

**Department of Bioscience & Bioengineering**  
**B.Tech. Program in Biotechnology**

| Cat.                | Course  | L-T-P     | Credits   | Cat.                 | Course   | L-T-P      | Credits    |
|---------------------|---|-----------|-----------|----------------------|--|------------|------------|
| <b>I Semester</b>   |   |           |           | <b>II Semester</b>   |  |            |            |
| H                   | BB111 Biology for Engineers                     | 3-0-3     | 4         | H                    | ME122 Engineering Mechanics                            | 3-1-3      | 5          |
| H                   | CS111 Computer Programming                      | 3-1-3     | 5         | H                    | ME121 System Exploration-workshop                      | 3-0-3      | 4          |
| H                   | ME111 System Exploration Drawing                | 3-0-3     | 4         | H                    | EE121 Basic Electronic Engineering                     | 3-1-3      | 5          |
| B                   | MA111 Linear Algebra and Calculus               | 4-1-0     | 5         | B                    | MA121 Complex Analysis and Differential Equations      | 4-1-0      | 5          |
| B                   | PH111 Electromagnetism and Optics               | 3-1-3     | 5         | C                    | BB121 Cell & Molecular Biology                         | 3-0-0      | 3          |
| L                   | HS111 English Language and Communication Skills | 3-0-0     | 3         | L                    | HS121 Law : Constitution, Responsibilities and Rights  | 3-0-0      | 3          |
| S                   | PE111 Physical Exercise I                       |           | 0         | S                    | PE121 Physical Exercise II                             |            | 0          |
| <b>Total</b>        |   | <b>34</b> | <b>26</b> | <b>Total</b>         |  | <b>31</b>  | <b>25</b>  |
| <b>III Semester</b> |   |           |           | <b>IV Semester</b>   |  |            |            |
| H                   | EE211 Basic Electrical Engineering              | 3-1-3     | 5         | B                    | MA221 Probability Statistics and Random Processes      | 4-1-0      | 5          |
| B                   | CY211 Chemistry                                 | 3-0-3     | 4         | C                    | BB221 Biochemistry                                     | 3-0-3      | 4          |
| C                   | EE213 Signals and Systems                       | 3-1-0     | 4         | C                    | BB222 Genetics & Recombinant DNA Technology            | 3-0-3      | 4          |
| C                   | BB211 Microbiology                              | 3-0-3     | 4         | C                    | BB223 Bioprocess Engineering & Fermentation Technology | 3-1-3      | 5          |
| C                   | CS121 Data structures & Algorithms              | 3-1-3     | 5         | P                    | BB299 B.Tech. Project                                  | 0-0-8      | 2          |
| L                   | HS211 Principles of Economics                   | 3-0-0     | 3         | L                    | HS221 Principles of Management                         | 3-0-0      | 3          |
| <b>Total</b>        |   | <b>33</b> | <b>25</b> | <b>Total</b>         |  | <b>35</b>  | <b>23</b>  |
| <b>V Semester</b>   |   |           |           | <b>VI Semester</b>   |  |            |            |
| C                   | BB311 Animal Biotechnology                      | 3-0-3     | 4         | C                    | BB321 Bioengineering                                   | 3-0-3      | 4          |
| C                   | BB312 Bioinformatics & Computational Biology    | 3-0-3     | 4         | C                    | BB322 Environmental Biotechnology and Bioremediation   | 3-0-0      | 3          |
| C                   | BB313 Food and Agriculture technology           | 3-0-3     | 4         | C                    | BB323 Biomedical technology                            | 3-0-3      | 4          |
| C                   | BB314 Molecular Biophysics                      | 3-0-3     | 4         | C                    | CS323 Artificial Intelligence                          | 3-0-0      | 3          |
| P                   | BB398 B. Tech. Project                          | 0-0-8     | 2         | P                    | BB399 B. Tech. Project                                 | 0-0-9      | 3          |
| L                   | HS311 Principles of Psychology                  | 3-0-0     | 3         | L                    | HS321 Art, Culture and Heritage                        | 3-0-0      | 3          |
| <b>Total</b>        |   | <b>35</b> | <b>21</b> | <b>Total</b>         |  | <b>30</b>  | <b>20</b>  |
| <b>VII Semester</b> |   |           |           | <b>VIII Semester</b> |  |            |            |
| E                   | Elective  | 3-0-0     | 3         | E                    | Elective   | 3-0-0      | 3          |
| E                   | Elective  | 3-0-0     | 3         | E                    | Elective   | 3-0-0      | 3          |
| E                   | Elective  | 3-0-0     | 3         | E                    | Elective   | 3-0-0      | 3          |
| P                   | BB498 B. Tech. Project                          | 0-0-24    | 8         | P                    | BB499 B. Tech. Project                                 | 0-0-24     | 8          |
| L                   | HS411 Basics of Leadership                      | 3-0-0     | 3         | L                    | HS421 Role of Technology in Development                | 3-0-0      | 3          |
| <b>Total</b>        |   | <b>36</b> | <b>20</b> | <b>Total</b>         |  | <b>36</b>  | <b>20</b>  |
|                     |   |           |           | <b>Grand Total</b>   |  | <b>270</b> | <b>180</b> |