



MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)

University Examinations for 2014/2015

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

FIRST SEMESTER EXAMINATION FOR DIPLOMA IN CIVIL ENGINEERING

BCE CD 207: ENGINEERING MATERIALS II

DATE: 1/4/2015

TIME: 2:00 – 4:00 PM

Instructions

- *This paper consists of five questions*
- *Answer question 1 (compulsory) and any other two questions*

1. a) Explain the following type of plastics.

- i) Thermoplastic
- ii) Thermosetting plastic (6 marks)

b) Outline the procedure of manufacturing glasses. (6 marks)

c) List and explain six constituent of paint. (12 marks)

d) Discuss the following

- i) Gypsum Anhydrite
- ii) Lime mortar (6 marks)

2. a) Discuss the following type of lime.

- i) Quick lime (caustic lime)
- ii) Slaked lime (hydrate of lime)
- iii) Hydraulic lime (water lime) (9 marks)

- b) List 5 properties of a good mortar. (5 marks)
- c) Discuss the manufacturing of lime. (6 marks)
3. a) Outline the manufacturing process of glass. (6 marks)
- b) Discuss three classes of glasses. (9 marks)
- c) Discuss the following methods of making glass product
- i) Blowing
 - ii) Spinning (5 marks)
4. a) Discuss the following types of paints
- i) Enamel paints
 - ii) Aluminium paint
- (10 marks)
- b) State 5 characteristics of good paint. (5 marks)
- c) State 5 ingredients used in paint and state their function in paint. (5 marks)
5. a) Explain the following methods of manufacturing commercial products of plastics.
- i) Casting
 - ii) Moulding
 - iii) Extrusion (9 marks)
- b) Outline six properties of plastics. (8 marks)
- c) Discuss the following type of plastic.
- i) Acrylic (polymethyl methacrylate)
 - ii) Cellulose nitrate (5 marks)