##### Annexure-IV

##### Academic Curriculum for Master of Technology in

**IRRIGATION WATER MANAGEMENT (IWM)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Teaching Scheme** | | | | | | **Contact Hours per Week** | | | | | | **Exam. Duration (Hrs.)** | | | | **Relative**  **Weightage (%)** | | | | | | | |
| **S.No** | **SUBJECT CODE** | **COURSE TITLE** | **SUBJECT AREA** | | **CREDITS** | **L** | | **T** | | **P** | | **Theory** | | **Practical** | | **CWS** | | **PRS** | | **MTE** | | **ETE** | **PRE** |
| **1st YEAR I SEMESTER (AUTUMN)** | | | | | | | | | | | | | | | | | | | | | | | |
| 1. | WRN-501 | System Design Techniques | PCC | | 4 | 3 | | 1 | | 0 | | 3 | | - | | 20-35 | | - | | 20-30 | | 40-50 | - |
| 2. | WRN-571 | Design of Irrigation Structures and Drainage Works | PCC | | 4 | 3 | | 1 | | - | | 3 | | - | | 20-35 | | - | | 20-30 | | 40-50 | - |
| 3. | WRN-573 | Principles and Practices of Irrigation | PCC | | 4 | 3 | | 1 | | - | | 3 | | - | | 20-35 | | - | | 20-30 | | 40-50 | - |
| 4. | WRN-575 | On Farm Development | 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. | WRN-574 | Diagnostic Analysis | 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. | WRN-700 | Seminar | SEM | | 2 | - | | - | | - | | - | | - | | - | | - | | 100 | | - | - |
| **Sub Total** | | | | | **20** |  | | | | | | | | | | | | | | | | | |
| **Note:** *P.G. Diploma course in IWM shall be of ONE YEAR duration comprising of semesters I and II only, with a minimum credits of 40* | | | | | | | | | | | | | | | | | | | | | | | |
| **2nd YEAR III SEMESTER (AUTUMN)** | | | | | | | | | | | | | | | | | | | | | | | |
| 1. | WRN-701A | Thesis I | DIS | | 12 | - | - | | - | | - | | - | | - | | - | | - | | 100 | | - |
| **Sub Total** | | | | | **12** |  | | | | | | | | | | | | | | | | | |
| **\*** *to be continued and grade to be awarded in the next semester* | | | | | | | | | | | | | | | | | | | | | | | |
| **IV SEMESTER (SPRING)** | | | | | | | | | | | | | | | | | | | | | | | |
| 1. | WRN-701B | Thesis II (contd. From 3rd Semester) | DIS | 18 | | - | - | | - | | - | | - | | - | | - | | - | | 100 | | - |
| **Sub Total** | | | | **18** | |  | | | | | | | | | | | | | | | | | |
| **Total** | | | | **70** | |  | | | | | | | | | | | | | | | | | |

**PROGRAMME ELECTIVES COURSES (IWM)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | WRN-503 | Water Resources Planning and Management | PEC | 4 | 3 | 1 |  | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-504 | Applied Hydrology | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-513 | Earth and Rockfill Dams | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-516 | Rural and Urban Water Supply | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-520 | Environmental Impact Assessment of Water Resource Projects | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-522 | Climate Change and Water Resources | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-572 | Soil and Agronomy | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-576 | Operation Maintenance and Management of Irrigation Systems | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-577 | Water and Land Laws | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-578 | Rural Sociology and Irrigation Economics | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-579 | Evaluation of Irrigation Project | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-580 | Renewable Energy System Technology | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-581 | Water Quality Monitoring and Modeling | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-582 | Theory of Seepage | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-583 | Remote Sensing and GIS Applications in Agriculture | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-584 | Cropping System Modeling | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-585 | Environmental Impact of Irrigated Agriculture | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-586 | Groundwater Development and Management | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-587 | Watershed Development and Management | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |
|  | WRN-598 | Smart Irrigation Systems | PEC | 4 | 3 | 1 | - | 3 | - | 20-35 | - | 20-30 | 40-50 | - |