



UNIVERSITY OF RUHUNA

Faculty of Engineering

End-Semester 4 Examination in Engineering: September 2023

Module Number: MN4303

Module Name: Marine Engineering Computer Aided
Drawing

[Four Hours]

[Answer all parts of the question, the question carries 100 marks]

Instructions to Candidates:

- The question paper contains one question and four (04) pages including this page.
- Answer all parts of the question.
- Marks allocated for each part of the question have been indicated.
- The answer should be drawn in accordance with B.S.308:1993 and hidden details should be omitted.
- Use the ISO A2 sheet for drawing all views and other details.
- The selected scale must ensure uniform distribution and coverage of the drawing on the sheet.
- Write your **Index Number**, the **Module Code** and the **Title of the paper** in the specified space of the drawing sheet.
- Save the softcopy of your drawing in AutoCAD 2018 or lower version giving your Index Number and the Module Code (Eg. EG_2020_XXXX MN4303)

Q1

Figure Q1 shows details of a Crane Hook. The description of the hook is given below;

- The two side plates are held together by three 44 dia. studs, one of which is shown.
- The swivel block fits into two bushes, which are secured to the side plates by three M10 set screws in their flanges.
- The hook is free to revolve in a 40 dia. bush fitted in the swivel block and a thrust washer is fitted between an M30 nut on the screwed end of the hook, and the top of the bush.

a) Draw the following views of the Crane Hook in First Angle Projection

i) Sectional elevation through the axis of the swivel block, showing all parts assembled.

[30 Marks]

ii) End elevation

[20 Marks]

iii) Sectional plan view through the axis of swivel block.

[20 Marks]

b) Complete the drawing by adding the following,

i) A part list, with the parts clearly identified on the assembled drawing

[05 Marks]

ii) Title and subtitles

[02 Marks]

iii) The projection symbol

[02 Marks]

iv) All dimensions

[05 Marks]

v) Suitable scale

[01 Marks]

c) Electronic drawing values

c) Electronic drawing values

i) Select a suitable standard paper for the drawing

[02 Marks]

ii) Use suitable drawing layers

[05 Marks]

iii) Use suitable text styles

[02 Marks]

iv) Use suitable dimension styles

[04 Marks]

v) Use standard heights for dimensions and text

[02 Marks]

Note: Assume any missing dimensions

Figure Q1: Crane Hook

