



CHOICE BASED CREDIT SYSTEM / ELECTIVE COURSE SYSTEM

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Estd:1980

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| Regulation: R 17 | | | | III / IV - B.Tech. II- Semester | | | | | |
|------------------------------------------------------------------------------------------|-----------------------------------|----|-----------|---------------------------------|----------|----------|------------|------------|-------------|
| CIVIL ENGINEERING (under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | C | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| B17 CE3201 | Reinforced Concrete Structures-II | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 CE3202 | Steel Structures-II | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 CE3203 | Geotechnical Engineering-II | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 CE3204 | Transportation Engineering-I | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 CE3205 | Air pollution and Control | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| #OE | Open Elective | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 CE3209 | Geotechnical Engineering Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 CE3210 | Concrete Technology Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17BS3201 | Employability Skills | ES | 1 | -- | 3 | - | 30 | 70 | 100 |
| B17BS3202 | Basic Coding | | 1 | -- | -- | 3 | 50 | 50 | 100 |
| TOTAL | | | 24 | 18 | 9 | 9 | 360 | 640 | 1000 |

| | | |
|---------------|-----------|------------------------------|
| Open Elective | B17CS3213 | Data Base Management Systems |
| | B17CE3206 | Alternative Energy Sources |
| | B17CE3207 | Wastewater Management |
| | B17CE3208 | Green Fuel Technologies |



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|------------------------------------------------------------------------------------------|------------------------------------------------|----|-----------|-------------------------------|----------|----------|------------|------------|-------------|
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| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Ca | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| B17 CE4101 | Transportation Engineering-II | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 CE4102 | Water resources Engineering-I | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 CE4103 | Project Planning & Management | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| #ELE-I | Elective-I | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| #ELE-II | Elective-II | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 CE4112 | Highway Materials Testing Lab | ES | 2 | - | - | 3 | 50 | 50 | 100 |
| B17 CE4113 | Computer Applications in Civil Engineering Lab | ES | 2 | - | - | 3 | 50 | 50 | 100 |
| TOTAL | | | 19 | 15 | 5 | 6 | 250 | 450 | 700 |

| | | |
|---------|-------------|------------------------------------|
| #ELE-I | B17 CE 4104 | Finite Element Methods of Analysis |
| | B17 CE 4105 | Solid Waste Management |
| | B17 CE 4106 | Expansive Soils |
| | B17 CE 4107 | Traffic Engineering |
| #ELE-II | B17 CE 4108 | Prestressed Concrete Structures |
| | B17 CE 4109 | Ground Improvement Techniques |
| | B17 CE 4110 | Transportation Planning |
| | B17 CE 4111 | Urban Hydrology |



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| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Ca | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| B17 CE4201 | Water Resources Engineering-II | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| #ELE-III | Elective-III | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 CE4206 | Irrigation Structures Design & Drawing | ES | 2 | 1 | -- | 2 | 50 | 50 | 100 |
| B17 CE4207 | Seminar | ES | 2 | -- | -- | -- | 50 | -- | 50 |
| B17 CE4208 | Project work | ES | 10 | -- | -- | 3 | 60 | 140 | 200 |
| TOTAL | | | 20 | 7 | 2 | 5 | 220 | 330 | 550 |

| | | |
|----------|-------------|---------------------------------|
| #ELE-III | B17 CE 4202 | Advanced Structural Analysis |
| | B17 CE 4203 | Environmental Impact Assessment |
| | B17 CE 4204 | Earth Retaining Structures |
| | B17 CE 4205 | Pavement Analysis and Design |



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|---------------------------------------------------------------------------------------------|-----------------------------------------|----|----|--------------------------------|----|-----|-----|-----|-------------|
| COMPUTER SCIENCE ENGINEERING (under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| CodeNo. | Course | C | Cr | L | T | Lab | I_M | E_M | Total Marks |
| B17 CS3101 | Computer Networks | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 CS3102 | Web Technologies | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 CS3103 | Formal Languages & Automata Theory | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 CS3104 | Database Management Systems | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 CS3105 | Application Development Using Java | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| #OE | Open Elective | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 C3108 | Database Management Systems Lab. | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 CS3109 | Application Development Lab. | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 BS3101 | Problem Solving & Linguistic Competence | BS | 1 | -- | 3 | -- | 30 | 70 | 100 |
| B17 BS3103 | Advanced Coding | BS | 1 | -- | -- | 3 | 50 | 50 | 100 |
| Total | | | 24 | 18 | 9 | 9 | 360 | 640 | 1000 |

| | | |
|-----|-----------|---------------------------|
| #OE | B17CS3106 | Embedded Systems |
| | B17CS3107 | Cyber Security |
| | B17EC3109 | Digital Signal Processing |
| | B17ME3110 | Industrial Robotics |



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| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| CodeNo. | Name of the Subject | C | Cr | L | T | Lab | I_M | E_M | Total Marks |
| B17 CS3201 | Data Warehousing & Data Mining | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 CS3202 | Object Oriented Software Engineering | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 CS3203 | Design and Analysis of Algorithms | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 CS3204 | Artificial Intelligence | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 CS3205 | Compiler Design | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| ELE-I | Elective-I | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 CS3210 | Software Engineering Mini Project Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 CS3211 | Network Programming Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 BS3201 | Employability Skills | BS | 1 | -- | 3 | -- | 30 | 70 | 100 |
| B17 BS3204 | Competitive Coding | BS | 1 | -- | -- | 3 | 50 | 50 | 100 |
| B17 BS3206 | IPR & PATENTS | BS | -- | -- | 2 | -- | -- | -- | -- |
| Total | | | 24 | 18 | 11 | 9 | 360 | 640 | 1000 |

| | | |
|-------------------|-----------|-------------------------------|
| Elective-I | B17CS3206 | Cloud Computing |
| | B17CS3207 | Mobile Computing |
| | B17CS3208 | Distributed Systems |
| | B17CS3209 | Information Retrieval Systems |



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| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| CodeNo. | Name of the Subject | C | Cr | L | T | Lab | I_M | E_M | Total Marks |
| B17 CS4101 | Big Data Analytics | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 CS4102 | Internet of Things | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 CS4103 | Machine Learning | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 BS4101 | Managerial Economics And Financial Accountancy | BS | 3 | 3 | 1 | - | 30 | 70 | 100 |
| #ELE-II | Elective-II | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 CS4107 | Big Data AnalyticsLab | ES | 2 | - | - | 3 | 50 | 50 | 100 |
| B17 CS4108 | Internet of ThingsLab | ES | 2 | - | - | 3 | 50 | 50 | 100 |
| Total | | | 19 | 15 | 5 | 6 | 250 | 450 | 700 |

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| #ELE-II | B17 CS 4104 | Cryptography and Network Security |
| | B17 CS 4105 | Software Project Management |
| | B17 CS 4106 | Scripting Languages |

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| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| CodeNo. | Name of the Subject | C | Cr | L | T | Lab | Int. Marks | Ext. Marks | Total Marks |
| B17 BS 4201 | Management and Organisational Behaviour | BS | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| #ELE-III | Elective-III | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 CS 4204 | Machine Learning Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 CS 4205 | Seminar | ES | 2 | -- | -- | -- | 50 | -- | 50 |
| B17 CS 4206 | Project Work | ES | 10 | -- | -- | 3 | 60 | 140 | 200 |
| Total | | | 20 | 6 | 2 | 6 | 220 | 330 | 550 |

- C – Category
- Cr – Credits
- L – Lecture Hours
- T – Tutorial Hours
- Int.Marks – Internal Marks
- Ext.Marks – Exam Marks

| | | |
|----------|-------------|-------------------------------------|
| #ELE-III | B17 CS 4201 | Deep Learning |
| | B17 CS 4202 | Concurrent and Parallel Programming |
| | B17 CS 4203 | Artificial Neural Networks |



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|-------------------------------------------------------------------------------------------------------|------------------------------------------|----------|-----------|--------------------------------|--------------|----------|----------------|----------------|-------------|
| ELECTRONICS& COMMUNICATION ENGINEERING (under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| CodeNo. | Name of the Subject | Category | Credits | Lecture Hrs | Tutorial Hrs | Lab Hrs | Internal Marks | External Marks | Total Marks |
| B17 EC 3201 | Microprocessors and its applications | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EC 3202 | Microwave Engineering | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EC 3203 | VLSI Design | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EC 3204 | Digital Signal Processing | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EC 3205 | Radar Engineering | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| #OE | OPEN ELECTIVE | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EC3208 | Microprocessors and Microcontrollers Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 EC 3209 | VLSI Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 BS3201 | Employability Skills | BS | 1 | -- | 3 | -- | 30 | 70 | 100 |
| B17 BS3203 | Advanced Coding | BS | 1 | -- | -- | 3 | 50 | 50 | 100 |
| B17 BS 3206 | IPR & PATENTS | BS | -- | -- | 2 | -- | -- | -- | -- |
| Total | | | 24 | 18 | 11 | 9 | 360 | 640 | 1000 |

| | | |
|----------------------|-----------|----------------------------|
| OPEN ELECTIVE | B17EC3206 | Microcontrollers |
| | B17CS3214 | Oops through Java |
| | B17CS3215 | Data Mining |
| | B17ME3210 | Industrial Robotics |
| | B17EE3209 | Power Electronics |
| | B17EC3207 | Bio Medical Engineering |
| | B17CS3216 | Artificial Neural Networks |



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| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| CodeNo. | Name of the Subject | Category | Credits | Lecture Hrs | Tutorial Hrs | Lab Hrs | Internal Marks | External Marks | Total Marks |
| B17 EC4101 | Wireless Communications & Networks | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EC4102 | Digital Image Processing | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EC4103 | Fiber Optic Communications | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EC4104 | Embedded Systems & Internet Of Things | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| #ELE-I | ELECTIVE-I | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EC4108 | Digital Signal Processing Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 EC4109 | IOT Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| Total | | | 19 | 15 | 5 | 6 | 250 | 450 | 700 |

| | | |
|----------|-------------|--------------------------------|
| #ELE - I | B17 EC 4105 | Information Theory and Coding |
| | B17 EC 4106 | Satellite Communications & GPS |
| | B17 EC 4107 | Analog IC Design |



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| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| CodeNo. | Name of the Subject | Category | Credits | Lecture Hrs. | Tutorial Hrs. | Lab Hrs. | Internal Marks | External Marks | Total Marks |
| B17 EC 4201 | Cellular and Mobile Communications | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| #ELE-II | ELECTIVE - II | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EC 4205 | Advanced Communication Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 EC 4206 | Seminar | ES | 2 | -- | -- | -- | 50 | -- | 50 |
| B17 EC 4207 | Project | ES | 10 | -- | -- | 6 | 60 | 140 | 200 |
| Total | | | 20 | 6 | 5 | 9 | 220 | 330 | 550 |

| | | |
|-----------|-------------|---------------------------------------------|
| #ELE - II | B17 EC 4202 | AI & Machine Learning |
| | B17 EC 4203 | Network Security and Cryptography |
| | B17 EC 4204 | Digital Signal Processors and Architectures |



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| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| CodeNo. | Name of the Subject | Category | Credits | Lecture Hrs | Tutorial Hrs | Lab Hrs | Internal Marks | External Marks | Total Marks |
| B17 EE3201 | Advanced Control Systems | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EE3202 | Power Electronics | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EE3203 | Power System Analysis And Stability | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EE3204 | Digital Signal Processing | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EE3205 | Power System Protection | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| # OE | Open Elective | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EE3207 | Electrical Machines – II Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 EE3208 | Control Systems Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 BS3201 | Employability Skills | BS | 1 | -- | 3 | -- | 30 | 70 | 100 |
| B17 BS3203 | Advanced Coding | BS | 1 | -- | -- | 3 | 50 | 50 | 100 |
| Total | | | 24 | 18 | 9 | 9 | 360 | 640 | 1000 |

| | | |
|---------------|-------------|-------------------------------|
| OPEN ELECTIVE | B17 CS 3214 | Oops Through Java |
| | B17 CS 3217 | Unix & Shell Programming |
| | B17 CS 3218 | Neural Networks & Fuzzy Logic |
| | B17 EC 3203 | VLSI Design |
| | B17 ME 3210 | Industrial Robotics |



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| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| CodeNo. | Name of the Subject | Category | Credits | LectureHrs | Tutorial Hrs | Lab Hrs | Internal Marks | External Marks | Total Marks |
| B17 EE4101 | Electric Drives | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 EE 4102 | Power System Operation & Control | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 EE 4103 | Electric Vehicles | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| #ELE-I | Elective-I | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| #ELE-II | Elective-II | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 EE4110 | Power ElectronicsLab | ES | 2 | - | - | 3 | 50 | 50 | 100 |
| B17 EE4111 | Power System Simulation Lab | ES | 2 | - | - | 3 | 50 | 50 | 100 |
| Total | | | 19 | 15 | 5 | 6 | 250 | 450 | 700 |

| | | |
|---------|-------------|---------------------------------------|
| #ELE-I | B17 EE 4104 | Operations Research |
| | B17 EE 4105 | Flexible AC Transmission Systems |
| | B17 EE 4106 | Integration of Distributed Generation |
| #ELE-II | B17 EE 4107 | High Voltage Engineering |
| | B17 EE 4108 | Electric Power Quality |
| | B17 EE 4109 | Energy Management & Auditing |



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| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| CodeNo. | Name of the Subject | Category | Cr. | Lect Hrs | Tut.Hrs | Lab Hrs | Int. Marks | Ext. Marks | Total Marks |
| B17 EE4201 | Electrical Machine Design | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| #ELE-III | Elective-III | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 EE4205 | Power System Protection Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 EE4206 | Seminar | ES | 2 | -- | -- | -- | 50 | -- | 50 |
| B17 EE4207 | Project Work | ES | 10 | -- | -- | 3 | 60 | 140 | 200 |
| Total | | | 20 | 6 | 2 | 6 | 220 | 330 | 550 |

| | | |
|----------|-------------|---------------------------------------------|
| #ELE-III | B17 EE 4202 | Electrical Distribution Systems |
| | B17 EE 4203 | Utilization of Electrical Energy & Traction |
| | B17 EE 4204 | HVDC Transmission |



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Estd:1980

| Regulation: R17 | | | | III / IV - B.Tech. II - Semester | | | | | |
|------------------------------------------------------------------------------------------|---------------------------------------------|----------|-----------|----------------------------------|--------------|----------|----------------|----------------|-------------|
| INFORMATION TECHNOLOGY (under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| CodeNo. | Name of the Subject | Category | Credits | Lecture Hrs | Tutorial Hrs | Lab Hrs | Internal Marks | External Marks | Total Marks |
| B17 IT3201 | Web Technologies | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 IT3202 | Object Oriented Software Engineering | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 IT3203 | Cryptography & Network Security | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 IT3204 | Statistics With R Programming | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 IT3205 | Data Ware Housing and Business Intelligence | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| #OE | OPEN ELECTIVE | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 IT3210 | Web Technologies Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 IT3211 | Software Engineering and Mini Project Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17BS3201 | Employability Skills | BS | 1 | -- | 3 | -- | 30 | 70 | 100 |
| B17 BS3205 | Competitive Coding-II | BS | 1 | -- | -- | 3 | 50 | 50 | 100 |
| B17 BS3206 | IPR & PATENTS | B S | -- | -- | 2 | -- | -- | -- | -- |
| Total | | | 24 | 18 | 11 | 9 | 360 | 640 | 1000 |

| | |
|-------------|-------------------------|
| B17 IT 3206 | Artificial Intelligence |
|-------------|-------------------------|

| | |
|-------------|---------------------|
| B17 IT 3209 | Operations Research |
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| Regulation: R17 | | | | IV / IV - B.Tech. I - Semester | | | | | |
|------------------------------------------------------------------------------------------|------------------------------------------------|----------|-----------|--------------------------------|--------------|----------|----------------|----------------|-------------|
| INFORMATION TECHNOLOGY (under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| CodeNo. | Name of the Subject | Category | Credits | LectHrs | Tutorial Hrs | Lab Hrs | Internal Marks | External Marks | Total Marks |
| B17 IT 4101 | Distributed Systems | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 IT4102 | Mobile Computing | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 BS 4101 | Managerial Economics and Financial Accountancy | BS | 3 | 3 | 1 | - | 30 | 70 | 100 |
| #ELE-I | Elective-I | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| #ELE-II | Elective-II | ES | 3 | 3 | 1 | - | 30 | 70 | 100 |
| B17 IT 4111 | Mobile Computing Lab | ES | 2 | - | - | 3 | 50 | 50 | 100 |
| B17 IT 4112 | Cryptography and Network Security Lab | ES | 2 | - | - | 3 | 50 | 50 | 100 |
| Total | | | 19 | 15 | 5 | 6 | 250 | 450 | 700 |

| | | |
|---------|-------------|------------------------------|
| #ELE-I | B17 IT 4103 | Bigdata Analytics |
| | B17 IT 4104 | Information Retrieval System |
| | B17 IT 4105 | Internet of Things |
| | B17 IT 4106 | Multimedia Programming |
| #ELE-II | B17 IT 4107 | Embedded Systems |
| | B17 IT 4108 | Software Project Management |
| | B17 IT 4109 | Machine Learning |
| | B17 IT 4110 | Decision Support Systems |

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| Regulation: R17 | | | | IV / IV - B.Tech. II - Semester | | | | | |
|------------------------------------------------------------------------------------------|-----------------------------------------|----------|-----------|---------------------------------|----------|----------|------------|------------|------------|
| INFORMATION TECHNOLOGY (under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| CodeNo. | Name of the Subject | Category | Credits | Lect. Hrs | Tut. Hrs | Lab Hrs | Int. Marks | Ext. Marks | Tot. Marks |
| B17 BS4201 | Management and Organisational Behaviour | BS | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| #ELE-III | Elective-III | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 IT4205 | Data Mining Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 IT4206 | Seminar | ES | 2 | -- | -- | -- | 50 | -- | 50 |
| B17 IT4207 | Project work | ES | 10 | -- | -- | 3 | 60 | 140 | 200 |
| Total | | | 20 | 6 | 2 | 6 | 220 | 330 | 550 |

| | | |
|----------|-------------|----------------------------|
| #ELE-III | B17 IT 4201 | Cloud Computing |
| | B17 IT 4202 | Cyber Security |
| | B17 IT 4203 | Artificial Neural Networks |
| | B17 IT 4204 | Software Quality Assurance |



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Estd:1980

| Regulation: R17 | | | | III / IV - B.Tech. II- Semester | | | | | |
|------------------------------------------------------------------------------------------|-------------------------------------|----|-----------|---------------------------------|----------|----------|----------------|----------------|-------------|
| MECHANICAL ENGINEERING (under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| Code No. | Name of the Subject | Ca | Cr | L | T | Lab Hrs | Internal Marks | External Marks | Total Marks |
| B17 ME 3201 | Industrial Engineering & Management | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 ME 3202 | Control Systems | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 ME 3203 | Dynamics of Machines | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 ME 3204 | Machine Design | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| # OE | Open Elective | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 ME 3207 | Computer Aided Design | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 ME 3208 | Industrial Engineering Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 ME 3209 | Fluid Mechanics And Machinery Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 BS 3201 | Employability Skills | BS | 1 | -- | 3 | -- | 30 | 70 | 100 |
| B17 BS 3202 | Basic Coding | BS | 1 | -- | -- | 3 | 50 | 50 | 100 |
| Total | | | 24 | 18 | 9 | 9 | 360 | 640 | 1000 |

| | | |
|----------------------|-------------|----------------------------|
| # OE (Open Elective) | B17 BS 3207 | Entrepreneurship |
| | B17 CS 3213 | Database Management System |
| | B17 CE 3207 | Waste Water Management |
| | B17 CS 3210 | Computer Graphics |
| | B17 ME 3205 | Industrial Robotics |
| | B17 ME 3206 | Green Engineering Systems |



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|------------------------------------------------------------------------------------------|------------------------------|----|-----------|-----------|------------------------------|----------|----------------|----------------|-------------|
| MECHANICAL ENGINEERING (under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| Code No. | Name of the Subject | Ca | Cr | L | T | Lab Hrs | Internal Marks | External Marks | Total Marks |
| B17 ME4101 | Heat Transfer | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 ME4102 | Computer Aided Manufacturing | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 ME4103 | Mechatronics | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| # ELE-I | Elective-I | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| # ELE-II | Elective-II | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 ME4110 | Heat Transfer Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 ME4111 | CAD Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| Total | | | 19 | 15 | 5 | 6 | 250 | 450 | 700 |

| | Code No. | Course |
|---------|-------------|----------------------------------|
| #ELE-I | B17 ME 4104 | Finite Element Analysis |
| | B17 ME 4105 | Automation in Manufacturing |
| | B17 ME 4106 | Quality Control and Assurance |
| #ELE-II | B17 ME 4107 | Project Management |
| | B17 ME 4108 | Tool Design |
| | B17 ME 4109 | Refrigeration & Air Conditioning |



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| Regulation: R17 | | | | IV/ IV - B.Tech. II- Semester | | | | | |
|------------------------------------------------------------------------------------------|-------------------------------|----|-----------|-------------------------------|----------|----------|----------------|----------------|-------------|
| MECHANICAL ENGINEERING (under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2017-18 admitted Batch onwards) | | | | | | | | | |
| Code No. | Name of the Subject | Ca | Cr | L | T | Lab Hrs | Internal Marks | External Marks | Total Marks |
| B17 ME4201 | Production Planning & Control | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| # ELE-III | Elective-III | ES | 3 | 3 | 1 | -- | 30 | 70 | 100 |
| B17 ME4205 | CAM Lab | ES | 2 | -- | -- | 3 | 50 | 50 | 100 |
| B17 ME4206 | Seminar | ES | 2 | -- | -- | -- | 50 | -- | 50 |
| B17 ME4207 | Project Work | ES | 10 | -- | -- | 3 | 60 | 140 | 200 |
| Total | | | 20 | 6 | 2 | 6 | 220 | 330 | 550 |

| # ELE-III | Code No. | Course |
|-----------|-------------|--------------------------------------------|
| | B17 ME 4202 | Power Plant Engineering |
| | B17 ME 4203 | Automobile Engineering and Hybrid Vehicles |
| | B17 ME 4204 | Additive Manufacturing |



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| Regulation: R20 | | | | I / IV - B. Tech. II - Semester | | | | | |
|-------------------------------------------------------------------------------------------------------|------------------------------------------------------|----------|-------------|---------------------------------|----------|-----------|------------|------------|-------------|
| ARTIFICIAL INTELLIGENCE & DATA SCIENCE (under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2020-21 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| B20 BS1201 | Mathematics-II | BS | 3 | 3 | 0 | 0 | 30 | 70 | 100 |
| B20 BS1203 | Applied Chemistry | BS | 3 | 3 | 0 | 0 | 30 | 70 | 100 |
| B20 IT1201 | Digital Logic Design | ES | 3 | 3 | 0 | 0 | 30 | 70 | 100 |
| B20 IT1202 | Object Oriented Programming through C++ | ES | 3 | 3 | 0 | 0 | 30 | 70 | 100 |
| B20 EE1203 | Principles of Electrical and Electronics Engineering | ES | 3 | 3 | 0 | 0 | 30 | 70 | 100 |
| B20 BS1208 | Applied Chemistry Lab | BS | 1.5 | 0 | 0 | 3 | 15 | 35 | 50 |
| B20 HS1202 | Communication Skills Lab | HS | 1.5 | 0 | 0 | 3 | 15 | 35 | 50 |
| B20 IT1203 | Object Oriented Programming through C++ Lab | ES | 1.5 | 0 | 0 | 3 | 15 | 35 | 50 |
| B20 MC1201 | Environmental Science | MC | 0 | 2 | 0 | 0 | -- | -- | -- |
| B20 MC1203 | National Service Scheme(NSS) | MC | 0 | 0 | 0 | 2 | -- | -- | -- |
| TOTAL | | | 19.5 | 17 | 0 | 11 | 195 | 455 | 650 |



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| Regulation: R20 | | | | I / IV - B.Tech. II - Semester | | | | | |
|-------------------------------------------------------------|---------------------------------------------|----------|-------------|--------------------------------|----------|-----------|------------|------------|-------------|
| COMPUTER SCIENCE & BUSINESS SYSTEM | | | | | | | | | |
| (under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION | | | | | | | | | |
| (With effect from 2020-21 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| B20 BS1205 | Linear Algebra | BS | 3 | 3 | 0 | 0 | 30 | 70 | 100 |
| B20 BS1206 | Statistical Methods | BS | 3 | 3 | 0 | 0 | 30 | 70 | 100 |
| B20 EC1201* | Principles of Electronics Engineering | ES | 3 | 2 | 0 | 0 | 30 | 70 | 100 |
| | | | | 0 | 0 | 2 | 15 | 35 | 50 |
| B20 CB1201 | Data Structures and Algorithms | ES | 3 | 3 | 0 | 0 | 30 | 70 | 100 |
| B20 HS1201 | Fundamentals of Economics | HS | 3 | 3 | 0 | 0 | 30 | 70 | 100 |
| B20 BS1209 | Statistical Methods Lab | BS | 1.5 | 0 | 0 | 3 | 15 | 35 | 50 |
| B20 CB1202 | Data Structures and Algorithms Lab | EC | 1.5 | 0 | 0 | 3 | 15 | 35 | 50 |
| B20 HS1203 | Business Communication & Value Science – II | HS | 1.5 | 0 | 0 | 3 | 15 | 35 | 50 |
| B20 MC1201 | Environmental Science | MC | 0 | 2 | 0 | 0 | -- | -- | -- |
| B20 MC1203 | National Service Scheme (NSS) | MC | 0 | 0 | 0 | 2 | -- | -- | -- |
| TOTAL | | | 19.5 | 16 | 0 | 13 | 210 | 490 | 700 |

Note: *- Integrated course and its evaluation guide lines are mentioned in the Syllabus



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| Regulation: R19 | | | | I / II - M.Tech. I - Semester | | | | | |
|------------------------------------------------------------------------------------------|--------------------------------------------|----------|-----------|-------------------------------|----------|----------|------------|------------|-------------|
| STRUCTURAL ENGINEERING (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| M19 ST1101 | Theory of Elasticity | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19 ST1102 | Structural Dynamics | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-I | Program Elective-I | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-II | Program Elective-II | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19 ST1109 | Advanced Concrete Technology | PC | 2 | 2 | 0 | 0 | 25 | 75 | 100 |
| M19ST1110 | Advanced Concrete Laboratory | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19 ST1111 | Advanced Structural Engineering Laboratory | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| #AC-1 | Audit course -1 | AC | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | | | 18 | 16 | 0 | 8 | 175 | 525 | 700 |

| | Code | Course | | Code | Course |
|--------|-----------|-----------------------------------------------------------|------------------------|-----------|------------------------------------------------------------|
| #PE-I | M19ST1103 | Matrix Methods of Structures | #A C 1 & 2 | M19AC0001 | English for Research Paper Writing |
| | M19ST1104 | Analytical & Numerical Methods for Structural Engineering | | M19AC0002 | Disaster Management |
| | M19ST1105 | Design of RCC Foundations | | M19AC0003 | Sanskrit for Technical Knowledge |
| #PE-II | M19ST1106 | Bridge Engineering | | M19AC0004 | Value Education |
| | M19ST1107 | Repair and Rehabilitation of Structures | | M19AC0005 | Constitution of India |
| | M19ST1108 | Advanced Reinforced Concrete Design | | M19AC0006 | Pedagogy Studies |
| | | | | M19AC0007 | Stress Management by Yoga |
| | | | | M19AC0008 | Personality Development through Life Enlightenment Skills. |



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| Regulation: R19 | | | | I / II- M.Tech. II - Semester | | | | | |
|------------------------------------------------------------------------------------------|--------------------------------------------------|----------|-----------|-------------------------------|----------|-----------|------------|------------|-------------|
| STRUCTURAL ENGINEERING (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| M19ST1201 | Finite Element Methods in Structural Engineering | PC | 3 | 3 | - | - | 25 | 75 | 100 |
| M19ST1202 | Theory of Plates and shells | PC | 3 | 3 | - | - | 25 | 75 | 100 |
| #PE-III | Program Elective-III | PE | 3 | 3 | - | - | 25 | 75 | 100 |
| #PE-IV | Program Elective-IV | PE | 3 | 3 | -- | -- | 25 | 75 | 100 |
| M19ST1209 | Computer Aided Design Laboratory | PC | 2 | -- | -- | 4 | 25 | 75 | 100 |
| M19ST1210 | Design of Structures Laboratory | PC | 2 | -- | -- | 4 | 2 | 75 | 100 |
| M19ST1211 | Mini Project With Seminar | PC | 2 | -- | -- | 4 | 100 | -- | 100 |
| M19AC0005 | Audit Course-2 | AC | -- | 2 | -- | -- | -- | -- | -- |
| TOTAL | | | 18 | 14 | 0 | 12 | 250 | 450 | 700 |

| | Code | Course |
|---------|-----------|-------------------------------------------|
| #PE-III | M19ST1203 | Stability of Structures |
| | M19ST1204 | Advanced Steel Design |
| | M19ST1205 | Analysis of Off shore Structures |
| #PE-IV | M19ST1206 | Earth quake Resistant Design of Buildings |
| | M19ST1207 | Structural Optimization Techniques |
| | M19ST1208 | Earth Retaining Structures |



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| Regulation: R19 | | | | II / II - M.Tech. I - Semester | | | | | |
|-----------------------------------------------------------------------------------------------------|------------------------------------|----------|-----------|---------------------------------------|-----------|-----------|------------|------------|-------------|
| STRUCTURAL ENGINEERING (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| #PE-V/MOOCs | Program Elective-V/MOOCs | PE | 3 | 3 | -- | -- | 25 | 75 | 100 |
| #OE-I/MOOCs | Open Elective-I/MOOCs | OE | 3 | 3 | -- | -- | 25 | 75 | 100 |
| M19ST2106 | Dissertation-I /Industrial Project | PR | 10 | 0 | -- | 20 | 50 | 50 | 100 |
| TOTAL | | | 16 | 6 | -- | 20 | 200 | 200 | 300 |

| | Course Code | Course |
|--------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #PE-V/MOOCs | M19ST2101 | Design of Pre-stressed Concrete Structures |
| | M19ST2102 | Reliability Analysis and Design |
| | M19ST2103 | Industrial Structures |
| | M19 ST 2104(MOOCs-I) | Students Going for Industrial Project/Thesis will complete these courses through MOOCs. Students can also choose SWAYAM or NPTEL with a12weeks'course duration in PG level with 3credits,but The chosen subject should not be covered in their M. Tech Course |
| #OE-I/MOOCs | #OE-I | Students have to choose one open elective course offered by departments other than the parent department. List of open Electives offered by other departments are enclosed. |
| | M19 ST 2105(MOOCs-II) | Students Going for Industrial Project/Thesis will complete these courses through MOOCs. Students can also choose SWAYAM or NPTEL with a12weeks'course duration in PG level with 3credits,but The chosen subject should not be covered in their M. Tech Course |



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|----------------------------------------------------------------------------------------------|----------------------------------------------|----------|-----------|-------------------------------|----------|----------|------------|------------|-------------|
| COMPUTER SCIENCE & TECHNOLOGY (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| M19 CST1101 | Mathematical Foundations of Computer Science | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19 CST 1102 | Advanced Data Structures | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-I | Program Elective-I | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-II | Program Elective-II | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19 RD 1101 | Research Methodology and IPR | CC | 2 | 2 | 0 | 0 | 25 | 75 | 100 |
| M19 CST 1113 | Advanced Data Structures Lab | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19 CST 1114 | Computing Lab | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| #AC-1 | Audit course -1 | AC | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | | | 18 | 16 | 0 | 8 | 175 | 525 | 700 |

| | Code | Course | | Code | Course |
|--------|------------|--------------------------------|------------|-----------|------------------------------------------------------------|
| #PE-I | M19CST1103 | Artificial Intelligence | # AC 1 & 2 | M19AC0001 | English for Research Paper Writing |
| | M19CST1104 | Cloud Computing | | M19AC0002 | Disaster Management |
| | M19CST1105 | Digital Image Processing | | M19AC0003 | Sanskrit for Technical Knowledge |
| | M19CST1106 | Advanced Operating System | | M19AC0004 | Value Education |
| | M19CST1107 | Optimization Techniques | | M19AC0005 | Constitution of India |
| #PE-II | M19CST1108 | Bigdata Analytics | | M19AC0006 | Pedagogy Studies |
| | M19CST1109 | Applied Cryptography | | M19AC0007 | Stress Management by Yoga |
| | M19CST1110 | Advanced Computer Networks | | M19AC0008 | Personality Development through Life Enlightenment Skills. |
| | M19CST1111 | Embedded Computer Architecture | | | |
| | M19CST1112 | Parallel Computer Architecture | | | |



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Estd:1980

| Regulation: R19 | | | | I / II - M.Tech. II - Semester | | | | | |
|----------------------------------------------------------------------------------------------|---------------------------|----------|-----------|--------------------------------|----------|-----------|------------|------------|-------------|
| COMPUTER SCIENCE & TECHNOLOGY (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| M19 CST 1201 | Advanced Algorithms | P C | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19 CST 1202 | Machine Learning | P C | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-III | Program Elective-III | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-IV | Program Elective-IV | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19 CST 1213 | Advance Algorithm Lab | P C | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19 CST 1214 | Machine Learning Lab | P C | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19 CST 1215 | Mini Project with Seminar | M P | 2 | 0 | 0 | 4 | 100 | -- | 100 |
| #AC-2 | Audit Course-2* | A C | 0 | 2 | 0 | 0 | 0 | 0 | -- |
| Total | | | 18 | 14 | 0 | 12 | 250 | 450 | 700 |

| | Code | Course |
|---------|------------|-------------------------------------------|
| #PE-III | M19CST1203 | Soft Computing |
| | M19CST1204 | Advanced Network Principles and Protocols |
| | M19CST1205 | Internet of Things |
| | M19CST1206 | Open Source Programming |
| | M19CST1207 | Pattern Recognition |
| #PE-IV | M19CST1208 | Natural Language Processing |
| | M19CST1209 | Full Stack Technologies |
| | M19CST1210 | Parallel Algorithms |
| | M19CST1211 | Object Oriented Software Engineering |
| | M19CST1212 | Distributed Database |



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Estd:1980

| Regulation: R19 | | | | II / II - M.Tech. I - Semester | | | | | |
|--------------------------------------------------------------------|-------------------------------------------|----------|-----------|--------------------------------|----------|-----------|------------|------------|-------------|
| COMPUTER SCIENCE & TECHNOLOGY | | | | | | | | | |
| (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION | | | | | | | | | |
| (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| #PE-V/ MOOCS | Program Elective-V | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #OE-I/ MOOCS | Open Elective-I | OE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19CST 2105 | Dissertation-I / Industrial Project | PR | 10 | 0 | 0 | 20 | 50 | 50 | 100 |
| TOTAL | | | 16 | 6 | 0 | 20 | 100 | 200 | 300 |

| | Code | Course |
|-------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #PE-V | M19CST210 1 | Deep Learning |
| | M19CST210 2 | Ethical Hacking |
| | M19CST210 3 (MOOCS-I) | Students Going for Industrial Project / Thesis will complete these courses through MOOCS. Students can also choose SWAYAM or NPTEL with a 12 weeks' course duration in PG level with 3 credits, but the chosen subject should not be covered in their M. Tech Course |
| #OE-I | OE | Students have to choose one open elective course offered by departments other than the CSE & IT departments. List of open Electives offered by other departments are enclosed. |
| | M19CST210 4(MOOCS-II) | Students Going for Industrial Project / Thesis will complete these courses through MOOCS. Students can also choose SWAYAM or NPTEL with a 12 weeks' course duration in PG level with 3 credits, but the chosen subject should not be covered in their M. Tech Course |

| OPEN ELECTIVES OFFERED TO OTHER DEPARTMENTS | |
|---------------------------------------------|--------------------------|
| Code | Course |
| M19 CST 2106 | Python Programming |
| M19 CST 2107 | Artificial Intelligence |
| M19 CST 2108 | Advanced Data structures |



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| Regulation: R19 | | | | II / II - M.Tech. II - Semester | | | | | |
|----------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------|-----|----------------------------------------|---|----|------------|------------|-------------|
| COMPUTER SCIENCE & TECHNOLOGY (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| M19CST220 1 | Dissertation-II / Industrial Project | PR | 16 | 0 | 0 | 32 | -- | 100 | 100 |



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Estd:1980

| Regulation: R19 | | | | I / II - M.Tech. I - Semester | | | | | |
|-------------------------------------------------------------|----------------------------------------|----------|-----|-------------------------------|---|---|------------|------------|-------------|
| COMMUNICATION SYSTEMS | | | | | | | | | |
| (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION | | | | | | | | | |
| (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| M19CS1101 | Digital Data Communications | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19CS1102 | Advanced Digital Signal Processing | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-I | Program Elective-I | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-II | Program Elective-II | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19RD1101 | Research Methodology and IPR | CC | 2 | 2 | 0 | 0 | 25 | 75 | 100 |
| M19CS1109 | Data Communications Lab | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19CS1110 | Advanced Digital Signal Processing Lab | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| #AC-1 | Audit course -1 | AC | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| Total | | | 18 | 16 | 0 | 8 | 175 | 525 | 700 |

| | Code | Course | | Code | Course |
|--------|-----------|---------------------------------|------------|-----------|------------------------------------------------------------|
| #PE-I | M19CS1103 | Radar Signal Processing | # AC 1 & 2 | M19AC0001 | English for Research Paper Writing |
| | M19CS1104 | RF Circuit Design | | M19AC0002 | Disaster Management |
| | M19CS1105 | Advanced Computer Networks | | M19AC0003 | Sanskrit for Technical Knowledge |
| #PE-II | M19CS1106 | Wireless LANs and PANs | | M19AC0004 | Value Education |
| | M19CS1107 | Mobile Computing Technologies | | M19AC0005 | Constitution of India |
| | M19CS1108 | Network Security & Cryptography | | M19AC0006 | Pedagogy Studies |
| | | | | M19AC0007 | Stress Management by Yoga |
| | | | | M19AC0008 | Personality Development through Life Enlightenment Skills. |



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| Regulation: R19 | | | | I / I - M.Tech. II - Semester | | | | | |
|---------------------------------------------------------------------------------------------|--------------------------------------------------------|----------|-----|-------------------------------|---|----|------------|------------|-------------|
| COMMUNICATION SYSTEMS (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| M19CS1201 | Wireless Communications and Networks | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19CS1202 | Image and Video Processing | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-III | Elective-III | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-IV | Elective-IV | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19CS1209 | Advanced Communications Lab | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19CS1210 | Advanced Digital Image and Video Processing Laboratory | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19CS1211 | Mini Project with Seminar | PC | 2 | 0 | 0 | 4 | 100 | 0 | 100 |
| #AC-2 | Audit Course 2 | AC | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| Total | | | 18 | 14 | 0 | 12 | 250 | 450 | 700 |

| | Code | Course |
|---------|-------------|---------------------------------------------|
| #PE-III | M19 CS 1203 | Soft Computing Techniques |
| | M19 CS 1204 | Internet Protocols |
| | M19 CS 1205 | Cyber Security |
| #PE-IV | M19 CS 1206 | Optical Networks |
| | M19 CS 1207 | Digital Signal Processors and Architectures |
| | M19 CS 1208 | Radio Navigational Aids |

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| Regulation: R19 | | | II / II - M.Tech. I - Semester | | | | | | |
|------------------------------------------------------------------------------------------|-------------------------------------------|----------|--------------------------------|----|-----|----|------------|------------|-------------|
| COMMUNICATION SYSTEMS (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| #PE-V | Program Elective | PE | 3 | 3 | -- | -- | 25 | 75 | 100 |
| #OE-I | Open Elective | OE | 3 | 3 | -- | -- | 25 | 75 | 100 |
| M19CS2106 | Dissertation-I /Industrial Project | PR | 10 | -- | --- | 20 | 50 | 50 | 100 |
| Total | | | 16 | 6 | 0 | 20 | 100 | 200 | 300 |

| | Code | Course |
|-----------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #PE-V/ MOOCS | M19CS2101 | Detection and Estimation Theory |
| | M19CS2102 | Coding Theory and Applications |
| | M19CS2103 | Software Defined Radio |
| | M19CS2104 (MOOCS-I) | Students Going for Industrial Project Thesis will complete these courses through MOOCS. Students can also choose SWAYAM or NPTEL with a 12 weeks' course duration in PG level with 3 credits, but the chosen subject should not be covered in their M. Tech Course |
| #OE-I/ MOOCS | #OE-I | Students have to choose one open elective course offered by departments other than the parent department. List of open Electives offered by other departments are enclosed. |
| | M19CS2105 (MOOCS-II) | Students Going for Industrial Project / Thesis will complete these courses through MOOCS. Students can also choose SWAYAM or NPTEL with a 12 weeks' course duration in PG level with 3 credits, but the chosen subject should not be covered in their M. Tech Course |

| OPEN ELECTIVES OFFERED TO OTHER DEPARTMENTS | |
|---------------------------------------------|-----------------------------|
| Code | Course |
| M19CS2107 | Signals and systems |
| M19CS2108 | Principles of Communication |
| M19CS2109 | Image and video Processing |



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| Regulation: R19 | | | | I / II - M.Tech. I - Semester | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|----------|-----------|-------------------------------|----------|----------|------------|------------|-------------|
| ELECTRIC AND ELECTRONICS ENGINEERING (POWER SYSTEM&AUTOMATION) (Under Choice Based Credit System / Elective CourseSystem) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| M19 PS 1101 | Advanced Power System operation and control | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19 PS 1102 | Power system dynamics and stability | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-I | Program Elective-I | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-II | Program Elective-II | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19RD 1101 | Research Rethodology and IPR | CC | 2 | 2 | 0 | 0 | 25 | 75 | 100 |
| M19 PS 1109 | Power System Simulation Laboratory-I | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19 PS 1110 | Power system Laboratory | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| #AC-1 | Audit course -1 | AC | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | | | 18 | 16 | 0 | 8 | 175 | 525 | 700 |

| | | |
|-----------|------------|------------------------------------------------------------|
| #PE-I | M19 PS1103 | Electric Power Distribution System |
| | M19 PS1104 | HVDC Transmission |
| | M19 PS1105 | EHVAC Transmission |
| #PE-II | M19 PS1106 | Artificial Intelligence Techniques |
| | M19 PS1107 | Optimization Techniques |
| | M19 PS1108 | Advanced Digital Signal Processing |
| #AC-1 & 2 | M19AC0001 | English for Research Paper Writing |
| | M19AC0002 | Disaster Management |
| | M19AC0003 | Sanskrit for Technical Knowledge |
| | M19AC0004 | Value Education |
| | M19AC0005 | Constitution of India |
| | M19AC0006 | Pedagogy Studies |
| | M19AC0007 | Stress Management by Yoga |
| | M19AC0008 | Personality Development through Life Enlightenment Skills. |



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| Regulation: R19 | | I / II - M.Tech. II - Semester | | | | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------|-----------|-----------|----------|-----------|------------|------------|-------------|
| ELECTRICAL AND ELECTRONICS ENGINEERING (POWER SYSTEM & AUTOMATION) (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| M19 PS1201 | Real Time Control of Power Systems | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19PS 1202 | Advanced Power Electronic Converters | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-III | Program Elective-III | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-IV | Program Elective-IV | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19PS 1209 | Power System Simulation Laboratory-II | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19PS 1210 | Power Electronics for Renewable Integration Laboratory | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19PS 1211 | Mini Project with Seminar | MP | 2 | 0 | 0 | 4 | 100 | -- | 100 |
| #AC-2 | Audit Course-2* | AC | 0 | 2 | 0 | 0 | 0 | 0 | -- |
| TOTAL | | | 18 | 14 | 0 | 12 | 250 | 450 | 700 |

| | Code | Course |
|---------|------------|-------------------------------------|
| #PE-III | M19 PS1203 | Power Quality Issues and Remedies |
| | M19 PS1204 | Digital Protection of Power Systems |
| | M19 PS1205 | Power System Transients |
| #PE-IV | M19 PS1206 | Smart Grids Technologies |
| | M19 PS1207 | Renewable Energy Systems |
| | M19 PS1208 | Advanced Control Theory |



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| Regulation: R19 | | | II / II - M.Tech. I - Semester | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----|--------------------------------|----------|----------|-----------|------------|------------|-------------|
| ELECTRICAL AND ELECTRONICS ENGINEERING (POWER SYSTEM & AUTOMATION) (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Ca | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| #PE V | Program Elective V | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #Open Elective | Open Elective | OE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19PS2106 | Dissertation-I / Industrial Project | PR | 10 | 0 | 0 | 20 | 50 | 50 | 100 |
| TOTAL | | | 16 | 6 | 0 | 20 | 100 | 200 | 300 |

| | Course Code | Course |
|---------------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #PE-V/ MOOC S | M19PS2101 | Power System Automation. |
| | M19PS2102 | Restructured Power System |
| | M19PS2103 | Flexible AC Transmission systems |
| | M19 PS 2104 (MOOCS-I) | Students Going for Industrial Project / Thesis will complete these courses through MOOCS. Students can also choose SWAYAM or NPTEL with a 12 weeks' course duration in PG level with 3 credits, but the chosen subject should not be covered in their M. Tech Course |
| #OE-I/ MOOC S | #OE-I | Students have to choose one open elective course offered by departments other than the parent department. List of open Electives offered by other departments are enclosed. |
| | M19 PS 2105 (MOOCS-II) | Students Going for Industrial Project / Thesis will complete these courses through MOOCS. Students can also choose SWAYAM or NPTEL with a 12 weeks' course duration in PG level with 3 credits, but the chosen subject should not be covered in their M. Tech Course |



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| Regulation: R19 | | | I / II - M.Tech. I - Semester | | | | | | |
|------------------------------------------------------------------------------------------------|----------------------------------|----------|-------------------------------|-----------|----------|----------|------------|------------|-------------|
| M.TECH (INFORMATION TECHNOLOGY) (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| M19 IT1101 | Discrete Mathematical Structures | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19 IT1102 | Advanced Data Structures | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-I | Program Elective-I | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-II | Program Elective-II | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19 RD 1101 | Research Methodology and IPR | CC | 2 | 2 | 0 | 0 | 25 | 75 | 100 |
| M19 IT1113 | Advanced Data Structures Lab | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19 IT1114 | Computing Lab | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| #AC-1 | Audit course -1 | AC | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | | | 18 | 16 | 0 | 8 | 175 | 525 | 700 |

| | Code | Course | | Code | Course |
|--------------------|-----------|-------------------------------------------------|------------------------|-----------|------------------------------------------------------------|
| #PE-I | M19IT1103 | Artificial Intelligence | #A C 1 & 2 | M19AC0001 | English for Research Paper Writing |
| | M19IT1104 | Service Oriented Architectures And Web Security | | M19AC0002 | Disaster Management |
| | M19IT1105 | Internet of Things | | M19AC0003 | Sanskrit for Technical Knowledge |
| | M19IT1106 | Optimization Techniques | | M19AC0004 | Value Education |
| | M19IT1107 | Parallel Computer Architecture | | M19AC0005 | Constitution of India |
| | M19IT1108 | Bigdata Analytics | | M19AC0006 | Pedagogy Studies |
| #P E - II | M19IT1109 | Principles Of Cryptography | | M19AC0007 | Stress Management by Yoga |
| | M19IT1110 | Cluster And Grid Computing | | M19AC0008 | Personality Development through Life Enlightenment Skills. |
| | M19IT1111 | Imaging and Multimedia Systems | | | |
| | M19IT1112 | Advanced Graph Theory | | | |



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| Regulation: R19 | | | | I / II - M.Tech. II - Semester | | | | | |
|------------------------------------------------------------------------------------------------|-----------------------------|----|-----------|--------------------------------|----------|-----------|------------|------------|-------------|
| M.TECH (INFORMATION TECHNOLOGY) (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Ca | Cr | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| M19IT1201 | Advanced Algorithms | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19IT1202 | Full Stack Technologies | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-III | Program Elective-III | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-IV | Program Elective-IV | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19IT1213 | Advance Algorithms Lab | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19IT1214 | Full Stack Technologies Lab | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19IT1215 | Mini Project with Seminar | MP | 2 | 0 | 0 | 4 | 100 | -- | 100 |
| #AC-2 | Audit course -2* | AC | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | | | 18 | 14 | 0 | 12 | 250 | 450 | 700 |

| | Code | Course |
|---------|-----------|-------------------------------------------|
| #PE-III | M19IT1203 | Machine Learning |
| | M19IT1204 | DevOps |
| | M19IT1205 | Advanced Network Principles and Protocols |
| | M19IT1206 | Distributed Computing |
| | M19IT1207 | Social Network Analytics |
| #PE-IV | M19IT1208 | Digital Image Processing |
| | M19IT1209 | Block Chain Technologies |
| | M19IT1210 | Data Science |
| | M19IT1211 | Soft Computing |
| | M19IT1212 | Natural Language Processing |



H. Nagappa Reddy

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 (Affiliated to JNTUK, Kakinada),(Recognized by AICTE, NewDelhi) Accredited by NAAC with 'A' Grade
 UG Programmes CE, CSE, ECE, EEE, IT & ME are Accredited by NBA
 ChinnaAmiram, Bhimavaram-534204. (AP)

Estd:1980

| Regulation: R19 | | | | II/ II - M.Tech. I - Semester | | | | | |
|------------------------------------------------------------------------------------------------|----------------------------------------|----------|-----------|-------------------------------|-----------|-----------|------------|------------|-------------|
| M.TECH (INFORMATION TECHNOLOGY) (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| #PE-V/ MOOCS | Program Elective-V | PE | 3 | 3 | -- | -- | 25 | 75 | 100 |
| #OE-I/ MOOCS | Open Elective-I | OE | 3 | 3 | -- | -- | 25 | 75 | 100 |
| M19IT2107 | Dissertation-I /Industrial Project# | PR | 10 | -- | -- | 20 | 50 | 50 | 100 |
| TOTAL | | | 16 | 6 | -- | 20 | 100 | 200 | 300 |

| | Code | Course |
|------|-----------|--------------------|
| #DF- | M19IT2101 | Deep Learning |
| | M19IT2102 | Embedded Computing |
| | M19IT2103 | Ethical Hacking |

| | Code | Course |
|-----------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #DE-III | M19IT1203 | Machine Learning |
| | M19IT1204 | DevOps |
| #OE-I/ MOOCS | #O E-I | Students have to choose one open elective course offered by departments other than the IT & CSE departments. List of open Electives offered by other departments are enclosed. |
| | M19IT2106 (MOOCS-II) | Students Going for Industrial Project / Thesis will complete these courses through MOOCS. Students can also choose SWAYAM or NPTEL with a 12 weeks' course duration in PG level with 3 credits, but the chosen subject should not be covered in their M. Tech Course |

OPEN ELECTIVES OFFERED TO OTHER DEPARTMENTS

| Code | Course |
|-----------|--------------------|
| M19IT2108 | Web Technologies |
| M19IT2109 | Internet of Things |
| M19IT2110 | Machine Learning |



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| Regulation: R19 | | | I / II - M.Tech. I - Semester | | | | | | |
|-------------------------------------------------------------|---------------------------------------------|----------|-------------------------------|-----------|----------|----------|------------|------------|-------------|
| MECHANICAL ENGINEERING (CAD/CAM) | | | | | | | | | |
| (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION | | | | | | | | | |
| (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| M19CAD 1101 | Geometric Modeling | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19CAD 1102 | Computer Aided Manufacturing | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-I | Program Elective-I | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-II | Program Elective-II | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19CAD 1109 | Advanced CAD Lab | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19CAD 1110 | Advanced Manufacturing Lab | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19 RD 1101 | Research Methodology and IPR | RD | 2 | 2 | 0 | 0 | 25 | 75 | 100 |
| M19 AC 1109 | Writing Skills for Scientific Communication | AC | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| Total | | | 18 | 16 | 0 | 8 | 175 | 525 | 700 |

| | Course Code | Course |
|--------|-------------|---------------------------------------------------|
| #PE-I | M19CAD 1103 | Computational Methods in Engineering |
| | M19CAD 1104 | Material Technology |
| | M19CAD 1105 | Mechanical Vibrations |
| #PE-II | M19CAD 1106 | Mechatronics |
| | M19CAD 1107 | Industrial Robotics |
| | M19CAD 1108 | Modelling and Simulation of Manufacturing Systems |



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| Regulation: R19 | | | | I / II - M.Tech. II - Semester | | | | | |
|-------------------------------------------------------------|-------------------------------------|----------|-----|--------------------------------|----|----|------------|------------|-------------|
| MECHANICAL ENGINEERING(CAD/CAM) | | | | | | | | | |
| (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION | | | | | | | | | |
| (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| M19CAD 1201 | Theory of Elasticity and Plasticity | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19CAD 1202 | Advanced Manufacturing Processes | PC | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-III | Program Elective-III | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #PE-IV | Program Elective-IV | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19CAD 1209 | Computer Aided Machining Lab | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19CAD 1210 | Robotics Lab | PC | 2 | 0 | 0 | 4 | 25 | 75 | 100 |
| M19CAD 1211 | Mini Project With Seminar | MP | 2 | 2 | 0 | 4 | 100 | -- | 100 |
| #AC | Audit Course | AC | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| Total | | | 18 | 14 | 18 | 16 | 0 | 12 | 250 |

| | Course Code | Course |
|---------|-------------|---------------------------------------|
| #PE-III | M19CAD 1203 | Advanced Finite Element Methods |
| | M19CAD 1204 | Fracture Mechanics |
| | M19CAD 1205 | Product Design and Development |
| #PE-IV | M19CAD 1206 | Materials Characterization Techniques |
| | M19CAD 1207 | Optimization & Reliability |
| | M19CAD 1208 | Additive Manufacturing |

| | Course Code | Course |
|-----|-------------|-----------------------------------------------------------|
| #AC | M19AC 0005 | Constitution of India |
| | M19AC 0006 | Pedagogy studies |
| | M19AC 0008 | Personality development through life enlightenment skills |



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| Regulation: R19 | | | II / II - M.Tech. I - Semester | | | | | | |
|-------------------------------------------------------------|-------------------------------------|----------|--------------------------------|----------|----------|-----------|------------|------------|-------------|
| MECHANICAL ENGINEERING(CAD/CAM) | | | | | | | | | |
| (Under Choice Based Credit System / Elective Course System) | | | | | | | | | |
| SCHEME OF INSTRUCTION & EXAMINATION | | | | | | | | | |
| (With effect from 2019-20 admitted Batch onwards) | | | | | | | | | |
| Course Code | Course Name | Category | Cr. | L | T | P | Int. Marks | Ext. Marks | Total Marks |
| #PE-V/ MOOCS | Program Elective-V | PE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| #OE/MOOCS | Open Elective | OE | 3 | 3 | 0 | 0 | 25 | 75 | 100 |
| M19CAD2106 | Dissertation-I / Industrial Project | PR | 10 | 0 | 0 | 20 | 50 | 50 | 100 |
| TOTAL | | | 16 | 6 | 0 | 20 | 100 | 200 | 300 |

| | Course Code | Course |
|-----------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #PE-V/ MOOCS | M19CAD 2101 | Non Destructive Evaluation |
| | M19CAD 2102 | Quality Engineering |
| | M19CAD 2103 | Green Manufacturing |
| | M19CAD 2104 (MOOCS-I) | Students Going for Industrial Project / Thesis will complete these courses through MOOCS. Students can also choose SWAYAM or NPTEL with a 12 weeks' course duration in PG level with 3 credits, but the chosen subject should not be covered in their M. Tech Course |
| #OE/ MOOCS | #OE | Students have to choose one open elective course offered by departments other than the parent department. List of open Electives offered by other departments are enclosed. |
| | M19CAD 2105 (MOOCS-II) | Students Going for Industrial Project / Thesis will complete these courses through MOOCS. Students can also choose SWAYAM or NPTEL with a 12 weeks' course duration in PG level with 3 credits, but the chosen subject should not be covered in their M. Tech Course |

| OPEN ELECTIVES OFFERED TO OTHER DEPARTMENTS | |
|---------------------------------------------|--------------------------------|
| M19CAD 2107 | Operations Research |
| M19CAD 2108 | Nano Technology |
| M19CAD 2109 | Product Design & Manufacturing |



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