

**THE UNITED REPUBLIC OF TANZANIA  
NATIONAL EXAMINATIONS COUNCIL  
CERTIFICATE OF SECONDARY EDUCATION EXAMINATION**

**084**

**ELECTRICAL DRAUGHTING**  
(For Both School and Private Candidates)

**TIME: 3 Hours**

**Monday, 12<sup>th</sup> October 2009 p.m.**

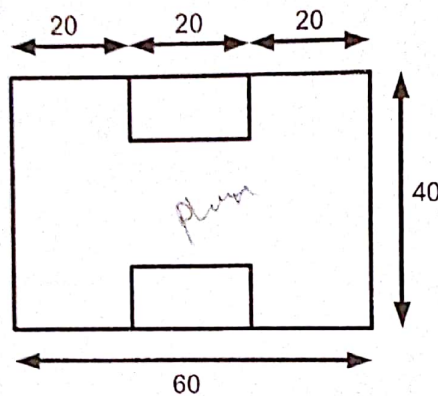
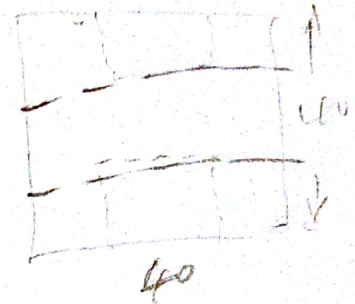
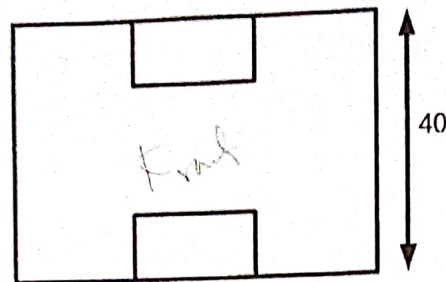
**Instructions**

1. This paper consists of **six (6)** questions.
2. Answer question **number 1** and any other **three (3)** questions.
3. Question number 1 carries 40 marks while the other questions carry 20 marks each.
4. Electronic calculators are **not** allowed in the examination room.
5. Cellular phones are **not** allowed in the examination room.
6. Write your **Examination Number** on every page of your answer booklet(s).

This paper consists of 5 printed pages.

1.

Draw an isometric drawing from the given views of a casting as shown below. Use a full size scale. All dimensions are in mm.



2. (a) Draw the transistor configuration circuits.
- (b) Sketch the following wave forms.
  - (i) Modulated waveform.
  - (ii) Demodulated wave form (signal).

3.

(a) Draw symbols to represent the following:

(i) Electric heater

(ii) Electric buzzer

(iii) Bell transformer

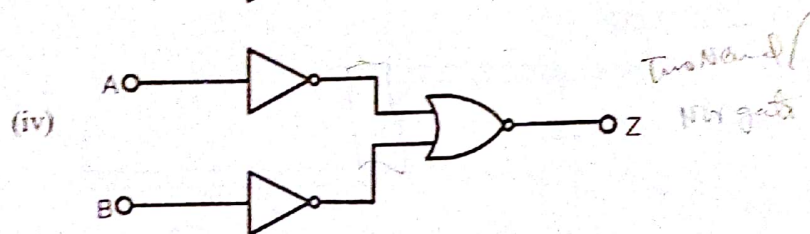
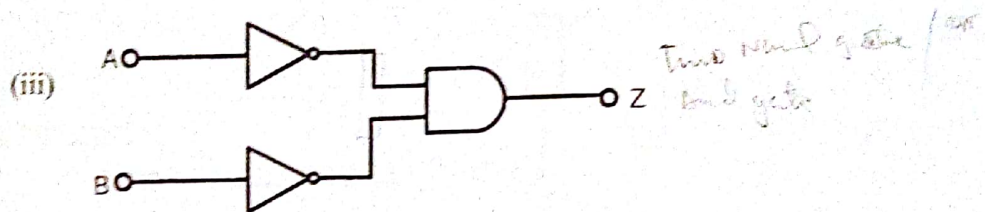
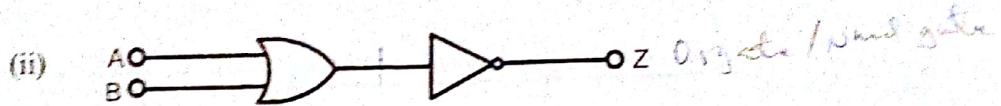
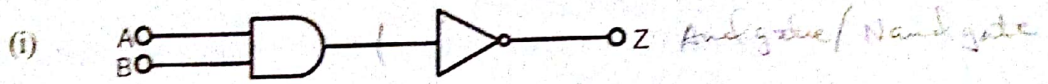
(iv) Lamp

(v) Switch with pilot.

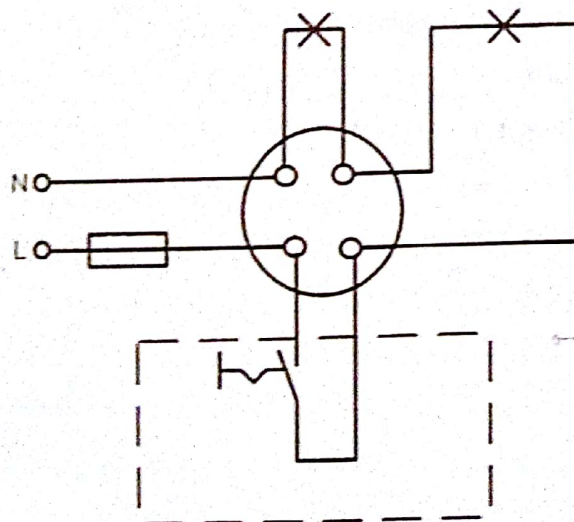




(b) Sketch the equivalents of the following jointed gate circuits.

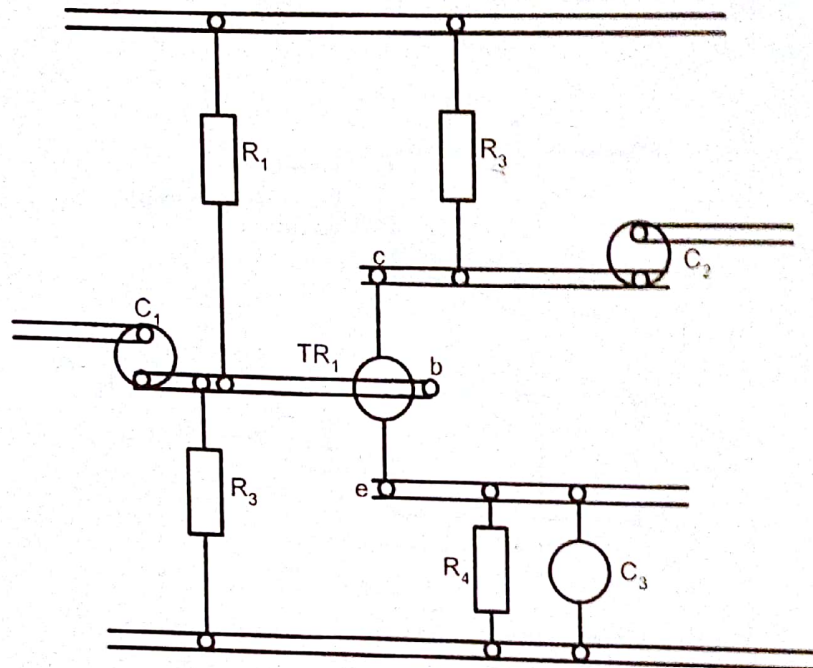


4. (a) What is electrical draughting? *is the design with details with the components of electricity.*
- (b) Draw a line segment.
- (c) Draw a simple circuit diagram of two pilot lamps which can light both bright and dim light periodically.
- (d) Sketch the circuit diagram of the wiring diagram below.



5. (a) List five (5) principle types of diagrams.

(b) The figure below shows a drawing of a transistor amplifier with components superimposed upon components on the printed circuit board (pcb). Draw a circuit diagram of this amplifier and identify its input and output terminals.



6. (a) Draw the conventional figures of the following items:

- (i) Interrupted round (solid)
- (ii) Interrupted round (tabular)
- (iii) Square shaft
- (iv) Straight knurling
- (v) Diamond knurling
- (vi) Ball or roller bearings.



pitch circle diameter

(b) Write the meaning of the following abbreviations:

- (i) CSK HD *Concave sunk hole ahead*
- (ii) AF *across flut*
- (iii) HEX HD *Hexagon head*
- (iv) PCD *Pitch circle diameter*
- (v) SPEC *Special*
- (vi) S'FACE *Spot face*
- (vii) LG *Logic*
- (viii) DRG. *drawing*

$$\frac{40.5}{8.6}$$

$$\begin{array}{r} 4.75 \\ 6 \overline{) 28.5} \\ \underline{24} \phantom{0} \\ 45 \\ \underline{42} \\ 30 \\ \underline{30} \\ 0 \end{array}$$

Diagram  
Drawing

