**Academic Curriculum for Master of Technology**

 **in**

**DRINKING WATER AND SANITATION (DWS)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Teaching Scheme** | **Contact Hours per Week** | **Exam. Duration (Hrs.)** | **Relative****Weightage (%)** |
| S.No | **COURSE TITLE** | **SUBJECT AREA** | **CREDITS** | **L** | **T** | **P** | **Theory** | **Practical** | **CWS** | **PRS** | **MTE** | **ETE** | **PRE** |
| **1st YEAR I SEMESTER (AUTUMN)** |
| 1. | Rural and Urban Water Supply *(WRN-516)* | PCC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 2. | Water Resource Planning and Management *(WRN-503)* | PCC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 3. | Drinking-Water and Sanitation Sustainability *(New Course)* Sustainability | PCC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 4. | Water sanitation, Hygiene, and infrastructural management *(New Course)* | PCC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 5. | Program Elective Course | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| **Sub Total** | **20** |  |
|  **II SEMESTER (SPRING)** |
| 1. | Mini project on Drinking Water and Sanitation (New) | PCC | 2 | - | - | 4 | - | - | - | 50 | - | - | 50 |
| 2. | Program Elective Course | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 3. | Program Elective Course | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 4. | Program Elective Course | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 5. | Program Elective Course | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 6 | Seminar | - | 2 | - | - | - | - | - | - | - | - | 100 | - |
| **Sub Total** | **20** |  |
| **2nd YEAR III SEMESTER (AUTUMN)** |
| 1. | Thesis Stage- I |  | 12 | - | - | - | - | - | - | - | - | 100 | - |
| **Sub Total** | **12** |  |
|  **IV SEMESTER (SPRING)** |
| 1. | Thesis Stage- II |  | 18 | - | - | - | - | - | - | - | - | 100 | - |
| **Sub Total** | **18** |  |
| **Total** | **70** |  |

**Abbreviations:**

L-Lecture, T-Tutorial-Practical, CWS-Class Work Sessions, PRS-Practical Sessions, MTE-Mid Term Examination, ETE-End Term Examination, PCC-Program Core Course, PEC-Program Elective Course

**PROGRAMME ELECTIVE COURSES**

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|  |  |  |  |
| --- | --- | --- | --- |
| **Teaching Scheme** | **Contact Hours per Week** | **Exam. Duration (Hrs.)** | **Relative****Weightage (%)** |
| S.No | **COURSE TITLE** | **SUBJECT AREA** | **CREDITS** | **L** | **T** | **P** | **Theory** | **Practical** | **CWS** | **PRS** | **MTE** | **ETE** | **PRE** |
| 1. | Water Quality Monitoring and Modeling *(WRN-581)* | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 2. | Remote Sensing and GIS Applications in Water Systems *(WRN-583)* | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 3. | Groundwater Development and Management *(WRN-586)* | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 4. | Watershed Development and Management *(WRN-587)* | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 5. | Drinking-Water for Low-Income Societies*(New Course)* | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 6. | Wastewater and Fecal Sludge Management*(New Course)* | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 7. | Resilience, Shocks, and Emergencies*(New Course)* | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 8. | Management and Operation of Water Utilities*(New Course)* | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 9. | Water Works Engineering*(New Course)* | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 10. | System Design Techniques *(WRN-501)* | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 11. | Flow Hydraulics and Urban Drainage*(New Course)* | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 12. | Renewable Energy System Technology *(WRN-580)* | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 13. | Circular Water Economy *(New Course)* | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
| 14. | Sustainable Water Resources *(New Course)* | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |

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