

# FIRST YEAR SCIENCE - 2018-19

## ENVIRONMENTAL SCIENCES

### PRACTICALS

Duration: 5 Hrs.

M.M.:75

	Regular	Ex- Students
1. Major Exercise	15	25
2. Major Exercise	15	15
3. Minor Exercise	10	08
4. Spots	20	20
5. Viva– Voce	10	10
6. Record	05	--
Total :	75	75

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### PRACTICALS

#### 1. Examination of Soil:

- i) Determination of soil structure
- ii) Determination of soil texture
- iii) Determination of soil moisture
- iv) Determination of soil organic matter
- v) Study of soil profile
- vi) Quantitative estimation of carbonate / bicarbonates / chlorides
- vii) Estimation of percentage of calcium carbonate by rapid titration method
- viii) Water holding capacity, wilting coefficient and specific gravity, bulk density, porosity.

#### 2. Community studies:

To determine the minimum size of a quadrat for a grassland / forest by species area curve method.

Determination of frequency, density, abundance and IVI with the help of Quadrat method.

To determine the index of dominance in a grassland community.

3. Aquarium as an ecosystem.

4. Determination of rate of production by harvest method.

5. Rapid field tests for pH, carbonate, nitrate and chloride.

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### BOOKS RECOMMENDED:

- 1 E.P. Odum: Fundamentals of Ecology , Saunders (3<sup>rd</sup> Edition)
- 2 Subhramanyam and Sambhamurthi : Ecology
- 3 K.C. Agarwal: Fundamentals of Environmental Biology, Nidhi Publishers, Bikaner.
- 4 V.Verma: Plant Ecology (4<sup>th</sup> Edition) Emkay Publishers.
- 5 Paul Colinvaux: Ecology, John Wiley and Sons.
- 6 P.D.Sharma: Ecology and Environment, Rastogi Publications, Meerut.
- 7 JhokLro ,oa jko] i;kZoj.k vkSj ikfjLFkfrdh] olqU/kjk izdk'ku] xkSj[kiqj A
- 8 HkkfV;k dkgyh ,oa Lo:i % i;kZoj.k tSfodh ds fofHkUu vk;ke] jes'k cqd fMiks] t;iqj

### PRACTICAL :

- 9 J. Pandey and M.S.Sharma: Environmental Science: Practical and Field Manual, Yash Publications, Bikaner.