070124405   | Data Structures                | PC     | 4               | -        | -         | -                        | -         | 40         | 60         | 4             | 100          |
| TE7003  | 070124406   | Data Structures Lab            | PC     | -               | -        | 4         | 20                       | 30        | -          | -          | 2             | 50           |
| T7577   | 070124407   | Microprocessor Techniques      | ID     | 3               | -        | -         | -                        | -         | 30         | 45         | 3             | 75           |
| T7511   | 070124408   | Operating Systems Lab          | C      | -               | -        | 2         | 10                       | 15        | -          | -          | 1             | 25           |
| T7578   | 070124409   | Microprocessor Techniques Lab  | ID     | -               | -        | 2         | 10                       | 15        | -          | -          | 1             | 25           |
| <b>Liberal Arts (Choose any one from following)</b> |             |                                |        |                 |          |           |                          |           |            |            |               |              |
| T6184   | 070124410   | Basic German-I                 | MC     | 2               | -        | -         | -                        | -         | 50         | -          | 2             | 50           |
| T6186   | 070124411   | Basic French-I                 | MC     | 2               | -        | -         | -                        | -         | 50         | -          | 2             | 50           |
| T6188   | 070124412   | Basic Spanish-I                | MC     | 2               | -        | -         | -                        | -         | 50         | -          | 2             | 50           |
| <b>Total</b>  |             |                                |        | <b>20</b>       | <b>2</b> | <b>12</b> | <b>60</b>                | <b>90</b> | <b>240</b> | <b>285</b> | <b>27</b>     | <b>675</b>   |
| T4005   | 070124413   | Integrated Disaster Management | GP     | -               | -        | -         | -                        | -         | -          | -          | 0             | Letter Grade |

For 2 hours tutorial, there will be 1 hour classroom teaching and 1 hour for projects/self-study/assignments.



## Semester V

| Catalog Course Code  | Course Code | Course Title  | Nature | Teaching Scheme |          |          | Examination Scheme Marks |           |            |            | Total Credits | Total Marks  |
|--|-------------|---|--------|-----------------|----------|----------|--------------------------|-----------|------------|------------|---------------|--------------|
|  |             |   |        | L               | T        | Lab      | Practical                |           | CA         | ESE        |               |              |
|  |             |   |        |                 |          |          | CA                       | ESE       |            |            |               |              |
| T7518  | 070124501   | Theory of Computation                                 | PC     | 3               | 2        | -        | -                        | -         | 40         | 60         | 4             | 100          |
| TE7004   | 070124502   | Data Base Management Systems                          | PC     | 4               | -        | -        | -                        | -         | 40         | 60         | 4             | 100          |
| T7487  | 070124503   | Data Base Management Systems Lab                      | PC     | -               | -        | 4        | 20                       | 30        | -          | -          | 2             | 50           |
| T7908  | 070124504   | Computer Networks                                     | PC     | 3               | -        | -        | -                        | -         | 30         | 45         | 3             | 75           |
| T7482  | 070124505   | Computer Networks Lab                                 | PC     | -               | -        | 2        | 10                       | 15        | -          | -          | 1             | 25           |
| T7490  | 070124506   | Design and Analysis of Algorithms                     | PC     | 4               | -        | -        | -                        | -         | 40         | 60         | 4             | 100          |
| T7491  | 070124507   | Design and Analysis of Algorithms Lab                 | PC     | -               | -        | 2        | 10                       | 15        | -          | -          | 1             | 25           |
| T7516  | 070124508   | Software Engineering                                  | PC     | 3               | 2        | -        | -                        | -         | 40         | 60         | 4             | 100          |
| <b>Open Elective-I (Choose any one from the following)</b> |             |   |        |                 |          |          |                          |           |            |            |               |              |
| T7457  | 070124509   | Integrated Water Resources Development and Management | OE     | 3               | -        | -        | -                        | -         | 30         | 45         | 3             | 75           |
| T7499  | 070124510   | JAVA  | OE     | 3               | -        | -        | -                        | -         | 30         | 45         | 3             | 75           |
| T7574  | 070124511   | MATLAB  | OE     | 3               | -        | -        | -                        | -         | 30         | 45         | 3             | 75           |
| T7616  | 070124512   | Fundamentals of Automotive Technology                 | OE     | 3               | -        | -        | -                        | -         | 30         | 45         | 3             | 75           |
| T7020  | 070124513   | Nanotechnology  | OE     | 3               | -        | -        | -                        | -         | 30         | 45         | 3             | 75           |
| T7393  | 070124514   | Computer based Statistical Packages                   | OE     | 3               | -        | -        | -                        | -         | 30         | 45         | 3             | 75           |
| <b>Total</b>   |             |   |        | <b>20</b>       | <b>4</b> | <b>8</b> | <b>40</b>                | <b>60</b> | <b>220</b> | <b>330</b> | <b>26</b>     | <b>650</b>   |
|  | 070124515   | Energy Studies  | MC     | -               | -        | -        | -                        | -         | -          | -          | -             | Letter Grade |

For 2 hours tutorial, there will be 1 hour classroom teaching and 1 hour for projects/self-study/assignments.

## Semester VI

| Catalog Course Code | Course Code | Course Title                               | Nature | Teaching Scheme |          |           | Examination Scheme Marks |            |            |            | Total Credits | Total Marks |
|---------------------|-------------|--|--------|-----------------|----------|-----------|--------------------------|------------|------------|------------|---------------|-------------|
|                     |             |  |        | L               | T        | Lab       | Practical                |            | CA         | ESE        |               |             |
|                     |             |  |        |                 |          |           | CA                       | ESE        |            |            |               |             |
| <b>Group A</b>      |             |  |        |                 |          |           |                          |            |            |            |               |             |
| T7191               | 070124601   | Internship (6 Months)                      | PIS    | -               | -        | -         | 195                      | 130        | -          | -          | 13            | 325         |
| T7671               | 070124602   | Seminar                                    | PIS    | -               | -        | -         | 100                      | -          | -          | -          | 4             | 100         |
| <b>OR</b>           |             |  |        |                 |          |           |                          |            |            |            |               |             |
|                     | 070124603   | Global Immersion Programme                 | PC     | -               | -        | -         | -                        | -          | -          | -          | -             | -           |
| <b>Total</b>        |             |  |        | -               | -        | -         | <b>295</b>               | <b>130</b> | -          | -          | <b>17</b>     | <b>425</b>  |
| <b>OR</b>           |             |  |        |                 |          |           |                          |            |            |            |               |             |
| <b>Group B</b>      |             |  |        |                 |          |           |                          |            |            |            |               |             |
| T7905               | 070124604   | Internship(6-8 weeks)                      | PIS    | -               | -        | 10        | 75                       | 50         | -          | -          | 5             | 125         |
| T7048               | 070124605   | Project Management                         | GP     | 4               | -        | -         | -                        | -          | 40         | 60         | 4             | 100         |
| T7139               | 070124606   | Software Testing and Quality Assurance     | PC     | 3               | -        | -         | -                        | -          | 30         | 45         | 3             | 75          |
| T7080               | 070124607   | Software Testing and Quality Assurance Lab | PC     | -               | -        | 2         | 10                       | 15         | -          | -          | 1             | 25          |
| T7509               | 070124608   | Open Source Technologies                   | PC     | 3               | -        | -         | -                        | -          | 30         | 45         | 3             | 75          |
| TE7006              | 070124609   | Open Source Technologies Lab               | PC     | -               | -        | 2         | 10                       | 15         | -          | -          | 1             | 25          |
| <b>Total</b>        |             |  |        | <b>10</b>       | <b>-</b> | <b>14</b> | <b>95</b>                | <b>80</b>  | <b>100</b> | <b>150</b> | <b>17</b>     | <b>425</b>  |

For 2 hours tutorial, there will be 1 hour classroom teaching and 1 hour for projects/self-study/assignments.

## Semester VII

| Catalog Course Code   | Course Code | Course Title                                    | Nature | Teaching Scheme |          |           | Examination Scheme Marks |           |            |            | Total Credits | Total Marks  |
|---|-------------|---|--------|-----------------|----------|-----------|--------------------------|-----------|------------|------------|---------------|--------------|
|   |             |   |        | L               | T        | Lab       | Practical                |           | CA         | ESE        |               |              |
|   |             |   |        |                 |          |           | CA                       | ESE       |            |            |               |              |
| T7517   | 070124701   | System Programming                              | PC     | 3               | -        | -         | -                        | -         | 30         | 45         | 3             | 75           |
| T7507   | 070124702   | Object Oriented Analysis and Design             | PC     | 3               | -        | -         | -                        | -         | 30         | 45         | 3             | 75           |
| T7508   | 070124703   | Object Oriented Analysis and Design Lab         | PC     | -               | -        | 2         | 10                       | 15        | -          | -          | 1             | 25           |
| T7903   | 070124704   | Distributed Systems and Resource Management     | PC     | 3               | -        | -         | -                        | -         | 30         | 45         | 3             | 75           |
| T7903   | 070124705   | Distributed Systems and Resource Management Lab | PC     | -               | -        | 2         | 10                       | 15        | -          | -          | 1             | 25           |
| T6274   | 070124706   | Foundation of Ethics                            | MC     | 2               | -        | -         | 50                       | -         | -          | -          | 2             | 50           |
| TE7038  | 070124707   | Project Planning and Charter                    | PIS    | -               | -        | 4         | 20                       | 30        | -          | -          | 2             | 50           |
| <b>Elective-I (Choose any one from the following)</b>       |             |   |        |                 |          |           |                          |           |            |            |               |              |
| TE7010  | 070124708   | Data Warehousing and Mining                     | PE     | 4               | -        | -         | -                        | -         | 40         | 60         | 4             | 100          |
| TE7011  | 070124709   | Artificial Intelligence                         | PE     | 4               | -        | -         | -                        | -         | 40         | 60         | 4             | 100          |
| TE7012  | 070124710   | Network Analysis and Design                     | PE     | 4               | -        | -         | -                        | -         | 40         | 60         | 4             | 100          |
| <b>Elective-I Lab(Choose any one from the following)</b>    |             |   |        |                 |          |           |                          |           |            |            |               |              |
| TE7013  | 070124711   | Data Warehousing and Mining Lab                 | PE     | -               | -        | 2         | 10                       | 15        | -          | -          | 1             | 25           |
| TE7014  | 070124712   | Artificial Intelligence Lab                     | PE     | -               | -        | 2         | 10                       | 15        | -          | -          | 1             | 25           |
| TE7015  | 070124713   | Network Analysis and Design Lab                 | PE     | -               | -        | 2         | 10                       | 15        | -          | -          | 1             | 25           |
| <b>Elective -II (Choose any one from the following)</b>     |             |   |        |                 |          |           |                          |           |            |            |               |              |
| TE7016  | 070124714   | Big Data Stores                                 | PE     | 4               | -        | -         | -                        | -         | 40         | 60         | 4             | 100          |
| T7104   | 070124715   | Neural Networks                                 | PE     | 4               | -        | -         | -                        | -         | 40         | 60         | 4             | 100          |
| TE7017  | 070124716   | Network Security                                | PE     | 4               | -        | -         | -                        | -         | 40         | 60         | 4             | 100          |
| <b>Open Elective-II (Choose any one from the following)</b> |             |   |        |                 |          |           |                          |           |            |            |               |              |
| T7456   | 070124717   | Town and Country Planning                       | OE     | 3               | -        | -         | -                        | -         | 30         | 45         | 3             | 75           |
| T7509   | 070124718   | Open Source Technologies                        | ID     | 3               | -        | -         | -                        | -         | 30         | 45         | 3             | 75           |
| T7474   | 070124719   | Basics of Database                              | ID     | 3               | -        | -         | -                        | -         | 30         | 45         | 3             | 75           |
| T7584   | 070124720   | Printed Circuit Board (PCB) Design              | ID     | 3               | -        | -         | -                        | -         | 30         | 45         | 3             | 75           |
| T7650   | 070124721   | Six Sigma                                       | ID     | 3               | -        | -         | -                        | -         | 30         | 45         | 3             | 75           |
| T7394   | 070124722   | Smart Materials                                 | ID     | 3               | -        | -         | -                        | -         | 30         | 45         | 3             | 75           |
|   |             | <b>Total</b>                                    |        | <b>22</b>       | <b>0</b> | <b>10</b> | <b>100</b>               | <b>75</b> | <b>200</b> | <b>300</b> | <b>27</b>     | <b>675</b>   |
|   | 070124723   | Soft skills                                     | MC     | -               | -        | -         | -                        | -         | -          | -          | 0             | Letter Grade |

For 2 hours tutorial, there will be 1 hour classroom teaching and 1 hour for projects/self-study/assignments.

## Semester-VIII

| Catalog Course Code | Course Code | Course Title          | Nature | Teaching Scheme |   |     | Examination Scheme Marks |     |    |     | Total Credits | Total Marks |
|---------------------|-------------|-----------------------|--------|-----------------|---|-----|--------------------------|-----|----|-----|---------------|-------------|
|                     |             |                       |        | L               | T | Lab | Practical                |     | CA | ESE |               |             |
|                     |             |                       |        |                 |   |     | CA                       | ESE |    |     |               |             |
| TE7024              | 070124801   | Web Technologies      | PC     | 3               | - | -   | -                        | -   | 30 | 45  | 3             | 75          |
| TE7025              | 070124802   | Web Technologies Lab  | PC     | -               | - | 2   | 10                       | 15  | -  | -   | 1             | 25          |
| TE7007              | 070124803   | Skill Development Lab | PC     | -               | - | 8   | 40                       | 60  | -  | -   | 4             | 100         |
| TE7026              | 070124804   | Mobile Applications   | PC     | 3               | - | -   | -                        | -   | 75 | -   | 3             | 75          |
| T7804               | 070124805   | Project               | PIS    | -               | - | 8   | 40                       | 60  | -  | -   | 4             | 100         |

|  |           |  |    |           |          |           |           |            |            |            |           |            |
|--|-----------|--|----|-----------|----------|-----------|-----------|------------|------------|------------|-----------|------------|
| T7674  | 070124806 | Cyber Security                         | PC | 2         | -        | -         | -         | -          | 50         | -          | 2         | 50         |
| <b>Elective – III(Choose any one of the following)</b> |           |  |    |           |          |           |           |            |            |            |           |            |
| TE7019   | 070124807 | Big Data Analytics                     | PE | 4         | -        | -         | -         | -          | 40         | 60         | 4         | 100        |
| TE7020   | 070124808 | Optimization Techniques and Algorithms | PE | 4         | -        | -         | -         | -          | 40         | 60         | 4         | 100        |
| TE7021   | 070124809 | Wireless Sensor Networks               | PE | 4         | -        | -         | -         | -          | 40         | 60         | 4         | 100        |
| <b>Elective – IV (Choose any one of the following)</b> |           |  |    |           |          |           |           |            |            |            |           |            |
| TE7022   | 070124810 | Predictive Analytics                   | PE | 4         | -        | -         | -         | -          | 40         | 60         | 4         | 100        |
| TE7566   | 070124811 | Advanced Deep Learning                 | PE | 4         | -        | -         | -         | -          | 40         | 60         | 4         | 100        |
| T7527  | 070124812 | Internet of Things                     | PE | 4         | -        | -         | -         | -          | 40         | 60         | 4         | 100        |
|  |           |  |    | <b>16</b> | <b>0</b> | <b>18</b> | <b>90</b> | <b>135</b> | <b>190</b> | <b>235</b> | <b>25</b> | <b>625</b> |

**For 1 tutorial, there will be 1 hour class room teaching and 1 hour assignments.**

HS- Humanities and Social Sciences  
L- Lecture , T-Tutorial

ES - Engineering Sciences

PIS- Project, Internship, Seminar

OE- Open Electives

CA- Continuous Assessment

ESE- End Semester Examination

Practical, CA, ESE are separate heads of Passing

PE- Professional Elective

BS – Basic Sciences

PD - Professional Development Course

MC - Mandatory Course

PC – Professional Core

Practical external examination may be conducted by alternate internal faculty

### Summary

| Semester     | Internal Credits | External Credits | Credits    | Total Marks |
|--------------|------------------|------------------|------------|-------------|
| I            | 4                | 22               | 26         | 650         |
| II           | 0                | 25               | 25         | 625         |
| III          | 6                | 21               | 27         | 675         |
| IV           | 2                | 25               | 27         | 675         |
| V            | 0                | 26               | 26         | 650         |
| VI           |                  |                  |            |             |
| Group A /    | 4                | 13               | <b>17</b>  | 425         |
| Group B      | 0                | 17               | <b>17</b>  |             |
| VII          | 2                | 25               | 27         | 675         |
| VIII         | 5                | 20               | 25         | 625         |
| <b>Total</b> | <b>23/19</b>     | <b>177/181</b>   | <b>200</b> | <b>5000</b> |

\* Integrated Disaster Management is mandatory for the award of degree.