

17. (a) Explain the chemical characterisation of water.

Or

- (b) How will you estimate the following :
(i) Calcium hardness
(ii) Magnesium hardness.
18. (a) Discuss the estimation of oil and grease in water.

Or

- (b) Explain the pesticides in water pollutants and their analysis.
19. (a) Discuss about ozonolysis.

Or

- (b) Explain
(i) Coagulation
(ii) Softening of water.
20. (a) Discuss the estimation of nitrogen and potassium in soil.

Or

- (b) Explain the analysis of micronutrients in soil.
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Reg. No. :

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M.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2011.

Second Semester

Chemistry

Elective — WATER AND SOIL ANALYSIS

(For those who joined in July 2008 and afterwards)

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 1 = 10 marks)

Answer ALL questions.

1. Write a short note on water quality standard 'BIS'.
2. How will you examine the turbidity of water shortly?
3. What is TDS?
4. Write the equation of total hardness in water.
5. How will you differentiate BOD and COD?
6. What is the chemical composition present in detergent?

7. Which method is to remove iron?
8. Differentiate fluoridation and chlorination.
9. What is the value content of moisture in soil?
10. What is indicator plants?

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Explain the water quality standards.

Or

- (b) Explain the biological characters of water and the quality parameters affecting them.

12. (a) How will you calculate nitrite present in water?

Or

- (b) Explain the estimation of fluoride in water.

13. (a) Write about the analysis of pesticides in water pollutants.

Or

- (b) Explain total and faecal coliforms.

14. (a) How will you estimate the residual chlorine in water?

Or

- (b) Write a brief note on removal of manganese.

15. (a) Explain the following

- (i) Cation exchange capacity in soil
- (ii) pH of soil

Or

- (b) Discuss about soil sampling and its conductance.

SECTION C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b).

16. (a) Discuss about the physical examinations of water in detail (any four)

Or

- (b) Explain the following

- (i) WHO
- (ii) ICMR
- (iii) WQI
- (iv) USPHS.