



**THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE**

***Faculty of Engineering & Technology***

**DEPARTMENT OF CIVIL AND BUILDING ENGINEERING**

**CERTIFICATE IN CONSTRUCTION TECHNICIAN II (09A)**

**SEMESTER II EXAMINATIONS**

**APRIL/MAY 2010 SERIES**

**EB 1102 : CONSTRUCTION MATERIALS II**

**TIME: 2 HOURS**

**Instructions to Candidates**

Answer Question **ONE** and any other **TWO** Questions

**Question ONE (30 Marks)**

- (a). (i). List **FOUR** principle constituent of plastics. **(2 Marks)**  
(ii). Explain the purposes of adding ingredients to plastic during their manufacture. **(6 Marks)**
- (b). Describe the following types of paints:  
(i). Oil paints  
(ii). Emulsion paints  
(iii). Water paints **(9 Marks)**
- (c). Describe the following properties of glass:  
(i). Thermal movement  
(ii). Strength **(4 Marks)**
- (d). (i). Describe rubber adhesive as one of synthetic adhesive. **(3 Marks)**  
(ii). Briefly describe gypsum plaster. **(6 Marks)**

**Question TWO (20 Marks)**

- (a). Briefly explain the following methods of manufacturing and forming of plastics:  
(i). Casting  
(ii). Transfer moulding  
(iii). Extrusion  
(iv). Injection **(12 Marks)**
- (b). State **SIX** engineering properties of plastics. **(3 Marks)**
- (c). Describe vulcanization process of manufacturing rubber. **(5 Marks)**

**Question THREE (20 Marks)**

- (a). Explain the application of paint to woodwork. **(12 Marks)**
- (b). Describe **FOUR** defects to painted surface. **(6 Marks)**
- (c). Explain solvents as a composition of varnish. **(2 Marks)**

**Question FOUR (20 Marks)**

- (a). Explain the following manufacturing process of glass:
- (i). Annealing
  - (ii). Rolling
  - (iii). Blowing
  - (iv). Pressing
- (b). Describe the following properties of glass:
- (i). Sound insulation
  - (ii). Behavior in fire
- (6 Marks)**
- (c). Describe the following work on glass
- (i). Glass appliqué
  - (ii). Fusing glass
- (4 Marks)**
- (d). Explain the process of applying paint on plastered surface.
- (4 Marks)**

**Question FIVE (20 Marks)**

- (a). Describe **FOUR** properties of bituminous materials. **(6 Marks)**
- (b). Briefly explain the following properties of mortar:
- (i). Cohesion
  - (ii). Strength
- (4 Marks)**
- (c). Describe turpentine varnish. **(4 Marks)**
- (d). Define the following terms of adhesive:
- (i). Shell life
  - (ii). Pot life
  - (iii). Close assembly life
- (6 Marks)**