UNIVERSITY OF RUHUNA

FACULTY OF FISHERIES AND MARINE SCIENCES & TECHNOLOGY

Academic Year 2022/2023

Bachelor of Science Honours in Marine and Freshwater Sciences Degree

Level IV Semester I Examinations – April-May 2024

LIM 4142: Water Transport and Distribution **Time: 1 Hour and 30 Minutes**

Total Marks: 85

Answer all questions.

1. A project for expanding water supply system was proposed for a old city with considerable development. The popoluation of the city in 2020 was 570,000 and the average increment of the population for the past two decades was 4170. Estimate the population for the year 2040 to expand the water supply system in the city.

(15 minutes, 10 marks)

2. What are the causes for 'water hammer' and how does the 'water hammer' become important for maintaining the system integrity in water transportation?

(20 minutes, 20 Marks)

3. Describe the importance of locating a water storage tank in a water supply system.

(10 minutes, 10 Marks)

4. Differentiate the uses of a double flange bend and a coupling in a water distribution system.

(10 minutes, 10 Marks)

5. Detemine the 'Water Horse Power' of a pump that needs to maintain the water flow as 1500 m^3/hour for a total head of 20m in a water distribution system.

(10 minutes, 10 Marks)

6. Fillout the gaps in the following table using appropriate information.

(25 minutes, 25 Marks)

Type of Valve	Purpose	Function
Non-return valve		
Ball valve		
Sluice valve		
Butterfly valve		
Diaphram valve		
Foot valve		

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