CLUSTER UNIVERSITY SRINAGAR

SYLLABUS (FYUP UNDER NEP 2020)

Offered By Department Of ENVIRONMENTAL SCIENCES

Semester 1st Skill Enhancement Course (SEC)

Course Title: Rain Water Harvesting-I

Course Code: UGENS22S101 **Max. Marks 100**
Credits: 4 (Theory: 1, Practical: 3) **Theory External: 15; Min Marks: 06**
Contact Hrs: 105 (Theory: 15, Practical: 90) **Theory Internal (Continuous Assessment): 10 Marks, Min Marks: 04**
Practical Experimental Basis= 45 Marks, Min. Marks: 18
Practical Internal (Continuous Assessment): 30 Marks, Min. Marks: 12

Objectives:

The main objectives of the course are to understand

1. The growing demand of water in different sectors
2. The reasons of global water scarcity
3. The role of rainwater harvesting systems as a tool for supplimenting domestic water needs

Learning Outcomes

The programme enables students to gain knowledge, acquire holistic perspectives on rainwater harvesting, water audit, water balance and water efficient fixtures. The participants will get hands-on practice in planning and designing urban rainwater harvesting systems which would help us to solve real-life water crisis issues.

THEORY (15 Hrs)

INTRODUCTION TO RAIN WATER HARVESTING

1. Water scarcity-global perspective and consequences
2. Rainwater harvesting- Concept and History
3. Need for Rainwater Harvesting
4. Issues and Challenges in rainwater harvesting
5. Applications of Rainwater Harvesting- domestic, agricultural and industrial

PRACTICAL WORK (90 Hrs)

1. Calculation of your daily water footprint
2. Collection of data on water supply and distribution details of your locality and preparation of report
3. Survey local community to identify their water use and identify their knowledge on conservation techniques
4. Preparation of MonthlyWater Balance Report at domestic level
5. Preparation of Monthly Water Balance Report for any commercial setup
6. Preparation of Monthly Water Balance Report for college campus
7. Conduct a water audit for your home
8. Rainwater Harvesting- Case studies

SUGGESTED READINGS

Theib Y. Oweis, DiterPrinz and Ahmed Y. Hachum. 2012. Rainwater Harvesting for Agriculture in the Dry Areas. CRC Press, Taylor and Francis Group, London.

Studer Rima Mekdaschi and HanspeterLiniger. 2013 Water Harvesting – Guidelines to Good Practice Centre for Development and Environment. University of Bern. Switzerland.

Suresh, R. 2014. Soil and Waer Conservation Engineering. Standard Publisher Distributors, New Delhi.

Samra, J.S., V.N. Sharda and A.K. Sikka. 2002. Water Harvesting and Recycling: Indian Experiences. CSWCR & TI, Dehradun, Allied Printers, Dehradun

Dhruva Narayana, G. Sastry, V. S. Patnaik. 1997.Watershed Management, CSWCTRI, Dehradun, ICAR Publications.