**COURSE STRCUTURE FOR UG ENGINEERING UNDER**

**DIBRUGARH UNIVERSITY**

**ELECTRICAL ENGINEERING**

**SEMESTER I**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl No. | Course Code | Course Title | L | T | P | Contact hrs/wk | Credit |
| 01 | HS1C01 | Sociology | 2 | 0 | 0 | 2 | 2 |
| 02 | HS1C02 | Business Communications | 2 | 0 | 0 | 2 | 2 |
| 03 | MA1C01 | Mathematics I | 3 | 1 | 0 | 4 | 4 |
| 04 | PH1C01 | Applied Physics I | 3 | 1 | 0 | 4 | 4 |
| 05 | PH1C02 | Applied Physics Laboratory I | 0 | 0 | 2 | 2 | 1 |
| 06 | CH1C01 | Engineering Chemistry I | 3 | 1 | 0 | 4 | 4 |
| 07 | CH1C02 | Engineering Chemistry Laboratory I | 0 | 0 | 2 | 2 | 1 |
| 08 | CE1C01 | Engineering Graphics | 1 | 3 | 0 | 4 | 4 |
| 09 | EE1C01 | Basic Electrical Engineering | 3 | 1 | 0 | 4 | 4 |
| 10 | EE1C02 | Basic Electrical Engineering Laboratory | 0 | 0 | 2 | 2 | 1 |
| 11 | ME1C01 | Engineering Workshop I | 0 | 0 | 2 | 2 | 1 |
| **Total** | | | | | | **32** | **28** |

**SEMESTER II**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl No. | Course Code | Course Title | L | T | P | Contact hrs/wk | Credit |
| 01 | HS1C03 | Economics for Engineers | 2 | 0 | 0 | 2 | 2 |
| 02 | HS1C04 | Presentation Skills | 1 | 2 | 0 | 3 | 2 |
| 03 | MA1C02 | Mathematics II | 3 | 1 | 0 | 4 | 4 |
| 04 | PH1C03 | Applied Physics II | 3 | 1 | 0 | 4 | 4 |
| 05 | PH1C04 | Applied Physics Laboratory II | 0 | 0 | 2 | 2 | 1 |
| 06 | CH1C03 | Engineering Chemistry II | 3 | 1 | 0 | 4 | 4 |
| 07 | CH1C04 | Engineering Chemistry Laboratory II | 0 | 0 | 2 | 2 | 1 |
| 08 | CS1C01 | Computer Programming | 3 | 0 | 0 | 3 | 3 |
| 09 | CS1C02 | Computer Programming Laboratory | 0 | 0 | 2 | 2 | 1 |
| 10 | ME1C02 | Engineering Mechanics | 3 | 1 | 0 | 4 | 4 |
| 11 | ME1C03 | Engineering Mechanics Laboratory | 0 | 0 | 2 | 2 | 1 |
| 12 | ME1C04 | Engineering Workshop II | 0 | 0 | 2 | 2 | 1 |
| **Total** | | | | | | **34** | **28** |
| 13 | AC1C01 | Environmental studies |  |  |  |  | 0 |

**SEMESTER III**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl No. | Course Code | Course Title | L | T | P | Contact hrs/wk | Credit |
| 01 | MA2C01 | Mathematics III | 3 | 1 | 0 | 4 | 4 |
| 02 | EE2C01 | Electrical Engineering Materials | 3 | 1 | 0 | 4 | 4 |
| 03 | EE2C02 | Basic Electronics Engineering | 3 | 1 | 0 | 4 | 4 |
| 04 | EE2C03 | Electrical Circuit Analysis | 3 | 1 | 0 | 4 | 4 |
| 05 | EE2C04 | Electrical Machines I | 3 | 1 | 0 | 4 | 4 |
| 06 | EE2C05 | DSLD & Microprocessor | 4 | 1 | 0 | 5 | 5 |
| 07 | EE2C06 | DSLD & Microprocessor Laboratory | 0 | 0 | 2 | 2 | 1 |
| 08 | EE2C07 | Electrical Machines - I Laboratory | 0 | 0 | 2 | 2 | 1 |
| 09 | EE2C08 | Basic Electronics Engineering Laboratory | 0 | 0 | 2 | 2 | 1 |
|  |  | **Total** |  |  |  | **31** | **28** |
| 10 | AC2C01 | Language laboratory | 0 | 0 | 4 | 4 | 0 |

**SEMESTER IV**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl No. | Course Code | Course Title | L | T | P | Contact hrs/wk | Credit |
| 01 | MA2C02 | Mathematics IV | 3 | 1 | 0 | 4 | 4 |
| 02 | EE2C09 | Automatic Control System I | 3 | 1 | 0 | 4 | 4 |
| 03 | EE2C10 | Electro Magnetic Field Theory | 3 | 1 | 0 | 4 | 4 |
| 04 | EE2C11 | Advanced Electronics & Microprocessor Interfacing | 4 | 2 | 0 | 6 | 6 |
| 05 | EE2C12 | Electrical Machines - II | 3 | 1 | 0 | 4 | 4 |
| 06 | EE2C13 | Power System I | 3 | 1 | 0 | 4 | 4 |
| 07 | EE2C14 | Advance Electronics & Microprocessor Laboratory | 0 | 0 | 2 | 2 | 1 |
| 08 | EE2C15 | Electrical Machines – II Laboratory | 0 | 0 | 2 | 2 | 1 |
|  |  |  |  |  |  | **30** | **28** |
| 09 | AC2C01 | Language laboratory | 0 | 0 | 4 | 4 | 0 |

**SEMESTER V**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl No. | Course Code | Course Title | L | T | P | Contact hrs/wk | Credit |
| 01 | MA3C01 | Mathematics V | 3 | 1 | 0 | 4 | 4 |
| 02 | EE3C01 | Automatic Control System II | 3 | 1 | 0 | 4 | 4 |
| 03 | EE3C02 | Power System II | 3 | 1 | 0 | 4 | 4 |
| 04 | EE3C03 | Power Electronics | 4 | 1 | 0 | 5 | 5 |
| 05 | EE3C04 | Digital Signal Processing | 3 | 1 | 0 | 4 | 4 |
| 06 | EE3C05 | Electrical Measurement I | 3 | 1 | 0 | 4 | 4 |
| 07 | EE3C06 | Power Electronics Laboratory | 0 | 0 | 2 | 2 | 1 |
| 08 | EE3C07 | Automatic Control System & DSP Laboratory | 0 | 0 | 2 | 2 | 1 |
| 09 | EE3C08 | C++ & Object Oriented Programming Laboratory | 0 | 0 | 2 | 2 | 1 |
|  | **Total** | |  |  |  | **31** | **28** |

**SEMESTER VI**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl No. | Course Code | Course Title | L | T | P | Contact hrs/wk | Credit |
| 01 | HS3C01 | Introduction to Accountancy & Management | 3 | 1 | 0 | 4 | 4 |
| 02 | MA3C02 | Mathematics VI (Fuzzy & Discrete) | 3 | 0 | 0 | 3 | 3 |
| 03 | EE3EXX | Elective - I | 3 | 1 | 0 | 4 | 4 |
| 04 | EE3C10 | Power System III | 3 | 1 | 0 | 4 | 4 |
| 05 | EE3C11 | Electrical Measurement II | 3 | 1 | 0 | 4 | 4 |
| 06 | EE3C12 | Electrical System Design & Drawing (Electrical Workshop) | 0 | 0 | 8 | 8 | 4 |
| 07 | EE3C13 | Power System Laboratory | 0 | 0 | 2 | 2 | 1 |
| 08 | EE3C14 | Mini Project | 0 | 0 | 3 | 3 | 3 |
| 08 | EE3C15 | Industrial/Professional Training | 0 | 0 | 0 | 0 | 1 |
|  | **Total** | |  |  |  | **32** | **28** |

**List of Elective – I**

01 Principles of Tele-communication Engineering

02 High Voltage Engineering

03 Advance Microprocessor and Microcontroller

04 Computer Organisation

05 Advance Digital Signal Processing

06 Solid Mechanics

07 Electronic Instruments

08 Advances in Solid State Physics

**SEMESTER VII**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl No. | Course Code | Course Title | L | T | P | Contact hrs/wk | Credit |
| 02 | EE4C01 | Utilization of Electrical Power & Machine Drives | 3 | 1 | 0 | 4 | 4 |
| 03 | EE4C02 | Computer Aided Power System Analysis | 3 | 1 | 0 | 4 | 4 |
| 04 | EE4EXX | Elective - II | 3 | 1 | 0 | 4 | 4 |
| 05 | EE4EXX | Elective - III | 3 | 1 | 0 | 4 | 4 |
| 05 | EE4EXX | Elective - IV | 3 | 1 | 0 | 4 | 4 |
| 06 | EE4C03 | Seminar Presentations | 0 | 0 | 4 | 4 | 2 |
| 07 | EE4C04 | Project I | 0 | 0 | 6 | 6 | 6 |
|  | **Total** | |  |  |  | **30** | **28** |

**List of Elective – II, III & IV**

09 VLSI Circuits Design

10 Speech Processing

11 Digital Image Processing

12 Advance Control System (including Linear System Th, Optimal C, and Adaptive C)

13 Ultrasonic & High Frequency Instrumentation

14 MEMS and NEMS

15 Biomedical Instrumentation

16 Advances in Tele-communication Engineering

17 Optimisation Techniques

18 Kinematics and Dynamics of Robotics

19 Operation System Design

20 Data Communication & Networks

21 Advance Process Dynamics and Control

22 Flexible AC Transmission Systems

23 Power System Interconnection and Control

**SEMESTER VIII**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl No. | Course Code | Course Title | L | T | P | Contact hrs/wk | Credit |
| 01 | EE4C05 | Power Station& Sub-Station Practice | 3 | 1 | 0 | 4 | 4 |
| 02 | EE4C06 | Electrical System Installation & Professional Practice | 3 | 1 | 0 | 4 | 4 |
| 03 | EE4EXX | Elective-IV | 3 | 1 | 0 | 4 | 4 |
| 04 | EE4EXX | Elective-V | 3 | 1 | 0 | 4 | 4 |
| 05 | EE4C07 | Comprehensive Viva-Voce | 0 | 0 | 4 | 4 | 2 |
| 06 | EE4C08 | Project II | 0 | 0 | 10 | 10 | 10 |
|  | **Total** | |  |  |  | **30** | **28** |

**List of Elective – V & VI**

24 Illumination Engineering

25 Power System Instrumentation

26 Artificial Intelligence and Applications

27 VLSI Signal Processing

28 Adaptive Signal Processing

29 Computer Vision

30 Computer Graphics

31 Natural Language Processing

32 Intelligent Control System

33 Distributed Control System

34 Discrete Time Control System

35 Optical Communication Engineering

36 Computer Architecture

37 Embedded Systems

38 Biomedical Engineering

39 Object Oriented Programming with JAVA

40 Cloud Computing

41 High Voltage Direct Current Transmission

42 Dynamic Modelling & Analysis of Electrical Machines