

MVJ COLLEGE OF ENGINEERING, Whitefield, Bangalore

An Autonomous Institution, Affiliated to VTU, Belagavi

Scheme of Teaching and Examination 2020-21

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) Effective from the academic year 2020-21

III SEMESTER B.E. (Civil Engineering)

| S No | Course | | Course Title | Teaching Department | Teaching hours/week | | | Examination | | | | Credits |
|--------------|--------|---------------|---|---------------------|---------------------|-----------|--------------------|-------------------|------------|------------|-------------|-----------|
| | | | | | Theory Lecture | Tutorial | Practical /Drawing | Duration in Hours | CIE Marks | SEE Marks | Total marks | |
| | L | T | | | P | | | | | | | |
| 1 | BSC | MVJ20MCV31 | Fourier Series, Transforms, Numerical and Optimization Techniques | Mathematics | 2 | 2 | 0 | 3 | 50 | 50 | 100 | 3 |
| 2 | PCC | MVJ20CV32 | Solid Mechanics | Civil Engineering | 3 | 2 | 0 | 3 | 50 | 50 | 100 | 4 |
| 3 | PCC | MVJ20CV33 | Fluid Mechanics | Civil Engineering | 2 | 2 | 0 | 3 | 50 | 50 | 100 | 3 |
| 4 | PCC | MVJ20CV34 | Geodetic Information | Civil Engineering | 3 | 0 | 0 | 3 | 50 | 50 | 100 | 3 |
| 5 | PCC | MVJ20CV35 | Geo-informatics & Laboratory | Civil Engineering | 2 | 0 | 2 | 3 | 50 | 50 | 100 | 3 |
| 6 | PCC | MVJ20CV36 | Building Materials and Construction | Civil Engineering | 3 | 0 | 0 | 3 | 50 | 50 | 100 | 3 |
| 7 | PCC | MVJ20CVL37 | Geodetic Information Practice | Civil Engineering | 0 | 2 | 2 | 3 | 50 | 50 | 100 | 2 |
| 8 | PCC | MVJ20CVL38 | Solid Mechanics Laboratory | Civil Engineering | 0 | 2 | 2 | 3 | 50 | 50 | 100 | 2 |
| 9 | HSMC | MVJ20SK/BK39 | Samskrutika Kannada / Balake Kannada | Humanities | 1 | 0 | 0 | 3 | 50 | 50 | 100 | 1 |
| 10 | HSMC | MVJ20UHV310 | Universal Human Values I | Humanities | 1 | 0 | 0 | 2 | 50 | 50 | 100 | 1 |
| 11 | BSC | MVJ20MATDIP31 | Additional Mathematics-1 | Mathematics | 2 | 1 | 0 | 3 | 50 | 50 | 100 | - |
| Total | | | | | 19 | 11 | 06 | 32 | 550 | 550 | 1100 | 25 |

Note: BSC: Basic Science, PCC: Professional Core Course , HSMC: Humanity and Social Science

MVJ19MXXDIP301- Mandatory non-credit course

MVJ COLLEGE OF ENGINEERING, Whitefield, Bangalore

An Autonomous Institution, Affiliated to VTU, Belagavi

Scheme of Teaching and Examination 2020-21

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) Effective from the academic year 2020-21

IV SEMESTER B.E. (Civil Engineering)

| S No | Course | | Course Title | Teaching Department | Teaching hours/week | | | Examination | | | | Credits |
|--------------|--------|---------------|--|---------------------|---------------------|-----------|--------------------|-------------------|------------|------------|-------------|-----------|
| | | | | | Theory Lecture | Tutorial | Practical/ Drawing | Duration in Hours | CIE Marks | SEE Marks | Total marks | |
| | L | T | | | P | | | | | | | |
| 1 | BSC | MVJ20MCV41 | Complex Analysis, Probability and Sampling Theory | Mathematics | 2 | 2 | 0 | 3 | 50 | 50 | 100 | 3 |
| 2 | PCC | MVJ20CV42 | Analysis of Determinate Structures | Civil Engineering | 3 | 2 | 0 | 3 | 50 | 50 | 100 | 4 |
| 3 | PCC | MVJ20CV43 | Applied Hydraulics | Civil Engineering | 3 | 0 | 0 | 3 | 50 | 50 | 100 | 3 |
| 4 | PCC | MVJ20CV44 | Basic Geotechnical Engineering | Civil Engineering | 3 | 0 | 0 | 3 | 50 | 50 | 100 | 3 |
| 5 | PCC | MVJ20CV45 | Engineering Geology & Laboratory | Civil Engineering | 2 | 0 | 2 | 3 | 50 | 50 | 100 | 3 |
| 6 | PCC | MVJ20CV46 | Concrete Technology | Civil Engineering | 3 | 0 | 0 | 3 | 50 | 50 | 100 | 3 |
| 7 | PCC | MVJ20CVL47 | Applied Hydraulics Laboratory | Civil Engineering | 0 | 2 | 2 | 3 | 50 | 50 | 100 | 2 |
| 8 | PCC | MVJ20CVL48 | Concrete Technology Laboratory | Civil Engineering | 0 | 2 | 2 | 3 | 50 | 50 | 100 | 2 |
| 9 | HSMC | MVJ20CPH49 | Constitution of India, Professional Ethics And Cyber Law | Humanities | 1 | 0 | 0 | 3 | 50 | 50 | 100 | 1 |
| 10 | BSC | MVJ20MATDIP41 | Additional Mathematics-2 | Mathematics | 2 | 1 | 0 | 3 | 50 | 50 | 100 | - |
| Total | | | | | 19 | 09 | 06 | 30 | 500 | 500 | 1000 | 24 |

Note: BSC: Basic Science, PCC: Professional Core Course , HSMC: Humanity and Social Science
MVJ19MXXDIP401- Mandatory non-credit course

MVJ COLLEGE OF ENGINEERING, Whitefield, Bangalore

An Autonomous Institution, Affiliated to VTU, Belagavi

Scheme of Teaching and Examination 2020-21

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) Effective from the academic year 2020-21

V SEMESTER B.E. (Civil Engineering)

| S No | Course | | Course Title | Teaching Department | Teaching hours/week | | | Examination | | | | Credits |
|--------------|--------|-------------|--|---------------------|---------------------|-----------|--------------------|-------------------|------------|------------|-------------|-----------|
| | | | | | Theory Lecture | Tutorial | Practical/ Drawing | Duration in Hours | CIE Marks | SEE Marks | Total marks | |
| | L | T | | | P | | | | | | | |
| 1 | PCC | MVJ20EEM51 | Entrepreneurship and Engineering Management | Civil Engineering | 3 | 0 | 0 | 3 | 50 | 50 | 100 | 3 |
| 2 | PCC | MVJ20CV52 | Analysis of Indeterminate Structures | Civil Engineering | 3 | 2 | 0 | 3 | 50 | 50 | 100 | 4 |
| 3 | PCC | MVJ20CV53 | Applied Geotechnical Engineering | Civil Engineering | 3 | 2 | 0 | 3 | 50 | 50 | 100 | 4 |
| 4 | PCC | MVJ20CV54 | Water Supply and Treatment Engineering | Civil Engineering | 3 | 0 | 0 | 3 | 50 | 50 | 100 | 3 |
| 5 | PE | MVJ20CV55X | Professional Elective-1 | Civil Engineering | 3 | 0 | 0 | 3 | 50 | 50 | 100 | 3 |
| 6 | PCC | MVJ20CVL56 | Computer Aided Building Planning & Drawing | Civil Engineering | 0 | 2 | 2 | 3 | 50 | 50 | 100 | 2 |
| 7 | PCC | MVJ20CVL57 | Highway Engineering Laboratory | Civil Engineering | 0 | 2 | 2 | 3 | 50 | 50 | 100 | 2 |
| 8 | PCC | MVJ20CVL58 | Geotechnical Engineering Laboratory | Civil Engineering | 0 | 2 | 2 | 3 | 50 | 50 | 100 | 2 |
| 9 | HSMC | MVJ20ENV59 | Environmental Studies | Humanities | 1 | 0 | 0 | 3 | 50 | 50 | 100 | 1 |
| 10 | HSMC | MVJ20UHV510 | Universal Human Values II -Understanding Harmony And Ethical Human Conduct | Humanities | 1 | 2 | 0 | 2 | 50 | 50 | 100 | 2 |
| Total | | | | | 17 | 12 | 06 | 29 | 500 | 500 | 1000 | 26 |

Note: PCC: Professional Core Course , PE: Professional Elective, HSMC: Humanity and Social Science

| Professional Elective-1 | |
|-------------------------|---|
| MVJ20CV551 | Numerical Methods and applications |
| MVJ20CV552 | Ground Improvement Techniques |
| MVJ20CV553 | Alternative Building Materials and Technology |
| MVJ20CV554 | Highway Engineering |

MVJ COLLEGE OF ENGINEERING, Whitefield, Bangalore

An Autonomous Institution, Affiliated to VTU, Belagavi

Scheme of Teaching and Examination 2020-21

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) Effective from the academic year 2020-21

VI SEMESTER B.E. (Civil Engineering)

| S No | Course | | Course Title | Teaching Department | Teaching hours/week | | | Examination | | | | Credits |
|--------------|--------|------------|--------------------------------------|---------------------|---------------------|-----------|-----------------|-------------------|------------|------------|-------------|-----------|
| | | | | | Theory Lecture | Tutorial | Practical/Drawi | Duration in Hours | CIE Marks | SEE Marks | Total marks | |
| | L | T | | | P | | | | | | | |
| 1 | PCC | MVJ20CV61 | Hydrology and Irrigation Engineering | Civil Engineering | 3 | 2 | 0 | 3 | 50 | 50 | 100 | 4 |
| 2 | PCC | | Design of RC Structures | Civil Engineering | 3 | 2 | 0 | 3 | 50 | 50 | 100 | 4 |
| 3 | PE | MVJ20CV63X | Professional Elective-2 | Civil Engineering | 3 | 0 | 0 | 3 | 50 | 50 | 100 | 3 |
| 4 | PE | MVJ20CV64X | Professional Elective-3 | Civil Engineering | 3 | 0 | 0 | 3 | 50 | 50 | 100 | 3 |
| 5 | OE | MVJ20CV65X | Open Elective-1 | Civil Engineering | 3 | 0 | 0 | 3 | 50 | 50 | 100 | 3 |
| 6 | PCC | MVJ20CVL66 | Environmental Engineering Laboratory | Civil Engineering | 0 | 2 | 2 | 3 | 50 | 50 | 100 | 2 |
| 7 | PCC | MVJ20CVL67 | Software Application Laboratory | Civil Engineering | 0 | 2 | 2 | 3 | 50 | 50 | 100 | 2 |
| 8 | Proj | MVJ20CVP68 | Mini-Project | Civil Engineering | 0 | 0 | 6 | 3 | 50 | 50 | 100 | 3 |
| Total | | | | | 15 | 08 | 10 | 24 | 400 | 400 | 800 | 24 |

Note: PCC: Professional Core Course , PE: Professional Elective, OE: Open Elective, Proj: Project Work

| Professional Elective-2 | | Professional Elective-3 | | Open Elective – 1 | |
|-------------------------|---------------------------------|-------------------------|--|-------------------|---|
| MVJ20CV631 | Air Quality Management | MVJ20CV641 | Highway Geometric Design | MVJ20CV651 | Sustainability Concepts in Engineering |
| MVJ20CV632 | Municipal Wastewater Management | MVJ20CV642 | Pavement Materials | MVJ20CV652 | Resource Allocation and Management |
| MVJ20CV633 | Solid Waste Management | MVJ20CV643 | Railways, Harbours, Tunneling and Airports | MVJ20CV653 | Occupational health and safety management |
| MVJ20CV634 | Air and Water Quality Modeling | MVJ20CV644 | Road Safety and Management | MVJ20CV654 | Industrial Safety |

MVJ COLLEGE OF ENGINEERING, Whitefield, Bangalore

An Autonomous Institution, Affiliated to VTU, Belagavi

Scheme of Teaching and Examination 2020-21

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) Effective from the academic year 2020-21

VII SEMESTER B.E. (Civil Engineering)

| S No | Course | | Course Title | Teaching Department | Teaching hours/week | | | Examination | | | | Credits |
|--------------|--------|------------|---|---------------------|---------------------|-----------|-----------------------|-------------------|------------|------------|-------------|-----------|
| | | | | | Theory Lecture | Tutorial | Practical/ Drawing | Duration in Hours | CIE Marks | SEE Marks | Total marks | |
| | L | T | | | P | | | | | | | |
| 1 | PCC | MVJ20CV71 | Design of Steel Structures | Civil Engineering | 3 | 2 | 0 | 3 | 50 | 50 | 100 | 4 |
| 2 | PCC | MVJ20CV72 | Design of Pre-stressed Concrete Elements | Civil Engineering | 3 | 2 | 0 | 3 | 50 | 50 | 100 | 4 |
| 3 | PE | MVJ20CV73X | Professional Elective – 4 | Civil Engineering | 3 | 0 | 0 | 3 | 50 | 50 | 100 | 3 |
| 4 | PE | MVJ20CV74X | Professional Elective – 5 | Civil Engineering | 3 | 0 | 0 | 3 | 50 | 50 | 100 | 3 |
| 5 | OE | MVJ20CV75X | Open Elective-2 | Civil Engineering | 3 | 0 | 0 | 3 | 50 | 50 | 100 | 3 |
| 6 | PCC | MVJ20CV76 | Quantity Surveying and Contracts Management | Civil Engineering | 1 | 2 | 0 | 3 | 50 | 50 | 100 | 2 |
| 7 | PCC | MVJ20CVL77 | Computer Aided Detailing of Structures | Civil Engineering | 0 | 2 | 2 | 3 | 50 | 50 | 100 | 2 |
| 8 | Proj | MVJ20CVP78 | Project Phase-1 | Civil Engineering | 0 | 0 | 4 | - | 50 | - | 50 | 2 |
| Total | | | | | 16 | 08 | 06 | 21 | 400 | 350 | 750 | 23 |

Note: PCC: Professional Core Course , PE: Professional Elective, OE: Open Elective, Proj: Project Work

| Professional Elective-4 | | Professional Elective-5 | | Open Elective – 2 | |
|-------------------------|--|-------------------------|---------------------------------------|-------------------|--|
| MVJ20CV731 | Design and Drawing of Hydraulic Structures | MVJ20CV741 | Earth and Earth Retaining Structures | MVJ20CV751 | Environmental Protection and Management |
| MVJ20CV732 | Water Resource Management | MVJ20CV742 | Matrix methods of Structural Analysis | MVJ20CV752 | Construction Methods, Planning and Management |
| MVJ20CV733 | Groundwater Hydraulics | MVJ20CV743 | Advanced Foundation Engineering | MVJ20CV753 | Remote Sensing and GIS |
| MVJ20CV734 | Computational Fluid Dynamics | MVJ20CV744 | Finite Element Method | MVJ20CV754 | Introduction to Research and Technical Writing |

MVJ COLLEGE OF ENGINEERING, Whitefield, Bangalore

An Autonomous Institution, Affiliated to VTU, Belagavi

Scheme of Teaching and Examination 2020-21

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) Effective from the academic year 2020-21

VIII SEMESTER B.E. (Civil Engineering)

| S No | Course | | Course Title | Teaching Department | Teaching hours/week | | | Examination | | | | Credits |
|--|--------|------------|-----------------|---------------------|---------------------|-----------|--------------------|-------------------|------------|------------|-------------|-----------|
| | | | | | Theory Lecture | Tutorial | Practical /Drawing | Duration in Hours | CIE Marks | SEE Marks | Total marks | |
| | L | T | | | P | | | | | | | |
| 1 | Proj | MVJ20CVP81 | Project Phase-2 | Civil Engineering | 0 | 0 | 14 | 3 | 50 | 50 | 100 | 7 |
| 2 | Int | MVJ20CVI82 | Internship | Industry/Institute | 0 | 0 | 6 | 3 | 50 | 50 | 100 | 3 |
| 3 | Sem | MVJ20CVS83 | Seminar | Civil Engineering | 0 | 0 | 2 | 3 | 50 | 50 | 100 | 1 |
| 4 | CRT | MVJ20CVC84 | Certification | Industry/Institute | 0 | 0 | 0 | - | - | - | - | 2 |
| Total | | | | | 00 | 00 | 22 | 09 | 150 | 150 | 300 | 13 |
| Note: PCC: Professional Core Course , PE: Professional Elective, OE: Open Elective, Proj: Project Work, Int.: Internship, Sem : Seminar, CRT: Certification Course (Can be carried out during the program period but same will reflect in the final semester grade card) | | | | | | | | | | | | |

| Certificate Courses |
|--|
| Global Environmental Management |
| Disaster Preparedness |
| Water Supply and Sanitation Policy in Developing Countries |
| AI For Everyone |
| Occupational and Environmental Health and Safety |
| Building Information Modelling |
| Design Thinking for Innovation |
| Geosynthetic Engineering |
| Statistics for Business and Economics |
| Data Analytics and Machine Learning |