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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
(TAKE HOME)
SEMESTER II
SESSION 2019/2020**

COURSE NAME : SOIL MECHANICS
COURSE CODE : BPD 14402 / BPD 20502
PROGRAMME CODE : BPC
EXAMINATION DATE : JULY 2020
DURATION : 24 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS
(OPEN BOOK EXAMINATION)

THIS QUESTION PAPER CONSISTS OF TWO (2) PAGES

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TERBUKA

- Q1** A new project to construct a 7 storey international school had been awarded to Company A. Your company, ABC Consultant had been appointed as geotechnical consultant of Company A. You are required to consult the company about the soil condition of that project

After sieving a 500grams sample of dry course-grained material from the soil, the following results were obtained in **Table Q1** below :

Table Q1 . Sieve distribution results

Sieve opening (mm)	Mass retained (gram)
4.75	0
2.00	14.8
0.85	98
0.425	90.1
0.15	181.9
0.075	108.8
Pan	6.1

Analyse the soil condition in terms of its gradation, permeability, shear strength and the suitability to build the project.

(25 marks)

Q2

A new school will be developed in a rural area of Gua Musang. It is situated near to the steel processing factory. As a project manager in your company, you are required to determine several construction method to ensure the durability of the school as it is built near to the mountain. After conducting a soil investigation test, the soil at the construction site is classified as GW-GM in accordance to USCS. The soil specific gravity value, G_s is 2.68 with 10% moisture content and bulk unit weight of 18.0 KN/m^3

- (a) Recommend the suitable type of field compaction and check whether its achieved the desired compaction.

(15 marks)

- (b) Propose the suitable type of pile foundation for the project and its driven method.

(10 marks)

- END OF QUESTIONS -