ASESSMENT OF BIOFOULING GROWTH RESISTANT ON DIFFERENT MATERIALS

INTAN ADIBAH BINTI SALIM

Final Year Project Proposal Submitted in Partial Fulfilment of the Requirements for the Degree of Bachelor of Science (Hons.) Biology In The faculty of Applied Sciences Universiti teknologi MARA

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This Final Year Project Report entitled **"Assessment of Biofouling Growth Resistant On Different Materials"** was submitted by Intan Adibah binti Salim in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by

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ABSTRACT

ASSESSMENT OF BIOFOULING GROWTH RESISTANT ON DIFFERENT MATERIALS

Biofouling is a major issue in the marine environment, and its growth on infrastructure such as rigs and offshore platforms will have undesired impacts on the economy and workforce. Biofouling can result in corrosion, requiring periodic replacement of the structure. Corrosion of the metal and concrete structure may increase the risk to both the worker on the platform and the local flora and fauna. It is costly and inconvenient for the business to frequently replace the damaged structures. By developing an effective anti-fouling coating material, the purpose of this study is to determine the best materials for anti-biofouling coatings, to evaluate the proportion of biofouling attachment on the surface of different materials used and to analyse the relationship between the chosen material and its capacity to hinder or delay the biofouling process. This research seeks to identify the most effective materials for anti-fouling coatings. By using materials such unidirectional glass fibre, PES membrane, twill weave glass fibre, CSM + woven glass, *Arenga pinnata* (rope), I-Glass, *Arenga pinnata*, and AP-TWB. This research intended to discover materials to slow or stop the spread of marine biofouling on submerged vehicles and structures via visual and tactile examination. This study was held at Langkawi, Kedah, Malaysia. From this study, the best material for anti-fouling is *Arenga pinnata* (rope) and unidirectional glass fibre with 2.3% and 2.32% degree of biofouling respectively. It has the potential to be utilised as an anti-biofouling coating in the future.

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