

**DEPARTMENT OF HYDROLOGY**  
**INDIAN INSTITUTE OF TECHNOLOGY ROORKEE**

(Annexure - I)

Program Code: **XXX M.Tech. (Surface Water Hydrology)/PG Diploma in Surface Water Hydrology**  
 Department: **Department of Hydrology**  
 Year: **I**  
 Model: **2**

| Teaching Scheme             |              |                                                  |              |           | Contact Hours/Week |   |   | Exam Duration |           |
|-----------------------------|--------------|--------------------------------------------------|--------------|-----------|--------------------|---|---|---------------|-----------|
| S.No.                       | Subject Code | Course Title                                     | Subject Area | Credits   | L                  | T | P | Theory        | Practical |
| <b>Semester-I (Autumn)</b>  |              |                                                  |              |           |                    |   |   |               |           |
| 1.                          | HYC-501      | Open Channel and Fluvial Hydraulics              | PCC          | 3         | 2                  | 0 | 2 | 3             | 0         |
| 2.                          | HYC-503      | Stochastic Hydrology                             | PCC          | 3         | 2                  | 1 | 0 | 3             | 0         |
| 3.                          | HYC-505      | Remote Sensing and GIS Applications              | PCC          | 3         | 2                  | 0 | 2 | 3             | 0         |
| 4.                          | HYC-507      | Deterministic Hydrology                          | PCC          | 3         | 2                  | 1 | 0 | 3             | 0         |
| 5.                          | HYC-509      | Surface Water Quality Modelling                  | PCC          | 3         | 2                  | 0 | 2 | 3             | 0         |
| 6.                          |              | Social Science Course                            | SSC          | 2         | -                  | - | - | -             | -         |
|                             |              | <b>Total</b>                                     |              | <b>17</b> |                    |   |   |               |           |
| <b>Semester-II (Spring)</b> |              |                                                  |              |           |                    |   |   |               |           |
| 1.                          |              | Program Elective-I                               | PEC          | 3         | -                  | - | - | -             | -         |
| 2.                          |              | Program Elective-II                              | PEC          | 3         | -                  | - | - | -             | -         |
| 3.                          |              | Program Elective-III                             | PEC          | 3         | -                  | - | - | -             | -         |
| 4.                          |              | Program Elective-IV                              | PEC          | 3         | -                  | - | - | -             | -         |
| 5.                          |              | Program Elective-V                               | PEC          | 3         | -                  | - | - | -             | -         |
| 6.                          |              | Science, Technology, and Advanced Research-tools | STAR         | 3         | -                  | - | - | -             | -         |
| 7.                          | HYC-700      | Seminar                                          | SEM          | 2         | -                  | - | - | -             | -         |
|                             |              | <b>Total</b>                                     |              | <b>20</b> |                    |   |   |               |           |

**DEPARTMENT OF HYDROLOGY**  
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Program Code: **XXX M.Tech. (Surface Water Hydrology)/PG Diploma in Surface Water Hydrology**  
 Department: **Department of Hydrology**  
 Year: **II**  
 Model: **2**

| Teaching Scheme             |              |                            |              |           | Contact Hours/Week |   |   | Exam Duration |           |
|-----------------------------|--------------|----------------------------|--------------|-----------|--------------------|---|---|---------------|-----------|
| S.No.                       | Subject Code | Course Title               | Subject Area | Credits   | L                  | T | P | Theory        | Practical |
| <b>Semester-I (Autumn)</b>  |              |                            |              |           |                    |   |   |               |           |
| 1.                          | HYC-691      | Internship Social Activity | ISA          | 5         | -                  | - | - | -             | -         |
| 2.                          | HYC-701A     | Thesis Stage-I             | THESIS       | 10        | -                  | - | - | -             | -         |
|                             |              | <b>Total</b>               |              | <b>15</b> |                    |   |   |               |           |
| <b>Semester-II (Spring)</b> |              |                            |              |           |                    |   |   |               |           |
| 1.                          | HYC-701B     | Thesis Stage-II            | THESIS       | 14        | -                  | - | - | -             | -         |
|                             |              | <b>Total</b>               |              | <b>14</b> |                    |   |   |               |           |

| Summary                     |    |    |    |    |
|-----------------------------|----|----|----|----|
| Semester                    | 1  | 2  | 3  | 4  |
| Semester-wise Total Credits | 17 | 20 | 15 | 14 |
| Total Credits               | 66 |    |    |    |

**M.Tech. (Surface Water Hydrology)/PG Diploma in Surface Water Hydrology**  
**Program Elective Courses**

| Teaching Scheme |              |                                                   |              |         | Contact Hours/Week |   |   | Exam Duration |           |
|-----------------|--------------|---------------------------------------------------|--------------|---------|--------------------|---|---|---------------|-----------|
| S.No.           | Subject Code | Course Title                                      | Subject Area | Credits | L                  | T | P | Theory        | Practical |
| 1.              | HYL-501      | Water Resources Planning and Management           | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 2.              | HYL-502      | Urban Hydrology                                   | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 3.              | HYL-503      | Irrigation and Drainage Engineering               | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 4.              | HYL-504      | Geophysical Investigations                        | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 5.              | HYL-505      | Surface Water Modelling and Simulation            | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 6.              | HYL-506      | Soil and Groundwater Contamination Modelling      | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 7.              | HYL-507      | Hydrometeorology and Climate Change               | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 8.              | HYL-508      | Vadose Zone Hydrology                             | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 9.              | HYL-509      | Ecohydrology                                      | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 10.             | HYL-510      | Membranes for Desalination and Purification       | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 11.             | HYL-511      | Hydrological Data Collection and Processing       | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 12.             | HYL-512      | Numerical Methods in Hydrology                    | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 13.             | HYL-513      | Environmental Planning and Assessment of Projects | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 14.             | HYL-514      | Soil and Water Remediation                        | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 15.             | HYL-515      | Hydrogeochemistry                                 | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 16.             | HYL-516      | Soft Computing Techniques                         | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 17.             | HYL-517      | Multi-phase Flow through Porous Media             | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 18.             | HYL-518      | Hydro-informatics                                 | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 19.             | HYL-519      | Watershed Modelling and Simulation                | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 20.             | HYL-520      | Isotope Hydrology                                 | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |

**M.Tech. (Surface Water Hydrology)/PG Diploma in Surface Water Hydrology**

**Science, Technology, and Advanced Research-tools basket**

| Teaching Scheme |              |                                       |              |         | Contact Hours/Week |   |   | Exam Duration |           |
|-----------------|--------------|---------------------------------------|--------------|---------|--------------------|---|---|---------------|-----------|
| S.No.           | Subject Code | Course Title                          | Subject Area | Credits | L                  | T | P | Theory        | Practical |
| 1.              | HYT-501      | Data Analysis and Numerical Modelling | STAR         | 3       | 2                  | 1 | 0 | 3             | 0         |

**Social Science Course Basket**

| Teaching Scheme |              |                                            |              |         | Contact Hours/Week |   |   | Exam Duration |           |
|-----------------|--------------|--------------------------------------------|--------------|---------|--------------------|---|---|---------------|-----------|
| S.No.           | Subject Code | Course Title                               | Subject Area | Credits | L                  | T | P | Theory        | Practical |
| 1.              | HYS-501      | Natural Resources, Society and Environment | SSC          | 2       | 2                  | 0 | 0 | 2             | 0         |
| 2.              | HYS-502      | Rural Water Supply and Sanitation          | SSC          | 2       | 2                  | 0 | 0 | 2             | 0         |

**DEPARTMENT OF HYDROLOGY**  
**INDIAN INSTITUTE OF TECHNOLOGY ROORKEE**

Program Code: **XXX M.Tech. (Ground Water Hydrology)/P.G. Diploma in Ground Water Hydrology**  
 Department: **Department of Hydrology**  
 Year: **I**  
 Model: **2**

| Teaching Scheme             |              |                                                  |              |           | Contact Hours/Week |   |   | Exam Duration |           |
|-----------------------------|--------------|--------------------------------------------------|--------------|-----------|--------------------|---|---|---------------|-----------|
| S.No.                       | Subject Code | Course Title                                     | Subject Area | Credits   | L                  | T | P | Theory        | Practical |
| <b>Semester-I (Autumn)</b>  |              |                                                  |              |           |                    |   |   |               |           |
| 1.                          | HYC-505      | Remote Sensing and GIS Applications              | PCC          | 3         | 2                  | 0 | 2 | 3             | 0         |
| 2.                          | HYC-511      | Groundwater Hydrology                            | PCC          | 3         | 2                  | 0 | 2 | 3             | 0         |
| 3.                          | HYC-513      | Environmental Quality                            | PCC          | 3         | 2                  | 0 | 2 | 3             | 0         |
| 4.                          | HYC-515      | Hydrologic Elements and Analysis                 | PCC          | 3         | 2                  | 1 | 0 | 3             | 0         |
| 5.                          | HYC-517      | Systems Analysis and Applications in Hydrology   | PCC          | 3         | 2                  | 0 | 2 | 3             | 0         |
| 6.                          |              | Social Science Course                            | SSC          | 2         | -                  | - | - | -             | -         |
|                             |              | <b>Total</b>                                     |              | <b>17</b> |                    |   |   |               |           |
| <b>Semester-II (Spring)</b> |              |                                                  |              |           |                    |   |   |               |           |
| 1.                          |              | Program Elective-I                               | PEC          | 3         | -                  | - | - | -             | -         |
| 2.                          |              | Program Elective-II                              | PEC          | 3         | -                  | - | - | -             | -         |
| 3.                          |              | Program Elective-III                             | PEC          | 3         | -                  | - | - | -             | -         |
| 4.                          |              | Program Elective-IV                              | PEC          | 3         | -                  | - | - | -             | -         |
| 5.                          |              | Program Elective-V                               | PEC          | 3         | -                  | - | - | -             | -         |
| 6.                          |              | Science, Technology, and Advanced Research-tools | STAR         | 3         | -                  | - | - | -             | -         |
| 7.                          | HYC-700      | Seminar                                          | SEM          | 2         | -                  | - | - | -             | -         |
|                             |              | <b>Total</b>                                     |              | <b>20</b> |                    |   |   |               |           |

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Program Code: **XXX M.Tech. (Ground Water Hydrology)/P.G. Diploma in Ground Water Hydrology**  
 Department: **Department of Hydrology**  
 Year: **II**  
 Model: **2**

| Teaching Scheme             |              |                            |              |           | Contact Hours/Week |   |   | Exam Duration |           |
|-----------------------------|--------------|----------------------------|--------------|-----------|--------------------|---|---|---------------|-----------|
| S.No.                       | Subject Code | Course Title               | Subject Area | Credits   | L                  | T | P | Theory        | Practical |
| <b>Semester-I (Autumn)</b>  |              |                            |              |           |                    |   |   |               |           |
| 1.                          | HYC-691      | Internship Social Activity | ISA          | 5         | -                  | - | - | -             | -         |
| 2.                          | HYC-701A     | Thesis Stage-I             | THESIS       | 10        | -                  | - | - | -             | -         |
|                             |              | <b>Total</b>               |              | <b>15</b> |                    |   |   |               |           |
| <b>Semester-II (Spring)</b> |              |                            |              |           |                    |   |   |               |           |
| 1.                          | HYC-701B     | Thesis Stage-II            | THESIS       | 14        | -                  | - | - | -             | -         |
|                             |              | <b>Total</b>               |              | <b>14</b> |                    |   |   |               |           |

| Summary                     |    |    |    |    |
|-----------------------------|----|----|----|----|
| Semester                    | 1  | 2  | 3  | 4  |
| Semester-wise Total Credits | 17 | 20 | 15 | 14 |
| Total Credits               | 66 |    |    |    |

**M.Tech. (Ground Water Hydrology)/P.G. Diploma in Ground Water Hydrology**  
**Program Elective Courses**

| Teaching Scheme |              |                                                   |              |         | Contact Hours/Week |   |   | Exam Duration |           |
|-----------------|--------------|---------------------------------------------------|--------------|---------|--------------------|---|---|---------------|-----------|
| S.No.           | Subject Code | Course Title                                      | Subject Area | Credits | L                  | T | P | Theory        | Practical |
| 1.              | HYL-501      | Water Resources Planning and Management           | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 2.              | HYL-502      | Urban Hydrology                                   | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 3.              | HYL-503      | Irrigation and Drainage Engineering               | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 4.              | HYL-504      | Geophysical Investigations                        | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 5.              | HYL-505      | Surface Water Modelling and Simulation            | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 6.              | HYL-506      | Soil and Groundwater Contamination Modelling      | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 7.              | HYL-507      | Hydrometeorology and Climate Change               | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 8.              | HYL-508      | Vadose Zone Hydrology                             | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 9.              | HYL-509      | Ecohydrology                                      | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 10.             | HYL-510      | Membranes for Desalination and Purification       | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 11.             | HYL-511      | Hydrological Data Collection and Processing       | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 12.             | HYL-512      | Numerical Methods in Hydrology                    | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 13.             | HYL-513      | Environmental Planning and Assessment of Projects | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 14.             | HYL-514      | Soil and Water Remediation                        | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 15.             | HYL-515      | Hydrogeochemistry                                 | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 16.             | HYL-516      | Soft Computing Techniques                         | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 17.             | HYL-517      | Multi-phase Flow through Porous Media             | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 18.             | HYL-518      | Hydro-informatics                                 | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 19.             | HYL-519      | Watershed Modelling and Simulation                | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 20.             | HYL-520      | Isotope Hydrology                                 | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |

**M.Tech. (Ground Water Hydrology)/P.G. Diploma in Ground Water Hydrology**

**Science, Technology, and Advanced Research-tools basket**

| Teaching Scheme |              |                                       |              |         | Contact Hours/Week |   |   | Exam Duration |           |
|-----------------|--------------|---------------------------------------|--------------|---------|--------------------|---|---|---------------|-----------|
| S.No.           | Subject Code | Course Title                          | Subject Area | Credits | L                  | T | P | Theory        | Practical |
| 1.              | HYT-501      | Data Analysis and Numerical Modelling | STAR         | 3       | 2                  | 1 | 0 | 3             | 0         |

**Social Science Course Basket**

| Teaching Scheme |              |                                            |              |         | Contact Hours/Week |   |   | Exam Duration |           |
|-----------------|--------------|--------------------------------------------|--------------|---------|--------------------|---|---|---------------|-----------|
| S.No.           | Subject Code | Course Title                               | Subject Area | Credits | L                  | T | P | Theory        | Practical |
| 1.              | HYS-501      | Natural Resources, Society and Environment | SSC          | 2       | 2                  | 0 | 0 | 2             | 0         |
| 2.              | HYS-502      | Rural Water Supply and Sanitation          | SSC          | 2       | 2                  | 0 | 0 | 2             | 0         |

**DEPARTMENT OF HYDROLOGY**  
**INDIAN INSTITUTE OF TECHNOLOGY ROORKEE**

Program Code: **XXX M.Tech. (Watershed Management)/P.G. Diploma in Watershed Management**  
 Department: **Department of Hydrology**  
 Year: **I**  
 Model: **2**

| Teaching Scheme             |              |                                                  |              |           | Contact Hours/Week |   |   | Exam Duration |           |
|-----------------------------|--------------|--------------------------------------------------|--------------|-----------|--------------------|---|---|---------------|-----------|
| S.No.                       | Subject Code | Course Title                                     | Subject Area | Credits   | L                  | T | P | Theory        | Practical |
| <b>Semester-I (Autumn)</b>  |              |                                                  |              |           |                    |   |   |               |           |
| 1.                          | HYC-509      | Surface Water Quality Modelling                  | PCC          | 3         | 2                  | 0 | 2 | 3             | 0         |
| 2.                          | HYC-511      | Groundwater Hydrology                            | PCC          | 3         | 2                  | 0 | 2 | 3             | 0         |
| 3.                          | HYC-515      | Hydrologic Elements and Analysis                 | PCC          | 3         | 2                  | 1 | 0 | 3             | 0         |
| 4.                          | HYC-517      | Systems Analysis and Applications in Hydrology   | PCC          | 3         | 2                  | 0 | 2 | 3             | 0         |
| 5.                          | HYC-521      | Watershed Behaviour and Conservation Practices   | PCC          | 3         | 2                  | 1 | 0 | 3             | 0         |
| 6.                          |              | Social Science Course                            | SSC          | 2         | -                  | - | - | -             | -         |
|                             |              | <b>Total</b>                                     |              | <b>17</b> |                    |   |   |               |           |
| <b>Semester-II (Spring)</b> |              |                                                  |              |           |                    |   |   |               |           |
| 1.                          |              | Program Elective-I                               | PEC          | 3         | -                  | - | - | -             | -         |
| 2.                          |              | Program Elective-II                              | PEC          | 3         | -                  | - | - | -             | -         |
| 3.                          |              | Program Elective-III                             | PEC          | 3         | -                  | - | - | -             | -         |
| 4.                          |              | Program Elective-IV                              | PEC          | 3         | -                  | - | - | -             | -         |
| 5.                          |              | Program Elective-V                               | PEC          | 3         | -                  | - | - | -             | -         |
| 6.                          |              | Science, Technology, and Advanced Research-tools | STAR         | 3         | -                  | - | - | -             | -         |
| 7.                          | HYC-700      | Seminar                                          | SEM          | 2         | -                  | - | - | -             | -         |
|                             |              | <b>Total</b>                                     |              | <b>20</b> |                    |   |   |               |           |

**DEPARTMENT OF HYDROLOGY  
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE**

Program Code: **XXX M.Tech. (Watershed Management)/P.G. Diploma in Watershed Management**  
 Department: **Department of Hydrology**  
 Year: **II**  
 Model: **2**

| Teaching Scheme             |              |                            |              |           | Contact Hours/Week |   |   | Exam Duration |           |
|-----------------------------|--------------|----------------------------|--------------|-----------|--------------------|---|---|---------------|-----------|
| S.No.                       | Subject Code | Course Title               | Subject Area | Credits   | L                  | T | P | Theory        | Practical |
| <b>Semester-I (Autumn)</b>  |              |                            |              |           |                    |   |   |               |           |
| 1.                          | HYC-691      | Internship Social Activity | ISA          | 5         | -                  | - | - | -             | -         |
| 2.                          | HYC-701A     | Thesis Stage-I             | THESIS       | 10        | -                  | - | - | -             | -         |
|                             |              | <b>Total</b>               |              | <b>15</b> |                    |   |   |               |           |
| <b>Semester-II (Spring)</b> |              |                            |              |           |                    |   |   |               |           |
| 1.                          | HYC-701B     | Thesis Stage-II            | THESIS       | 14        | -                  | - | - | -             | -         |
|                             |              | <b>Total</b>               |              | <b>14</b> |                    |   |   |               |           |

| Summary                     |    |    |    |    |
|-----------------------------|----|----|----|----|
| Semester                    | 1  | 2  | 3  | 4  |
| Semester-wise Total Credits | 17 | 20 | 15 | 14 |
| Total Credits               | 66 |    |    |    |

**M.Tech. (Watershed Management)/P.G. Diploma in Watershed Management**  
**Program Elective Courses**

| Teaching Scheme |              |                                                   |              |         | Contact Hours/Week |   |   | Exam Duration |           |
|-----------------|--------------|---------------------------------------------------|--------------|---------|--------------------|---|---|---------------|-----------|
| S.No.           | Subject Code | Course Title                                      | Subject Area | Credits | L                  | T | P | Theory        | Practical |
| 1.              | HYL-501      | Water Resources Planning and Management           | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 2.              | HYL-502      | Urban Hydrology                                   | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 3.              | HYL-503      | Irrigation and Drainage Engineering               | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 4.              | HYL-504      | Geophysical Investigations                        | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 5.              | HYL-505      | Surface Water Modelling and Simulation            | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 6.              | HYL-506      | Soil and Groundwater Contamination Modelling      | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 7.              | HYL-507      | Hydrometeorology and Climate Change               | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 8.              | HYL-508      | Vadose Zone Hydrology                             | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 9.              | HYL-509      | Ecohydrology                                      | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 10.             | HYL-510      | Membranes for Desalination and Purification       | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 11.             | HYL-511      | Hydrological Data Collection and Processing       | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 12.             | HYL-512      | Numerical Methods in Hydrology                    | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 13.             | HYL-513      | Environmental Planning and Assessment of Projects | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 14.             | HYL-514      | Soil and Water Remediation                        | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 15.             | HYL-515      | Hydrogeochemistry                                 | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 16.             | HYL-516      | Soft Computing Techniques                         | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 17.             | HYL-517      | Multi-phase Flow through Porous Media             | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |
| 18.             | HYL-518      | Hydro-informatics                                 | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 19.             | HYL-519      | Watershed Modelling and Simulation                | PEC          | 3       | 2                  | 0 | 2 | 3             | 0         |
| 20.             | HYL-520      | Isotope Hydrology                                 | PEC          | 3       | 2                  | 1 | 0 | 3             | 0         |

**M.Tech. (Watershed Management)/P.G. Diploma in Watershed Management**

**Science, Technology, and Advanced Research-tools basket**

| Teaching Scheme |              |                                       |              |         | Contact Hours/Week |   |   | Exam Duration |           |
|-----------------|--------------|---------------------------------------|--------------|---------|--------------------|---|---|---------------|-----------|
| S.No.           | Subject Code | Course Title                          | Subject Area | Credits | L                  | T | P | Theory        | Practical |
| 1.              | HYT-501      | Data Analysis and Numerical Modelling | STAR         | 3       | 2                  | 1 | 0 | 3             | 0         |

**Social Science Course Basket**

| Teaching Scheme |              |                                            |              |         | Contact Hours/Week |   |   | Exam Duration |           |
|-----------------|--------------|--------------------------------------------|--------------|---------|--------------------|---|---|---------------|-----------|
| S.No.           | Subject Code | Course Title                               | Subject Area | Credits | L                  | T | P | Theory        | Practical |
| 1.              | HYS-501      | Natural Resources, Society and Environment | SSC          | 2       | 2                  | 0 | 0 | 2             | 0         |
| 2.              | HYS-502      | Rural Water Supply and Sanitation          | SSC          | 2       | 2                  | 0 | 0 | 2             | 0         |