**BHARATHIAR UNIVERSITY, COIMBATORE-641 046.**

**B.Sc., BIOTECHNOLOGY DEGREE COURSE (Affiliated Colleges)**

***(For the Students Admitted During the Academic Year 2020-21 Onwards)***

SCHEME OF EXAMINATION -CBCS PATTERN

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Part** | **Sub code** | **Study Components** | **Course title** | **Ins.hrs/ week** | | | **Examinations** | | | | | | **Credit** | |
| **Dur/Hrs** | **CIA** | | | **External Marks** | **Total Marks** |
|  |  | **Semester I** | |  | | |  |  | | |  |  |  | |
| I | 11T/11H/11F | Language – I | | 6 | | | 3 | 25 | | | 75 | 100 | 4 | |
| II | 12E | English – I | | 6 | | | 3 | 25 | | | 75 | 100 | 4 | |
| III | 13A | Core Paper I - Cell biology | | 5 | | | 3 | 25 | | | 75 | 100 | 4 | |
|  | 13B | Core Paper II – Bioinstrumentation | | 4 | | | 3 | 25 | | | 75 | 100 | 4 | |
|  |  | Practical I (Cell Biology, Bioinstrumentation, and Microbiology) | | 3 | | | - | - | | | - | - | - | |
|  | 1AA | Allied A: Paper I: Basic Mathematics | | 4 | | | 3 | 20 | | | 55 | 75 | 3 | |
| IV | 1FA | Environmental Studies # | | 2 | | | 3 | - | | | 50 | 50 | 2 | |
|  |  | **Semester II** | |  | | |  |  | | |  |  |  | |
| I | 21T/21H/21F | Language – II | | 6 | | | 3 | 25 | | | 75 | 100 | 4 | |
| II | 22E | English – II | | 6 | | | 3 | 25 | | | 75 | 100 | 4 | |
| III | 23A | Core Paper III – Microbiology | | 5 | | | 3 | 25 | | | 75 | 100 | 4 | |
|  | 23P | Core Practical I (Cell Biology,  Bioinstrumentation and Microbiology) | | 4 | | | 3 | 40 | | | 60 | 100 | 4 | |
|  | 2AH | Allied A: Paper II- Chemistry | | 4 | | | 3 | 20 | | | 55 | 75 | 3 | |
|  | 2PH | Allied Practical (Chemistry) | | 3 | | | 3 | 20 | | | 30 | 50 | 2 | |
| IV | 2FB | Value Education – Human Rights # | | 2 | | | 3 | - | | | 50 | 50 | 2 | |
|  |  | **Semester III** | |  | | |  |  | | |  |  |  | |
| I | 31T/31H/31F | Language – III | | 6 | | | 3 | 25 | | | 75 | 100 | 4 | |
| II | 32E | English – III | | 6 | | | 3 | 25 | | | 75 | 100 | 4 | |
| III | 33A | Core Paper IV – Biochemistry | | 4 | | | 3 | 25 | | | 75 | 100 | 4 | |
|  | 33B | Core Paper V- Genetics | | 4 | | | 3 | 25 | | | 75 | 100 | 4 | |
|  |  | Core Practical II (Genetics & Biochemistry) | | 2 | | | - | - | | | - | - | - | |
|  | 3AA | Allied B: Paper I – Computer applications I: Introduction to computers | | 3 | | | 3 | 20 | | | 55 | 75 | 3 | |
| IV | 3ZA | Skill Based Subject 1 - Human Physiology | | 3 | | | 3 | 20 | | | 55 | 75 | 3 | |
|  | 3FB/3FC | Tamil @ / Advanced Tamil# (OR) Non-major  Elective - I (Yoga for Human Excellence# / Women’s Rights# / Constitution of India #) | | 2 | | | 3 | 50 | | | | 50 | 2 | |
| **Semester IV** | | | | | | | | | | | | | |
| I | 41T/41H/41F | Language – IV | | | 6 | 3 | | 25 | | 75 | | 100 | 4 |
| II | 42E | English – IV | | | 6 | 3 | | 25 | | 75 | | 100 | 4 |
| III | 43A | Core Paper VI- Molecular Genetics | | | 4 | 3 | | 25 | | 75 | | 100 | 4 |
|  | 43P | Core Practical – II (Genetics & Biochemistry) | | | 3 | 3 | | 40 | | 60 | | 100 | 4 |
|  | 4AA | Allied B: Paper II – Computer applications II- ‘C’ and Python programming | | | 4 | 3 | | 20 | | 55 | | 75 | 3 |
|  | 43Q | Allied Practical (Computer Applications - I & II) | | | 2 | 3 | | 20 | | 30 | | 50 | 2 |
| IV | 4ZB | Skill-Based Subject 2 -Human Pathology | | | 3 | 3 | | 20 | | 55 | | 75 | 3 |
|  | 4FB/4FE | Tamil @ /Advanced Tamil # (OR)  Non-major elective -II (General Awareness#) | | | 2 | 3 | | 50 | | | | 50 | 2 |
| **Semester V** | | | | | | | | | | | | | |
| III | 53A | Core paper VII Plant & Animal Biotechnology | | | 4 | 3 | | 25 | 75 | | | 100 | 4 |
|  | 53B | Core Paper VIII Immunology | | | 4 | 3 | | 25 | 75 | | | 100 | 4 |
|  | 53C | Core Paper IX Environmental Biotechnology | | | 4 | 3 | | 25 | 75 | | | 100 | 4 |
|  | 53D | Core Paper X Recombinant DNA Technology | | | 4 | 3 | | 25 | 75 | | | 100 | 4 |
|  |  | Core Practical III Immunology and Plant Tissue  Culture | | | 4 | - | | - | - | | | - | - |
|  |  | Core Practical IV Microbial Biotechnology &  rDNA technology | | | 3 | - | | - | - | | | - | - |
|  | 5EA/5EB/  5EC | Elective-I | | | 4 | 3 | | 25 | 75 | | | 100 | 4 |
| IV | 5ZC | Skill Based Subject 3 Diagnostic Tools | | | 3 | 3 | | 20 | 55 | | | 75 | 3 |
| **Semester VI** | | | | | | | | | | | | | |
| III | **63A** | **Core Paper-XI: Microbial Biotechnology** | | | **4** | 3 | | 25 | 75 | | | 100 | 4 |
|  | 63P | Core Practical-III: Immunology and Plant Tissue  Culture | | | 6 | 6 | | 40 | 60 | | | 100 | 4 |
|  | 63Q | Core Practical-IV: Microbial Biotechnology &  rDNA technology | | | 6 | 6 | | 40 | 60 | | | 100 | 4 |
|  | **6EA/6EB/ 6EC** | **Elective-II** | | | **4** | 3 | | **20** | **30** | | | **50** | **2** |
|  | **6ED/6EE/ 6EF** | **Elective-III** | | | **4** | 3 | | **20** | **30** | | | **50** | **2** |
| IV | 6ZD | Skill Based Subject-4: Pharmacology | | | 3 | 3 | | 20 | 55 | | | 75 | 3 |
| V | 67A | Extension Activities/Internship Training (Research  Institute/ Industry) @ | | | - | - | | 50 | - | | | 50 | 3 |
|  |  | **Naan Muthalvan Course: Medical Coding for Employability #** | | | **3** | **-** | | **50** | **-** | | | **50** | **2** |
|  |  | **Grand Total** | | |  |  | |  |  | | | **3500** | **140** |

@ No University Examinations. Only Continuous Internal Assessment (CIA)

# No Continuous Internal Assessment (CIA). Only University Examinations.

**The alteration in the INSTRUCTION HOURS and CREDIT POINTS for the inclusion of the Naan Muthalvan Course has been highlighted (SIXTH Semester ALONE).**

**Naan Muthalvan Course (LINK):**

* **Medical Coding for Employability #**

[**http://kb.naanmudhalvan.in/images/d/d7/Medical\_Coding.pdf**](http://kb.naanmudhalvan.in/images/d/d7/Medical_Coding.pdf)

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| List of Elective papers\* (Colleges can choose any one of the papers as elective) | | |
| Elective – I | A | Agricultural Biotechnology |
| B | Bioremediation |
| C | Introduction to Bioinformatics |
| Elective – II | A | Medical Biotechnology |
| B | Biotechnological approach for wastewater treatment |
| C | Genomics |
| Elective – III | A | Industrial Biotechnology |
| B | Bioethics & Biosafety |
| C | Proteomics |

**\*Elective papers as listed above or any other new elective can be added based on the need, which can be approved by the University authorities.**