

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF INDUSTRIAL TECHNOLOGY

DEPARTMENT OF INDUSTRIAL & MANUFACTURING ENGINEERING

Bachelor of Engineering Honours Degree Industrial & Manufacturing Engineering

FIRST SEMESTER EXAMINATION - DECEMBER 2011

ENGINEERING DRAWING I

COURSE CODE TIE 1101

EXAMINATION DURATION 3 HOURS 15 MINUTES

Instructions to Candidates

Answer questions 1 and 2 and any other two (2) questions

All dimensions are in millimeters

Title Block and margins carry 5 marks

Draw carefully using appropriate line thicknesses and showing all construction lines used

Note: *Produce a simple Title Block in the top right-hand corner of your A3 Drawing Paper and print your Student Number, Department, Subject Name and Course Code. Print your Student Number Only on the rest of the answer sheets.*

Question 1

Figure Q1 shows two views of a Machine Block. Draw in Third Angle Orthographic Projection the following views:

- a) Sectional Front View as seen along cutting plane X-X**
- b) End elevation as seen from the right**
- c) A Plan projected from View (a)** [35]

Question 2

Two views of a Support Block are shown in 3rd Angle Orthographic Projection in Figure Q2. Draw an Isometric View of the block so that the base length is along the right horizontal axis. Do not erase the construction lines used.

[30]

Question 3

A Stopper is shown in Figure Q3. Construct the stopper showing clearly the methods used to find centres and touching points for some of the arcs. [15]

Question 4

Figure Q4 shows two views of a Pipe Joint. Draw the two views, and the Surface Development of Pipe B only. Space views in order to accommodate all of them on one side of the A3 sheet. [15]

Question 5

- a) Construct a regular Heptagon of side 66 mm clearly showing all the construction lines and centres?** [7]

- b) Using the Concentric Circle Method, draw an Ellipse using the following:**

Major Axis = 172

Minor Axis = 96 [8]

END OF EXAM