InTEX'18

Innovation Technology Expo

PRODUCT PROFILE

"Digitalising Sarawak Translational Research"

The 11th UNIMAS Research & Development Exposition

17-18 July 2018

PULLMAN HOTEL, KUCHING

www.rimc.unimas.my/intex18

organised by UNIMAS Innovation

Information Compiled by:
Research and Innovation Management Centre (RIMC)
Universiti Malaysia Sarawak (UNIMAS)

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ISBN 978-967-5418-67-9

Published @ Universiti Malaysia Sarawak

BATTLE OF DATA

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Politeknik Kuching Sarawak

Traditional learning styles such as lectures supported by few teaching tools such as Power Point and video are common in schools, polytechnics and university. Students learning experience is important to help them understand the concept of difficult topic easily. Very often, students will get bored when listening to lectures. In consequence, students could not masters the course and they could face more problems when they enrol in the higher level course for the next semester. Moreover, competitive sprite between students would increase their revision time in order to win the game. The learning style through game have positive impact on students as they are more engaged in learning process (Kirkland et al, 2008). Furthermore, learning through games is effective, enjoyable and suitable for all ages. The objectives of B.O.D game board is: 1- To design a fun learning experience for students, 2- To promote learning for course Computer System Architecture (CSA) and 3-To increase students' performance in classroom. The designing of B.O.D game board is inspired by the structural design of a motherboard. The first stage is designing the game concept which include "how to start the game and to win the game". To realize the game concept, game rules are designed. The second stage is designing game components such as Characters, Dice, Miniatures and Cards. The third stage is designing the questions and answers. The fourth stage is assembling components and board. The last stage is testing the game. We tested the game board to ensure it could be played according to game rules and someone could win the game. We believed that learning CSA through game could enhance students' understanding and increase their performance in class. In conclusion, increased students understanding in CSA course would improve their performance during Final Test.

COMPRESSIVE STRENGTH DEVELOPMENT FOR MODIFIED PEAT USING RUBBER CRUMB (RC) AS REINFORCEMENT WITH ELECTROKINETIC TREATMENT (EKT)

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Peat consists of the highly organic substance that derived primarily from plant material which is form when decomposed plant/animals accumulate more quickly than it humidifies. Peat possesses low strength, low bearing capacity and easily undergo differential and total settlement and recorded the highest moisture content (200-2200%) among all the soils. Therefore, it is crucial to enhance stability, increase bearing

capacity, and reduce excessive settlement as well as lateral deformation to support and improve any structure and/or infrastructure build on peat. This study focused on investigating the strength increment of peat in natural and dry state mixed as sub-grade layer with various percentages (0.3%, 0.5%, and 0.8%) of nylon fiber (NF) as reinforcement, 5% cement as binder and later the treated peat were applied to the electrokinetic treatment (EKT) for further enhancing the compressive strength. The nylon fiber is chosen due to its very strong characteristic with extremely resistant to abrasion and bending. It is lightweight with the specific gravity of 1.04 and durability properties make nylon fiber an ideal reinforcement material. The nylon fiber varies from 10 mm to 50 mm length sizes and is a product from the tire waste disposal (extracted from car type). The peat samples collected are categorized as Sapric peat (H7) with recorded moisture content of 425%. The development of the compressive strength was determined by using Unconsolidated-Undrained (UU) Triaxial test for natural state, Unconfined Compressive Strength (UCS) test and California Bearing Ratio (CBR) test are at drying state. All samples were air-cured for 7 days, 14 days and 28 days. The application of EKT was practiced with 3.0 V and 12 V applied for 10 minutes duration for UU/UCS and CBR, respectively. From the preliminary results obtained (Figure 1), the treated peat using nylon fiber and electro-kinetic treatment has improved significantly the compressive strength of the treated peat for both natural and dry state when compared to non-treated peat.

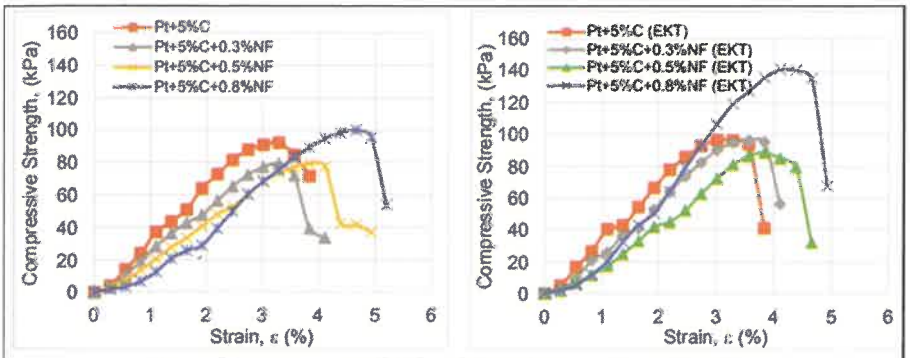

Figure 1 Comparison of EKT for Reinforced Peat with Nylon Fiber (NF)