**BHARATHIAR UNIVERSITY:: COIMBATORE 641046**

**B.Sc PHYSICS Curriculum (Affiliated Colleges)**

*(For the students admitted during the academic year 2022– 23)*

Revised Scheme of Examination

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Part | **Course Code** | | **Title of the Course** | **Credits** | | **Hours/week** | | **Maximum Marks** | | | |
| **Theory** | **Practical** | **CIA** | | **CEE** | **Total** |
|  | **FIRST SEMESTER** | | | | | | | | | | |
| I | 11T | Language-I | | | 4 | 6 | - | 50 | | 50 | 100 |
| II | 12E | English-I | | | 4 | 6 | - | 50 | | 50 | 100 |
| III | 13A | Core I – Mechanics, Properties of Matter and sound | | | 4 | 6 | - | 50 | | 50 | 100 |
| III | - | Core Practical I | | | - | - | 3 | - | | - | - |
| III | 1AA 1AH | Allied Mathematics I \* (or) Allied Chemistry I \*\* | | | 4 3 | 7 4 | - - | 50 30 | | 50 45 | 100 75 |
| III | - | Allied Chemistry Practical \*\* | | | - | - | 3 | - | | - | - |
| IV | 1FA | Environmental Studies # | | | 2 | 2 | - | - | | 50 | 50 |
|  | **Total** | | | | **18** |  |  |  | |  | **450** |
|  | **SECOND SEMESTER** | | | | | | | | | | |
| I | 21T | | Language-II | | 4 | 6 | - | 50 | | 50 | 100 |
| II | 22E | | English-II | | 2 | 4 | - | 25 | | 25 | 50 |
| II | 2NM | | Effective English: Language Proficiency for Employability ##  http://kb.naanmudhalvan.in/Bharathiar\_University\_(BU) | | 2 | 2 | - | 25 | | 25 | 50 |
| III | 23A | | Core II - Heat and Thermodynamics | | 4 | 6 |  | 50 | | 50 | 100 |
| III | 23P | | Core Practical I | | 4 | - | 3 | 50 | | 50 | 100 |
| III III | 2AA 2AH | | Allied Mathematics II \* (or) Allied Chemistry II \*\* | | 4 3 | 7 4 | - - | 50 30 | | 50 45 | 100 75 |
| III | 2PH | | Allied Chemistry Practical \*\* | | 2 | - | 3 | 25 | | 25 | 50 |
| IV | 2FB | | Value Education - Human Rights # | | 2 | 2 | - | - | | 50 | 50 |
|  | **Total** | | | | **22** |  |  |  | |  | **550** |
|  | **THIRD SEMESTER** | | | | | | | | | | |
| I | 31T | | Language-III | 4 | | 6 | - | 50 | | 50 | 100 |
| II | 32E | | English-III | 4 | | 6 | - | 50 | | 50 | 100 |
| III | 33A | | Core III – Optics | 4 | | 4 | - | 50 | | 50 | 100 |
| III | - | | Core Practical II | - | | - | 2 | - | | - | - |
| III III | 3AA 3AH | | Allied Mathematics I \* (or) Allied Chemistry I \*\* | 4 3 | | 7 4 | - - | 50 30 | | 50 45 | 100 75 |
| III | - | | Allied Chemistry Practical \*\* | - | | - | 3 | - | | - | - |
| IV | 3ZA | | Skill Based Subject – Instrumentation I | 3 | | 3 | - | 30 | | 45 | 75 |
| IV | 3NM | | Microsoft Office Essentials: Digital Skills for Employability ##  <http://kb.naanmudhalvan.in/Bharathiar_University(BU)> | 2 | | 2 | - | 25 | | 25 | 50 |
| IV | 3FC | | Tamil @ / Advanced Tamil # (OR) Non-major elective - I (Yoga for Human Excellence) # / Women's Rights # | 2 | | 2 | - | - | | 50 | 50 |
|  | **Total** | | | **20+2** | |  |  |  | |  | **550** |
|  | **FOURTH SEMESTER** | | | | | | | | | | |
| I | 41T | | Language-IV | | 4 | 6 | - | 50 | | 50 | 100 |
| II | 42E | | English-IV | | 4 | 6 | - | 50 | | 50 | 100 |
| III | 43A | | Core IV – Atomic Physics and Spectroscopy | | 4 | 4 | - | 50 | | 50 | 100 |
| III | 43P | | Core Practical II | | 3 | - | 2 | 30 | | 45 | 75 |
| III | 4AA or  4AH | | Allied Mathematics II \* (or)  Allied Chemistry II \*\* | | 4  3 | 7  4 |  | 50 30 | | 50 45 | 100 75 |
| III | 4PH | | Allied Chemistry Practical \*\* | | 2 | - | 3 | 25 | | 25 | 50 |
| IV | 4ZB | | Skill Based Subject – Instrumentation II | | 2 | 3 | - | 25 | | 25 | 50 |
| IV | 4NM | | Office Fundamentals: Digital Skills for Employability ##  <http://kb.naanmudhalvan.in/Bharathiar_University_(BU)> | | 2 | 2 | - | 25 | | 25 | 50 |
| IV | 4FE | | Tamil @ /Advanced Tamil # (or) Non-Major Elective -II (General Awareness #) | | 2 | 2 | - | - | | 50 | 50 |
|  | **Total** | | | | **26** |  |  |  | |  | **650** |
| **FIFTH SEMESTER** | | | | | | | | | | | |
| III | 53A | | Core V – Mathematical Physics | 4 | | 4 | - | 50 | 50 | | 100 |
| III | 53B | | Core VI – Electronics | 4 | | 4 | - | 50 | 50 | | 100 |
| III | 53C | | Core VII – Solid State Physics | 4 | | 4 | - | 50 | 50 | | 100 |
| III | 53D | | Core VIII – Electricity and Magnetism | 4 | | 4 | - | 50 | 50 | | 100 |
| III | - | | Core Practical III - Electronics | - | | - | 2 | - | - | | - |
| III | - | | Core Practical IV - Digital and  Microprocessor | - | | - | 2 | - | - | | - |
| III | 5EA | | Elective – I | 4 | | 4 | - | 50 | 50 | | 100 |
| III | - | | Practical V - C and C++ | - | | - | 3 | - | - | | - |
| IV | 5NM | | Technical Skills for Employability ##  <http://kb.naanmudhalvan.in/Bharathiar_University(BU)> | 2 | | 2 | - | 25 | 25 | | 50 |
| IV | 5ZC | | Skill based Subject - Instrumentation III | 3 | | 3 | - | 30 | 45 | | 75 |
|  | **Total** | | | **23+2** | |  |  |  |  | | **625** |
| **SIXTH SEMESTER** | | | | | | | | | | | |
| III | 63A | | Core IX – Quantum Mechanics and Relativity | 4 | | 6 | - | 50 | 50 | | 100 |
| III | 63B | | Core X - Nuclear Physics | 4 | | 6 | - | 50 | 50 | | 100 |
| III | 63P | | Core Practical III - Electronics | 3 | | - | 2 | 30 | 45 | | 75 |
| III | 63Q | | Core Practical IV - Digital and  Microprocessor | 3 | | - | 2 | 30 | 45 | | 75 |
| III | 6EA | | Elective – II | 4 | | 4 | - | 50 | 50 | | 100 |
| III | 6EB | | Elective – III | 4 | | 4 | - | 50 | 50 | | 100 |
| III | 63R | | Practical V - C and C++ | 3 | | - | 2 | 30 | 45 | | 75 |
| IV | 6ZP | | Skill based Subject Practical – Instrumentation | 2 | | - | 2 | 25 | 25 | | 50 |
| IV | 6NM | | Project Based Learning - Advanced Platform Technology ## - (Physics, Electronics, Mathematics, Statistics, Data Science) - Govt(auto) & Govt (Non-Auto)  Data Analytics with Advanced Tools ## - (Physics, Electronics, Mathematics, Statistics, Data Science) - Aided (Non-auto) & SF (Non-Auto)  <http://kb.naanmudhalvan.in/Bharathiar_University_(BU)> | 2 | | - | 2 | 25 | 25 | | 50 |
| V | 67A | | Extension Activities @ | 2 | | - | - | - | - | | 50 |
|  | **Total** | | | **31** | |  |  |  |  | | **775** |
|  | **Grand Total** | | | **140+4** | |  |  |  |  | | **3600** |

\*For subjects without practical

\*\* For subjects with practical

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

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

## For Naan Mudhalvan Courses

|  |  |  |
| --- | --- | --- |
| **LIST OF ELECTIVE PAPERS**  **(Colleges can choose any one of the papers from each section as electives)** | | |
| Elective – I | **A** | Principles of Programming Concepts and C Programming |
| **B** | Energy Physics |
| **C** | Agricultural Physics |
| Elective – II | **A** | Digital and Microprocessor |
| **B** | Optical Fibers and Fiber Optic Communication Systems |
| **C** | Bio-Physics |
| Elective - III | **A** | Object Oriented Programming with C++ |
|  | **B** | Geo Physics |
| **C** | Industry Automation & Its Applications **(Industry 4.0)** |

# LIST OF VALUE-ADDED COURSES (OPTIONAL)

**(Only Internal and no external exam – 100 Marks)**

* OPTOELECTRONICS
* NON–DESTRUCTIVE TESTING
* BIOMEDICAL INSTRUMENTATION
* MODERN DISPLAY DEVICES AND STORAGE MATERIALS