



TECHNICAL UNIVERSITY OF MOMBASA

**Faculty of Engineering & Technology  
in Conjunction with  
Kenya Institute of Highways and  
Building & Technology (KIHBT)**

DEPARTMENT OF ELECTRICAL & ELECTRONIC ENGINEERING

HIGHER DIPLOMA IN TECHNOLOGY

EME 3102: AUTOCAD DESIGN

END OF SEMESTER EXAMINATION

SERIES: MAY 2015

TIME ALLOWED: 2 HOURS

**Instructions to Candidates:**

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Answer any **THREE** questions  
All questions carry equal marks  
Use neat, large and well labeled diagrams where required  
This paper consists of **THREE** printed pages

**Question One**

- a) Figure 1 shows details of a timing knob. Copy the given view full size. Give your dimensions **(10 marks)**
- b) Figure 2 shows the details of a Dial Extension. Copy the given view full size. Give FOUR dimensions **(10 marks)**

**Question Two**

- a) Figure 3 shows details of a light bulb. Copy the given view full size. Give SIX dimensions **(13 marks)**
- b) Draw the handle shown in figure 4 full size **(7 marks)**

**Question Three**

You are required to install a three-phase motor, draw a wiring circuit incorporating the following:

- (i) Power supply
- (ii) Fuses
- (iii) Contactor
- (iv) AC line reactor
- (v) Braking resistor
- (vi) AC line reactor
- (vii) AC drive **(20 marks)**

**Question Four**

- a) Draw a wiring circuit for two lamps in parallel with a one-way switch **(6 marks)**
- b) You have been contracted to do wiring of a long corridor with minor corridors coming off it. Drawing your wiring circuit such that whoever is accessing or leaving the long corridor with two minor corridors coming off it can switch on or off the lights, Adhere to the colour coding **(14 marks)**

**Question Five**

Copy the Bushed bearing shown in figure 5. Hatch the sectioned portion and give at least 4 dimensions **(20 marks)**