



বিদ্যাসাগর বিশ্ববিদ্যালয়

VIDYASAGAR UNIVERSITY

B.F.Sc. 1st Semester Examination 2021

PAPER—BFSC-103

SOIL AND WATER CHEMISTRY

Full Marks : 70

Time : 3 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

THEORY

1. Answer any *ten* questions.

10×2

- (a) What is ecological significance of pH?
- (b) State the properties of freshwater.
- (c) Explain need of calibration in any scientific instrument.
- (d) Distinguish between cold and warm water.

- (e) What are functions of a chemical indicator during titration of any solutions?
- (f) Which soil type is beneficial for aquaculture? And why?
- (g) How would you collect soil sample for laboratory testing?
- (h) State the composition of saline water.
- (i) How many types of soil structure found in Midnapore area?
- (j) What is soil water leaching?
- (k) Define SOM (Soil Organic Matter).
- (l) How soil colloids are formed?
- (m) Briefly explain chemical bonding of water.
- (n) What is electrical conductivity of water?
- (o) Distinguish between manures and fertilizers.
- (p) Define TDS and TSS.

2. Answer any six questions.

6×5

- (a) Briefly explain standardization of silver nitrate solutions for salinity measurement.
- (b) Briefly describe preparation of standard solutions of sodium chloride.
- (c) Discuss the measurement process of total hardness in water.
- (d) Discuss soil reclamation and water holding capacity.

- (e) Describe measurement process of soil nitrogen.
- (f) State different factors affecting natural water.
- (g) Briefly explain the role of zeolites, alum and gypsum.
- (h) Briefly narrate water cycle with flow diagram.
- (i) Density of water inversely proportional with the temperature. – Explain with example.
- (j) Describe lime requirement for pond preparation.

PRACTICAL

Answer any *two* questions. 2×10

1. Write down the principle and procedure of determination of dissolved oxygen content in water. 5+5
 2. Write down the principle and procedure of determination of free CO₂ of water. 5+5
 3. Write down the principle and procedure of determination of soil organic carbon. 5+5
 4. Write down the estimation process of soil texture. 10
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