



**Integral University, Lucknow**  
**Department of Biosciences**  
 Evaluation Scheme of Under Graduate & Post Graduate Program as per NEP-2020 Guidelines  
 w.e.f. Session 2022-23

**B.SC. BIOTECHNOLOGY (HONS)**

**Year: Third / Semester: Fifth (Odd Semester)**

| S. N.             | Course Code      | Course Title                           | Theory / Practical | Course Type                | Periods / Per week |              |               | Continuous Assessment |                         |       | End Semester Examination (ESE) | Subject Total | Total Credit Points | Attributes    |                  |                   |                 |                              |             | United Nations Sustainable Development Goals (SDGs) |                     |   |   |   |   |
|-------------------|------------------|--|--------------------|----------------------------|--------------------|--------------|---------------|-----------------------|-------------------------|-------|--------------------------------|---------------|---------------------|---------------|------------------|-------------------|-----------------|------------------------------|-------------|---|---------------------|---|---|---|---|
|                   |                  |  |                    |                            | Lecture (L)        | Tutorial (T) | Practical (P) | Class Test (CT)       | Teacher Assessment (TA) | Total |                                |               |                     | Employability | Entrepreneurship | Skill Development | Gender Equality | Environment & Sustainability | Human Value |   | Professional Ethics |   |   |   |   |
| 1                 | B100501T /BS309  | Biostatistics and Bioinformatics       | Theory             | Major Course               | 3                  | 1            | 0             | 15                    | 10                      | 25    | 75                             | 100           | 04                  | ✓             | ✓                | ✓                 | ✓               | ✓                            | 8           | 9   | 8                   | 3 | 3 | 8 | 9 |
| 2                 | B100503 T /BS319 | Genetic Engineering                    | Theory             |                            | 3                  | 1            | 0             | 15                    | 10                      | 25    | 75                             | 100           | 04                  | ✓             | ✓                | ✓                 | ✓               | ✓                            | 9           | 9   | 8                   | 3 | 3 | 8 | 9 |
| 3                 | B100502 P /BS390 | Bioinformatics and Biostatistics Lab   | Practical          | Major Course               | 0                  | 0            | 4             | 15                    | 10                      | 25    | 75                             | 100           | 02                  | ✓             | ✓                | ✓                 | ✓               | ✓                            | 12          | 8   | 8                   | 3 | 3 | 8 | 9 |
| 4                 | B100504P /BS320  | Genetic Engineering Lab                | Practical          |                            | 0                  | 0            | 4             | 15                    | 10                      | 25    | 75                             | 100           | 02                  | ✓             | ✓                | ✓                 | ✓               | ✓                            | 3           | 8   | 8                   | 3 | 3 | 8 | 9 |
| 5                 | B100505 T /BS300 | Bioanalytical Tools                    | Theory             | Major Course               | 3                  | 1            | 0             | 15                    | 10                      | 25    | 75                             | 100           | 04                  | ✓             | ✓                | ✓                 | ✓               | ✓                            | 3           | 8   | 8                   | 3 | 3 | 8 | 9 |
| 6                 | B100506T /BS391  | Medical Biotechnology                  | Theory             |                            | 3                  | 1            | 0             | 15                    | 10                      | 25    | 75                             | 100           | 04                  | ✓             | ✓                | ✓                 | ✓               | ✓                            | 3           | 8   | 8                   | 3 | 3 | 8 | 9 |
| 7                 | Z050501/ MT337   | Analytic Ability and Digital Awareness | Theory             | Co-curricular (Compulsory) | 2                  | 0            | 0             | 15                    | 10                      | 25    | 75                             | 100           | 02                  | ✓             | ✓                | ✓                 | ✓               | ✓                            | 3           | 8   | 8                   | 3 | 3 | 8 | 9 |
| 8                 | B100507R /BS392  | Industrial visit and survey report     | Practical          | Core Major                 | 0                  | 0            | 8             | 0                     | 0                       | 0     | 100                            | 100           | 04                  | ✓             | ✓                | ✓                 | ✓               | ✓                            | 12          | 8   | 8                   | 3 | 3 | 8 | 9 |
| <b>(4-Credit)</b> |                  |  |                    |                            | 14                 | 4            | 16            | 105                   | 70                      | 175   | 625                            | 800           | 26                  |               |                  |                   |                 |                              |             |   |                     |   |   |   |   |
| <b>TOTAL</b>      |                  |  |                    |                            | 14                 | 4            | 16            | 105                   | 70                      | 175   | 625                            | 800           | 26                  |               |                  |                   |                 |                              |             |   |                     |   |   |   |   |



## B.S.C. BIOTECHNOLOGY (HONS)

Year: Third / Semester: Sixth

### Semester (Even Semester)

| S. N.        | Course Code    | Course Title                                      | Theory/ Practical | Course Type                | Periods/ Per week |              |               |                 | Continuous Assessment   |            |               | End Semester Examination (ESE) | Subject Total | Total Credit Points | Attributes       |                   |                              |  | United Nations Sustainable Development Goals (SDGs) |
|--------------|----------------|---|-------------------|----------------------------|-------------------|--------------|---------------|-----------------|-------------------------|------------|---------------|--------------------------------|---------------|---------------------|------------------|-------------------|------------------------------|--|---|
|              |                |   |                   |                            | Lecture (L)       | Tutorial (T) | Practical (P) | Class Test (CT) | Teacher Assessment (TA) | Total      | Employability |                                |               |                     | Entrepreneurship | Skill Development | Environment & Sustainability | Human Professional Value Ethics  |   |
| 1            | B100601T/BS317 | Essentials of Environmental Biotechnology         | Theory            | Core Major (Compulsory)    | 3                 | 1            | 0             | 15              | 10                      | 25         | 75            | 100                            | 04            | ✓                   | ✓                | ✓                 | ✓                            | 8 Quality Education, 9 Industry, Innovation and Infrastructure   |   |
| 2            | B100603T/BS318 | Food microbiology and Biotechnology               | Theory            |                            | 3                 | 1            | 0             | 15              | 10                      | 25         | 75            | 100                            | 04            | ✓                   | ✓                | ✓                 | ✓                            | 3 Good Health and Well-being, 9 Industry, Innovation and Infrastructure, 12 Responsible Consumption and Production |   |
| 3            | B100607T/BS313 | Bionanotechnology                                 | Theory            |                            | 3                 | 1            | 0             | 15              | 10                      | 25         | 75            | 100                            | 04            | ✓                   | ✓                | ✓                 | ✓                            | 3 Good Health and Well-being, 9 Industry, Innovation and Infrastructure  |   |
| 4            | B100602P/BS393 | Fundamentals of Environmental Biotechnology Lab   | Practical         | Core Major (Compulsory)    | 0                 | 0            | 4             | 15              | 10                      | 25         | 75            | 100                            | 02            | ✓                   | ✓                | ✓                 | ✓                            | 12 Responsible Consumption and Production, 3 Good Health and Well-being  |   |
| 5            | B100604P/BS310 | Food microbiology and Biotechnology Lab           | Practical         |                            | 0                 | 0            | 4             | 15              | 10                      | 25         | 75            | 100                            | 02            | ✓                   | ✓                | ✓                 | ✓                            | 9 Industry, Innovation and Infrastructure, 3 Good Health and Well-being  |   |
| 6            | B100605T/BS394 | Applied Biotechnology                             | Theory            | Major Elective             | 3                 | 1            | 0             | 15              | 10                      | 25         | 75            | 100                            | 04            | ✓                   | ✓                | ✓                 | ✓                            | 3 Good Health and Well-being, 9 Industry, Innovation and Infrastructure, 12 Responsible Consumption and Production |   |
| 7            | B100606T/BS395 | Genomics, Proteomics and Metabolomics             | Theory            |                            | 3                 | 1            | 0             | 15              | 10                      | 25         | 75            | 100                            | 04            | ✓                   | ✓                | ✓                 | ✓                            | 3 Good Health and Well-being, 9 Industry, Innovation and Infrastructure, 12 Responsible Consumption and Production |   |
| 8            | Z060601/LN343  | Communication Skills and Personality Development  | Theory            | Co-curricular (Compulsory) | 2                 | 0            | 0             | 15              | 10                      | 25         | 75            | 100                            | 02            | ✓                   | ✓                | ✓                 | ✓                            | 4 Quality Education, 5 Gender Equality, 10 Reduced Inequalities  |   |
| 9            | B100508R/BS396 | Research Project (minor) and seminar (4+2 Credit) | Practical         | Core Major                 | 0                 | 0            | 12            | 0               | 0                       | 0          | 100           | 100                            | 06            | ✓                   | ✓                | ✓                 | ✓                            | 12 Responsible Consumption and Production, 9 Industry, Innovation and Infrastructure                               |   |
| <b>TOTAL</b> |                |   |                   |                            | <b>14</b>         | <b>4</b>     | <b>20</b>     | <b>105</b>      | <b>70</b>               | <b>175</b> | <b>625</b>    | <b>800</b>                     | <b>28</b>     |                     |                  |                   |                              |  |   |