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HYDRAULICS

UNIFORM FLOW IN OPEN CHANNEL EXERCISE

TOPIC 2.3

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Chapter 2: Uniform Flow in Open Channel by N Adilah A A Ghani

Communitising Technology

Exercise 2.5

Water flows in a rectangular concrete open channel with flow rate $13.1 \text{ m}^3/\text{s}$ at a velocity 1.8 m/s . Calculate the channel slope needed if:

- Flow rate is maximum
- Width equal 3 time normal depth ($C=66 \text{ m}^{1/2}/\text{s}$)

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Exercise 2.6

A trapezoidal channel will be design. The required flow rate will be $12.2 \text{ m}^3/\text{s}$ of flow rate along 6 km length and 2 m/s of velocity. The side slope of the channel is 45° . Determine the channel slope, normal depth and width of an effective cross section. Given the Manning's roughness coefficient is 0.015. If this channel will be lined with bricks, determine the total bricks (pieces) required if 1 m^2 contain of 100 pieces of bricks.

