

**B.Tech. Biotechnology
KURUKSHETRA UNIVERSITY KURUKSHETRA**

Semester-I

| S. No. | Course No./ Code | Subject | L:T:P | Hours/ Week | Credits | Examination Schedule (Marks) | | | | Duration of exam (Hours) |
|--------------|------------------|---|-------|-------------|-------------|------------------------------|---------------------|----------------|-------------|--------------------------|
| | | | | | | End semester Exam | Internal Assessment | Practical Exam | Total | |
| 1 | B23-HSC-101 | English for Technical Writing | 2:0:0 | 2 | 2 | 70 | 30 | -- | 100 | 3 |
| 2 | B23-ESC-101 | Programming for Problem Solving | 3:0:0 | 3 | 3 | 70 | 30 | -- | 100 | 3 |
| 3 | B23-BSC-105 | Chemistry | 3:1:0 | 4 | 4 | 70 | 30 | -- | 100 | 3 |
| 4 | B23-BSC-109 | Applied Mathematics-I | 3:1:0 | 4 | 4 | 70 | 30 | -- | 100 | 3 |
| 5 | B23-BSC-106 | Biology | 3:0:0 | 3 | 3 | 70 | 30 | -- | 100 | 3 |
| 6 | B23-HSC-103 | English Language Lab | 0:0:2 | 2 | 1 | -- | 40 | 60 | 100 | 3 |
| 7 | B23-ESC-105 | Programming for Problem Solving Lab | 0:0:2 | 2 | 1 | -- | 40 | 60 | 100 | 3 |
| 8 | B23-ESC-107 | Manufacturing Processes Workshop | 0:0:3 | 3 | 1.5 | -- | 40 | 60 | 100 | 3 |
| 9 | B23-BSC-114 | Engineering Chemistry Lab | 0:0:2 | 2 | 1 | -- | 40 | 60 | 100 | 3 |
| 10 | B23-VAC-101 | Personality Development and Soft Skills | 2:0:0 | 2 | 1 | -- | 100 | -- | 100 | 3 |
| Total | | | | 27 | 21.5 | 350 | 410 | 240 | 1000 | |

Note: NCC/NSS/Sports/Yoga/Technical or cultural club/society activities will be joined by students in first year and will be evaluated in the 7th semester by the Institute based upon continuous evaluation model as per the guidelines.

**B.Tech. Biotechnology
KURUKSHETRA UNIVERSITY KURUKSHETRA**

Semester - II

| S. No. | Course No./ Code | Subject | L:T:P | Hours/ Week | Credits | Examination Schedule (Marks) | | | | Duration of Exam (Hours) |
|--------------|------------------|---|-------|-------------|-------------|------------------------------|---------------------|----------------|-------------|--------------------------|
| | | | | | | End semester Exam | Internal Assessment | Practical Exam | Total | |
| 1 | B23-HSM-101 | Universal Human Values-II : Understanding Harmony and Ethical Human conduct | 3:0:0 | 3 | 3 | 70 | 30 | -- | 100 | 3 |
| 2 | B23-ESC-102 | Engineering Graphics and Design | 1:0:0 | 1 | 1 | 70 | 30 | -- | 100 | 3 |
| 3 | B23-ESC-103 | Basic Electrical and Electronics Engineering | 3:1:0 | 4 | 4 | 70 | 30 | -- | 100 | 3 |
| 4 | B23-BSC-103 | Applied Physics | 3:1:0 | 4 | 4 | 70 | 30 | -- | 100 | 3 |
| 5 | B23-BSC-110 | Applied Mathematics-II | 3:1:0 | 4 | 4 | 70 | 30 | -- | 100 | 3 |
| 6 | B23-ESC-106 | Engineering Graphics & Design Lab | 0:0:4 | 4 | 2 | -- | 40 | 60 | 100 | 3 |
| 7 | B23-ESC-108 | Basic Electrical and Electronics Engineering lab | 0:0:2 | 2 | 1 | -- | 40 | 60 | 100 | 3 |
| 8 | B23-BSC-113 | Applied Physics Lab | 0:0:2 | 2 | 1 | -- | 40 | 60 | 100 | 3 |
| 9 | B23-HSC-102 | Design Thinking | 0:0:3 | 3 | 1.5 | -- | 100 | -- | 100 | 3 |
| 10 | B23-VAC-106 | IDEA Workshop Theory | 2:0:0 | 2 | 1 | -- | 100 | -- | 100 | 3 |
| 11 | B23-VAC-108 | IDEA Workshop Lab | 0:0:4 | 4 | 1 | -- | 100 | -- | 100 | 3 |
| Total | | | | 33 | 23.5 | 350 | 570 | 180 | 1100 | |

Biotechnology

Students of Biotechnology are offered to earn ADDITIONAL 18-20 CREDITS through MOOCs/SWAYAM courses as per the ‘Guidelines to implement the SWAYAM/MOOCs/ other authorized online courses (OAOC) of Kurukshetra University, Kurukshetra’ in any of the emerging areas mentioned below for the award of the degree of:

- 1. B.Tech. (Hons.) Biotechnology with Specialization in Computer Science and Biology**
- 2. B.Tech. (Hons.) Biotechnology with Specialization in Drug Engineering**
- 3. B.Tech. (Hons.) Biotechnology with Specialization in Genome Engineering and Technology**
- 4. B.Tech. Biotechnology with Minor Degree in Artificial Intelligence and Machine Learning**
- 5. B.Tech. Biotechnology with Minor Degree in Blockchain**
- 6. B.Tech. Biotechnology with Minor Degree in Data Science**
- 7. B.Tech. Biotechnology with Minor Degree in Internet of Things (IoT)**
- 8. B.Tech. Biotechnology with Minor Degree in Cyber Security**
- 9. B.Tech. Biotechnology with Minor Degree in 3D Printing**
- 10. B.Tech. Biotechnology with Minor Degree in Electric Vehicles**
- 11. B.Tech. Biotechnology with Minor Degree in Energy Engineering**
- 12. B.Tech. Biotechnology with Minor Degree in Mechatronics**
- 13. B.Tech. Biotechnology with Minor Degree in Robotics**