**PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY**

**PANIPAT**

**Department of Civil Engineering**

**LESSON PLAN**

**Name: - Mr. Lalit Kumar Subject Name: - HYDROLOGY**

**Branch/Semester: - 5th SEM Subject Code: -CE-305A**

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| **S.No.** | **Lecture No.** | **Topics to be covered** | **Planned on** | **Covered on**  | **Remark** |
|  | **L-1** | Hydrologic cycle, drainage | 7/9/21 |  |  |
|  | **L-2** | Scope and application of hydrology to engineering problems | 8/9/21 |  |  |
|  | **L-3** | Basins and its characteristics, stream geometry | 9/9/21 |  |  |
|  | **L-4** | Hypsometric curves | 10/9/21 |  |  |
|  | **L-5** | Forms and types of precipitation | 14/9/21 |  |  |
|  | **L-6** | Characteristics of precipitation in India | 15/9/21 |  |  |
|  | **L-7** | Measurement of Precipitation, recording and non-recording rain gauges | 16/9/21 |  |  |
|  | **L-8** | Rain gauge station, rain gauge network, estimation of missing data | 17/9/21 |  |  |
|  | **L-9** | Presentation of rainfall data, mean precipitation, depth-area –duration relationship | 21/9/21 |  |  |
|  | **L-10** | Frequency of point rainfall, intensity-duration- frequency curves, probable max. precipitation. | 22/9/21 |  |  |
|  | **L-11** | Process, evaporimeters and empirical relationships,. | 23/9/21 |  |  |
|  | **L-12** | Analytical method, reservoir, transpiration, | 24/9/21 |  |  |
|  | **L-13** | Evaporation and methods of its control | 28/9/21 |  |  |
|  | **L-14** | Evapotranspiration and its measurement, Penman's equation and potential evapotranspiration | 29/9/21 |  |  |
|  | **L-15** | Infiltration process, | 30/9/21 |  |  |
|  | **L-16** | Initial loss, infiltration capacity and measurement of infiltration | 1/10/21 |  |  |
|  | **L-17** | Infiltration indices | 5/10/21 |  |  |
|  | **L-18** | Factor affecting run-off | 6/10/21 |  |  |
|  | **L-19** | Estimation of runoff, rainfall-run off relationships | 7/10/21 |  |  |
|  | **L-20** | Measurement of stage-staff gauge, wire gauge, automatic stage recorder and stage hydrograph | 8/10/21 |  |  |
|  | **L-21** | Measurement of velocity-current meters | 12/10/21 |  |  |
|  | **L-22** | Floats, area velocity method, moving boat and slope | 19/10/21 |  |  |
|  | **L-23** | Area method, electromagnetic, ultra-sonic | 20/10/21 |  |  |
|  | **L-24** | Dilution methods of stream flow measurement | 21/10/21 |  |  |
|  | **L-25** | Stage discharge relationship | 22/10/21 |  |  |
|  | **L-26** | Flood frequency studies, recurrence interval | 26/10/21 |  |  |
|  | **L-27** | Gumbel’s Method, flood routing, reservoir flood routing | 27/10/21 |  |  |
|  | **L-28** | Channel flood routing and flood plain mapping | 28/10/21 |  |  |
|  | **L-29** | Discharge hydrograph, components and factors affecting shape of hydrograph | 29/10/21 |  |  |
|  | **L-30** | Effective rainfall, unit hydrograph and its derivation, unit hydrograph of different durations | 2/11/21 |  |  |
|  | **L-31** | Use and limitations of UH, triangular UH, Snyder's synthetic UH | 3/11/21 |  |  |
|  | **L-32** | Floods, rational methods, empirical formulae | 9/11/21 |  |  |
|  | **L-33** | Occurrence, types of aquifers, compressibility of aquifers | 10/11/21 |  |  |
|  | **L-34** | Water table and its effects on fluctuations | 11/11/21 |  |  |
|  | **L-35** | Wells and springs, movement of ground water | 12/11/21 |  |  |
|  | **L-36** | Darcy's law | 17/11/21 |  |  |
|  | **L-37** | Permeability and its determination, porosity | 18/11/21 |  |  |
|  | **L-38** | Specific yield and specific retention, | 19/11/21 |  |  |
|  | **L-39** | Storage coefficient, transmissibility | 23/11/21 |  |  |
|  | **L-40** | Indian and International standards, | 24/11/21 |  |  |
|  | **L-41** | Pollution of ground water and possible source, | 25/11/21 |  |  |
|  | **L-42** | Remedial and preventive measures. | 26/11/21 |  |  |

(COURSE INCHARGE)