

R20 First Year B.Tech Course Structure

Civil Engineering

I Year 1st Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total Credits |
|---------|---|-----|-----------------------|----------|-----------|---------------|
| | | | L | T | P | |
| 1 | Functional English | HSS | 3 | - | - | 3 |
| 2 | Linear Algebra and Calculus | BS | 3 | 1 | - | 4 |
| 3 | Engineering Physics | BS | 3 | - | - | 3 |
| 4 | Problem Solving using C * | ES | 3 | - | 2 | 4 |
| 5 | Engineering Graphics* | ES | 2 | - | 4 | 4 |
| 6 | Functional English Lab | HSS | - | - | 2 | 1 |
| 7 | Engineering Physics lab | BS | - | - | 2 | 1 |
| | Total: | | 14 | 1 | 10 | 20 |
| 8 | Environmental Studies (Mandatory Non-Credit Course) | | 2 | - | - | - |

*Integrated theory and practice course

I Year 2nd Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total Credits |
|---------|---|-----|-----------------------|----------|----------|---------------|
| | | | L | T | P | |
| 1 | Professional Communication | HSS | 2 | - | - | 2 |
| 2 | Integral Transforms and Vector Calculus | BS | 3 | 1 | - | 4 |
| 3 | Engineering Chemistry | BS | 3 | - | - | 3 |
| 4 | Applied Mechanics | ES | 3 | 1 | - | 4 |
| 5 | Universal Human Values 2: Understanding Harmony | HSS | 2 | 1 | - | 3 |
| 6 | Professional Communication Lab | HSS | - | - | 4 | 2 |
| 7 | Engineering Chemistry Lab | BS | - | - | 2 | 1 |
| 8 | Applied Mechanics Lab and Building Trade Practice | ES | - | - | 2 | 1 |
| | Total: | | 13 | 3 | 8 | 20 |
| 9 | Constitution of India (Mandatory Non-Credit Course) | | 2 | - | - | - |

Electrical and Electronics Engineering

I Year 1st Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total Credits |
|---------|---|-----|-----------------------|----------|----------|---------------|
| | | | L | T | P | |
| 1 | Functional English | HSS | 3 | - | - | 3 |
| 2 | Linear Algebra and Calculus | BS | 3 | 1 | - | 4 |
| 3 | Applied Chemistry | BS | 3 | - | - | 3 |
| 4 | Problem Solving Using C * | ES | 3 | - | 2 | 4 |
| 5 | Universal Human Values 2: Understanding Harmony | HSS | 2 | 1 | - | 3 |
| 6 | Applied Chemistry lab | BS | - | - | 2 | 1 |
| 7 | Functional English Lab | HSS | - | - | 2 | 1 |
| | Total: | | 14 | 2 | 6 | 19 |
| 8 | Constitution of India (Mandatory Non-Credit Course) | | 2 | - | - | - |

I Year 2nd Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total Credits |
|---------|---|-----|-----------------------|----------|-----------|---------------|
| | | | L | T | P | |
| 1 | Professional Communication | HSS | 2 | - | - | 2 |
| 2 | Integral Transforms and Vector Calculus | BS | 3 | 1 | - | 4 |
| 3 | Solid State Physics | BS | 3 | - | - | 3 |
| 4 | Circuit Theory-I | ES | 2 | 1 | - | 3 |
| 5 | Discrete Mathematics | BS | 2 | 1 | - | 3 |
| 6 | Engineering Drawing | ES | 1 | - | 4 | 3 |
| 7 | Solid State Physics Lab | BS | - | - | 2 | 1 |
| 8 | Professional Communication Lab | HSS | - | - | 4 | 2 |
| | Total : | | 13 | 3 | 10 | 21 |
| 9 | Environmental Studies (Mandatory Non-Credit Course) | | 2 | - | - | - |

Mechanical Engineering

I Year 1st Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total Credits |
|---------------|---|-----|-----------------------|----------|-----------|---------------|
| | | | L | T | P | |
| 1 | Functional English | HSS | 3 | - | - | 3 |
| 2 | Linear Algebra and Calculus | BS | 3 | 1 | - | 4 |
| 3 | Physics for Engineers | BS | 3 | - | - | 3 |
| 4 | Problem Solving Using C * | ES | 3 | - | 2 | 4 |
| 5 | Engineering Graphics * | ES | 2 | - | 4 | 4 |
| 6 | Functional English Lab | HSS | - | - | 2 | 1 |
| 7 | Engineering Physics Lab | BS | - | - | 2 | 1 |
| Total: | | | 14 | 1 | 10 | 20 |
| | Environmental Studies (Mandatory Non-Credit Course) | | 2 | - | - | - |

* Integrated theory & practice course

I Year 2nd Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total Credits |
|---------------|--|-----|-----------------------|----------|----------|---------------|
| | | | L | T | P | |
| 1 | Professional Communication | HSS | 2 | - | - | 2 |
| 2 | Integral Transforms and Vector Calculus | BS | 3 | 1 | - | 4 |
| 3 | Chemistry for Engineers | BS | 3 | - | - | 3 |
| 4 | Engineering Mechanics | ES | 3 | 1 | - | 4 |
| 5 | Universal Human Values 2: Understanding Harmony | HSS | 2 | 1 | - | 3 |
| 6 | Professional Communication Lab | HSS | - | - | 4 | 2 |
| 7 | Engineering Mechanics Lab and Fuels & Lubricants Lab | BS | - | - | 2 | 1 |
| 8 | Engineering Workshop | ES | - | - | 2 | 1 |
| Total: | | | 13 | 3 | 8 | 20 |
| | Constitution of India (Mandatory Non-Credit Course) | | 2 | - | - | - |

Electronics and Communication Engineering

I Year 1st Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total No. of Credits |
|----------------|---|-----|-----------------------|----------|-----------|----------------------|
| | | | L | T | P | |
| 1 | Functional English | HSS | 3 | - | - | 3 |
| 2 | Linear Algebra and Calculus | BS | 3 | 1 | - | 4 |
| 3 | Applied Chemistry | BS | 3 | - | - | 3 |
| 4 | Problem Solving using C* | ES | 3 | - | 2 | 4 |
| 5 | Universal Human Values 2: Understanding Harmony | HSS | 2 | 1 | - | 3 |
| 6 | Applied Chemistry Lab | BS | - | - | 2 | 1 |
| 7 | Electronic Workshop | PC | - | - | 4 | 2 |
| 8 | Functional English Lab | HSS | - | - | 2 | 1 |
| Total : | | | 14 | 2 | 10 | 21 |
| 9 | Constitution of India (Mandatory Non-Credit Course) | | 2 | - | - | - |

* Integrated theory and practice course

I Year 2nd Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total No. of Credits |
|----------------|---|-----|-----------------------|----------|-----------|----------------------|
| | | | L | T | P | |
| 1 | Professional Communication | HSS | 2 | - | - | 2 |
| 2 | Integral Transforms and Vector Calculus | BS | 3 | 1 | - | 4 |
| 3 | Linear Electrical Networks | ES | 3 | - | - | 3 |
| 4 | Solid-State Physics | BS | 3 | - | - | 3 |
| 5 | Engineering Drawing | ES | 1 | - | 4 | 3 |
| 6 | Solid-State Physics Lab | BS | - | - | 4 | 2 |
| 7 | Professional Communication Lab | HSS | - | - | 4 | 2 |
| Total : | | | 12 | 1 | 12 | 19 |
| 8 | Environmental Studies (Mandatory Non-Credit Course) | | 2 | - | - | - |

Internet of Things

I Year 1st Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total No. of Credits |
|----------------|---|-----|-----------------------|----------|----------|----------------------|
| | | | L | T | P | |
| 1 | Functional English | HSS | 3 | - | - | 3 |
| 2 | Linear Algebra and Calculus | BS | 3 | 1 | - | 4 |
| 3 | Applied Physics | BS | 3 | - | - | 3 |
| 4 | Basic Electrical Engineering | ES | 3 | - | - | 3 |
| 5 | Problem Solving Using C* | ES | 3 | - | 2 | 4 |
| 6 | Functional English Lab | HSS | - | - | 2 | 1 |
| 7 | Engineering physics Lab | ES | - | - | 2 | 1 |
| Total : | | | 15 | 1 | 6 | 19 |
| 8 | Environmental Studies (Mandatory Non-Credit Course) | | 2 | - | - | - |

* Integrated theory and practice course

I Year 2nd Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total No. of Credits |
|----------------|---|-----|-----------------------|----------|-----------|----------------------|
| | | | L | T | P | |
| 1 | Professional Communication | HSS | 2 | - | - | 2 |
| 2 | Integral Transforms and Vector Calculus | BS | 3 | 1 | - | 4 |
| 3 | Introduction to Internet of Things | PC | 3 | - | - | 3 |
| 4 | Computer Aided Engineering Drawing * | ES | 1 | - | 4 | 3 |
| 5 | Universal Human Values 2: Understanding Harmony | HSS | 2 | 1 | - | 3 |
| 6 | Professional Communication Lab | HSS | - | - | 4 | 2 |
| 7 | Electronic workshop | ES | - | - | 4 | 2 |
| 8 | Basic Electrical Engineering Lab | ES | - | - | 4 | 2 |
| Total : | | | 11 | 2 | 16 | 21 |
| | Constitution of India (Mandatory Non-Credit Course) | | 2 | - | - | - |

* Integrated theory and practice course

Computer Science and Engineering

I Year 1st Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total Credits |
|----------------|---|-----|-----------------------|----------|----------|---------------|
| | | | L | T | P | |
| 1 | Functional English | HSS | 3 | - | - | 3 |
| 2 | Linear Algebra and Calculus | BS | 3 | 1 | - | 4 |
| 3 | Applied Physics | BS | 3 | - | - | 3 |
| 4 | Programming for Problem Solving | ES | 3 | - | - | 3 |
| 5 | Universal Human Values 2: Understanding Harmony | HSS | 2 | 1 | - | 3 |
| 6 | Functional English Lab | HSS | - | - | 2 | 1 |
| 7 | Applied Physics Lab | BS | - | - | 2 | 1 |
| 8 | C Programming Lab | ES | - | - | 4 | 2 |
| Total : | | | 14 | 2 | 8 | 20 |
| 9 | Constitution of India (Mandatory Non-Credit Course) | | 2 | - | - | - |

I Year 2nd Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total Credits |
|----------------|---|-----|-----------------------|----------|-----------|---------------|
| | | | L | T | P | |
| 1 | Professional Communication | HSS | 2 | - | - | 2 |
| 2 | Integral Transforms and Vector Calculus | BS | 3 | 1 | - | 4 |
| 3 | Basic Electronic Devices | ES | 2 | - | - | 2 |
| 4 | Python Programming | ES | 3 | - | - | 3 |
| 5 | Data Structures | PC | 3 | - | - | 3 |
| 6 | Professional Communication Lab | HSS | - | - | 4 | 2 |
| 7 | Python Programming Lab | ES | - | - | 4 | 2 |
| 8 | Data Structures Lab | PC | - | - | 4 | 2 |
| Total : | | | 13 | 1 | 12 | 20 |
| | Environmental Studies (Mandatory Non-Credit Course) | | 2 | - | - | - |

Artificial Intelligence and Data Science

I Year 1st Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total Credits |
|----------------|---|-----|-----------------------|----------|----------|---------------|
| | | | L | T | P | |
| 1 | Functional English | HSS | 3 | - | - | 3 |
| 2 | Linear Algebra | BS | 3 | 1 | - | 4 |
| 3 | Engineering Calculus | BS | 2 | 1 | - | 3 |
| 4 | Programming for Problem Solving | ES | 3 | - | - | 3 |
| 5 | Universal Human Values 2: Understanding Harmony | HSS | 2 | 1 | - | 3 |
| 6 | Functional English Lab | HSS | - | - | 2 | 1 |
| 7 | C Programming Lab | ES | - | - | 4 | 2 |
| Total : | | | 13 | 3 | 6 | 19 |
| 8 | Constitution of India (Mandatory Non-Credit Course) | | 2 | - | - | - |

I Year 2nd Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total Credits |
|----------------|---|-----|-----------------------|----------|-----------|---------------|
| | | | L | T | P | |
| 1 | Professional Communication | HSS | 2 | - | - | 2 |
| 2 | Integral Transforms and Vector Calculus | BS | 3 | 1 | - | 4 |
| 3 | Descriptive Statistics | BS | 2 | 1 | - | 3 |
| 4 | Python Programming | ES | 3 | - | - | 3 |
| 5 | Data Structures | PC | 3 | - | - | 3 |
| 6 | Professional Communication Lab | HSS | - | - | 4 | 2 |
| 7 | Python Programming Lab | ES | - | - | 4 | 2 |
| 8 | Data Structures Lab | PC | - | - | 4 | 2 |
| Total : | | | 13 | 2 | 12 | 21 |
| | Environmental Studies (Mandatory Non-Credit Course) | | 2 | - | - | - |

Information Technology

I Year 1st Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total Credits |
|----------------|---|-----|-----------------------|----------|----------|---------------|
| | | | L | T | P | |
| 1 | Functional English | HSS | 3 | - | - | 3 |
| 2 | Linear Algebra and Calculus | BS | 3 | 1 | - | 4 |
| 3 | Applied Chemistry | BS | 3 | - | - | 3 |
| 4 | Elements of Electronics Engineering | ES | 3 | - | - | 3 |
| 5 | Programming for Problem Solving | ES | 3 | - | - | 3 |
| 6 | Functional English Lab | HSS | - | - | 2 | 1 |
| 7 | Applied Chemistry lab | BS | - | - | 2 | 1 |
| 8 | C Programming Lab | ES | - | - | 4 | 2 |
| Total : | | | 15 | 1 | 8 | 19 |
| 9 | Environmental Studies (Mandatory Non-Credit Course) | | 2 | - | - | - |

I Year 2nd Semester

| Sl. No. | Name of the Course / Laboratory | | No. of Hours per week | | | Total Credits |
|---------------|---|-----|-----------------------|----------|-----------|---------------|
| | | | L | T | P | |
| 1 | Professional Communication | HSS | 2 | - | - | 2 |
| 2 | Integral Transforms and Vector Calculus | BS | 3 | 1 | - | 4 |
| 3 | Applied Physics | BS | 3 | - | - | 3 |
| 4 | Data Structures | PC | 3 | - | - | 3 |
| 5 | Universal Human Values 2: Understanding Harmony | HSS | 2 | 1 | - | 3 |
| 6 | Professional Communication Lab | HSS | - | - | 4 | 2 |
| 7 | Applied Physics Lab | BS | - | - | 2 | 1 |
| 8 | Data Structures Lab | PC | - | - | 4 | 2 |
| Total: | | | 13 | 2 | 10 | 20 |
| 9 | Constitution of India (Mandatory Non-Credit Course) | | 2 | - | - | - |