

Instructions

Duration: 01 hour
Number of questions: 10
Answer *All* Questions
Mark allocation: 100

Index Number:-

Illustrate your answers with sketches/diagrams where necessary.

Please answer within the given space

- 1.
- a. Following data were recorded while calibrating a 25 mL burette. Use them to calculate the average volume of water measured from this burette. (Room Temperature 25 °C) (10 marks)

Trial	Temperature of water /(± 0.1 °C)	Weight of the dry flask/(± 0.001 g)	Weight of the flask with water/(± 0.001 g)
1	26	47.480	72.293
2	27	47.597	72.385
3	27.5	47.615	72.373

- b. What was the settling time you selected for measuring of TSS using Imhoff cones? Give reasons for your choice. (5 marks)

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2. Silver nitrate is used in Argentometric titration to determine chloride concentration. Explain the function of silver nitrate in this titration. Is there any other substitution for silver nitrate? (10 marks)

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3. a. You have used a conditioning reagent in the procedure of estimating sulphate concentration of water. What is the purpose of using a conditioning reagent? List the constituents of the conditioning reagent. (10 marks)

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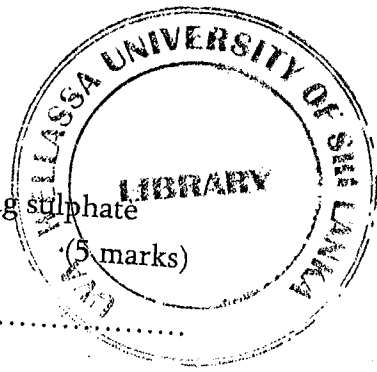
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b. What is the strategy employed in measuring turbidity for estimating sulphate concentration of water?

(5 marks)

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3. List out the procedure that you would have followed, if you measured the pH of a lake water on site (Note that your objective is not the depth sampling). (5 marks)

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4. What is the importance of knowing acidity and alkalinity of a natural open water body in the context of atmospheric pollution? (10 marks)

Acidity

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Alkalinity

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5. If you are assigned to estimate the alkalinity of water samples collected from following sources, which alkalinity (eg. total alkalinity, phenolphthalein, etc.) would you measure? Give reasons. (10 marks)

a. Properly purified tap water

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b. Deep tube well water

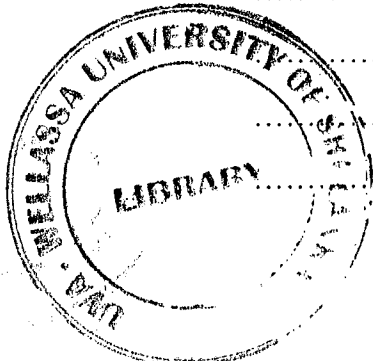
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c. River water

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d. Dug well water from Jaffna

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c. Water from a lagoon

8. Identify the following water types based on their ORP value (6 marks)

a. +200 mV :.....

b. +400 mV :.....

c. -200 mV :.....

9.

a. What is the use of the Zobell's solution in determination of ORP of an unknown water sample? (5 marks)

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b. Mention the chemical composition of the Zobell's solution (4 marks)

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10. For which purposes stock, intermediate and working solutions are used? (4 marks)

Stock

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Intermediate

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Working

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-END-