FINAL

ALTERNATIVE ASSESSMENT
Examination Paper

(COVER PAGE)

Session	:	**August 2020**		
Programme	:	Diploma In Quantity Surveying (DQS)		
Course	:	**EGC1131 : Construction Material**		
Date of Examination	:	December 18, 2020 (Friday)		
Time	:	8.00am – 10.30am	Reading Time :	Nil
Duration	:	2 Hours : 30 Minutes		

Note: 30 minutes is added into the duration of the examination to factor in any connectivity matters and for you to scan and upload your scripts.

Special Instructions :

This paper consists of **FOUR (4)** questions. Answer **ALL** the questions. **Write ALL your answers** in the foolscap papers.

Materials permitted :

Scientific Calculator

Materials provided :

Nil

Examiner(s)	:	**Farah Nasiha** and Mashithah Abdullah Bayanoeddin
Chief Moderator	:	Dr Wan Suhaila Wan Rani

*This paper consists of **3** printed pages, including the cover page*

DIPLOMA IN QUANTITY SURVEYING PROGRAMME (DQS)
EGC1131: CONSTRUCTION MATERIALS
FINAL ALTERNATIVE ASSESSMENT: AUGUST 2020 SESSION

Instructions: This paper consists of **FOUR (4)** questions. Answer **ALL** questions. Each question carries 25 marks.

Question 1

Grades of concrete	Mix proportion	Characteristic compressive strength in N/mm2	Nature of Work
M5	1:5:10	5	Lean concrete
M10	1:3:6	10	Structure A
M15	1:2:4	15	Structure B
M25	1:1:2	25	Structure C

Table 1

Table 1 shows various grades of concrete for use in building construction and civil engineering works.

(a) Determine with examples, what do M5, M10, M15, M25 and the mix proportion denotes.

(5 marks)

(b) Describe the concrete grade and ingredient proportion of cement, aggregate and sand for Structure C.

(5 marks)

(c) A properly designed mixture possesses the desired workability for the fresh concrete and the required durability and strength for the hardened concrete. Illustrate and explain most common, cheap and simple test on a freshly made concrete.

(15 marks)

Question 2

(a) Plastic can be manufactured into forms such as; pipes, cables, coverings, panels, films, sheets and so on; and can be formed or expanded to create low-density materials; and be dissolved in solvents or dispersed as emulsions. Evaluate the versatility of plastic in terms of its properties.

(10 marks)

(b) A lobby to a proposed hotel is designed to have a full-height glass as external cladding. Propose a suitable type of glass to be installed and discuss **FIVE (5)** properties of glass that give an advantage in the construction of external cladding.

(15 marks)

Question 3

*"Process of **drying timber** in a **controlled manner** to remove its moisture content (mc) at a uniform rate, so that there is a minimal mc differential within the piece. Where a large mc differential exists, then **unwanted defects** will appear on timber…"*

(a) The above statement refers to a process in timber production.

(i) Name the process. (2 marks)

(ii) Compare and contrast **TWO (2)** types of methods to execute the process above.

(8 marks)

(b) Briefly explain with necessary sketches, **FIVE (5)** defects resulting from faulty process mentioned above.

(15 marks)

Question 4

(a) Sketch and label a typical flexible road pavement layers.

(5 marks)

(b) After quarrying large pieces of stones, they are dressed in suitable shapes and polished to give a smooth surface so that they can be used in a building. Describe the importance of dressing stones.

(8 marks)

(c) A wide range of construction materials are available in the market. Proper selection of materials to be used in a particular construction project depends on several factors. Discuss **FOUR (4)** factors influencing the choice of materials.

(12 marks)

-THE END-