

**CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

Autumn Examinations 2012

Module Title: Building & Environmental (CA)

Module Code: BULD 7015

School: Building & Civil Engineering

Programme Title(s): Bachelor of Science in Construction Management – Year 3
Bachelor of Science (Honours) in Construction Management – Year 3

Programmes Code(s): CMNGT_7_Y3
CCNMG_8_Y3

External Examiner(s): Mr Noel Dempsey, Mr Gerry O'Rourke

Internal Examiner(s): Ms Maria Cullinane

Instructions: Answer **ALL** questions

Duration: 2 Hours

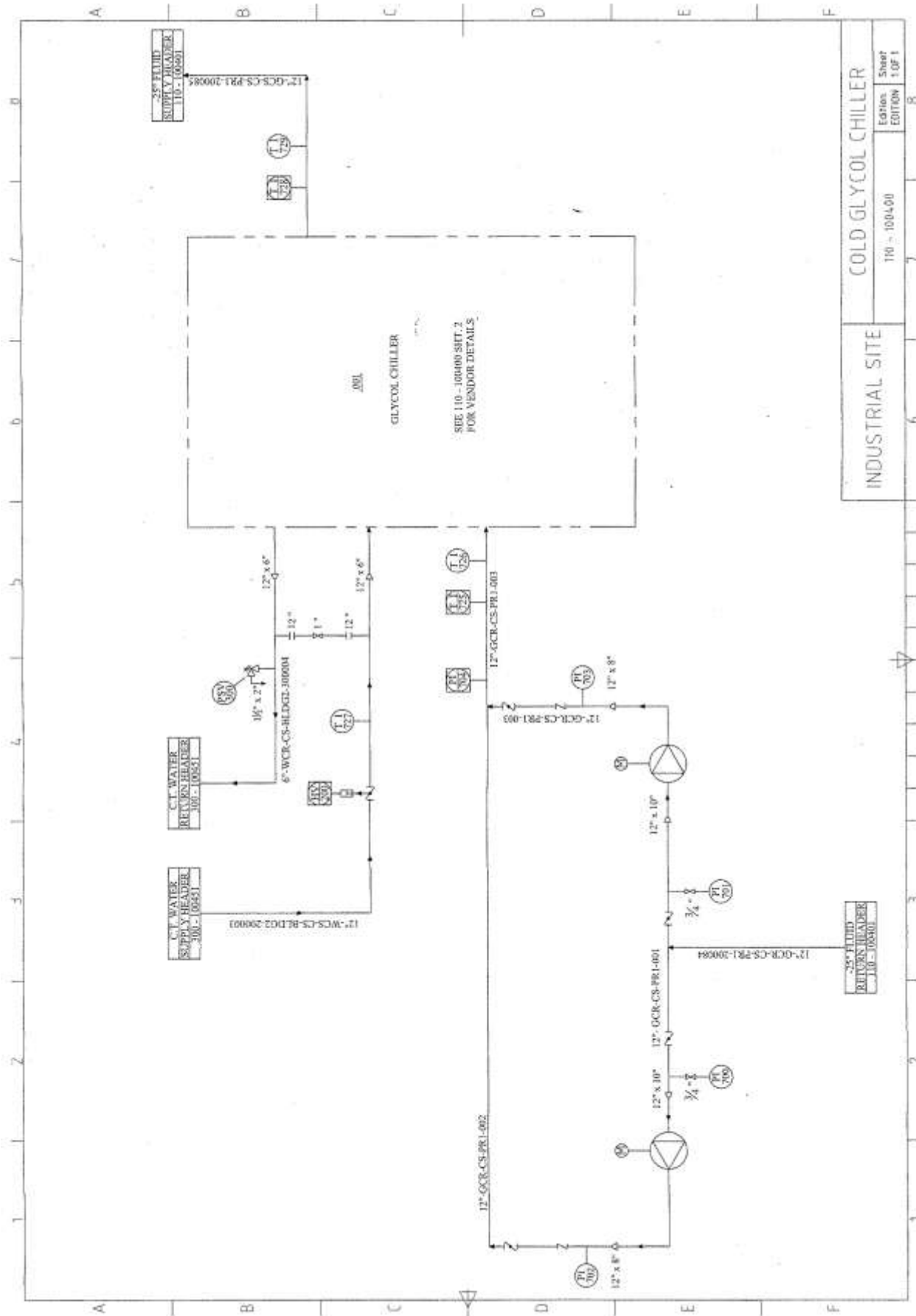
Sitting: Autumn 2012

Requirements for this examination:

Note to Candidates: Please check the Programme Title and the Module Title to ensure that you have received the correct examination. If in doubt please contact an Invigilator.

- Q1. (a) What are the **3** categories and associated pressures that pressure levels are split into in vacuum technology? (6 marks)
- (b) Write a brief note on each of the types of water systems used in the Process Industry. (8 marks)
- (c) Identify two common valve types and sketch their P & ID symbols. (2 marks)
- (d) Using the COLD GLYCOL CHILLER drawing, **identify** all the instrumentation used on the cooling water lines. (8 marks)
- (e) Using the HVAC P&ID, list the instrumentation used on the air supply line(s) that does not pass through the AHU. (6 marks)
- Q2. (a) What is the **aim** of building services coordination? (4 marks)
- (b) Summarise the commissioning arrangements and outcomes of five case studies on commissioning with which you are familiar. (10 marks)
- (c) List the advantages & disadvantages of life cycle costing. (6 marks)
- (d) Discuss the advantages and disadvantages of both open and closed protocols. (6 marks)
- (e) Explain the purpose and operation of the three layer model of BMS architecture. (8 marks)

- Q3. (a) In TGD L, what buildings do L2, L3 and L4 respectively apply to? (3 marks)
- (b) Select **4 key design measures** that will have the **greatest impact** in improving the energy efficiency of **new dwellings** (4 marks)
- (c) What are Ireland's 2020 commitments? (3 marks)
- (d) What are the main features that characterise a Passive House. (12 marks)
- (e) Describe four different measures that were taken to reduce the energy usage in four different case studies with which you are familiar. (8 marks)
- Q4. Discuss a new innovative building services technique/technology that you have researched (10 marks)



INDUSTRIAL SITE	COLD GLYCOL CHILLER	
	110 - 1004-00	Sheet EDITION 1 OF 1

