CINEC CAMPUS
Beyond A Graduate

Faculty of Marine Engineering
Department of Marine Electrical Engineering
COURSE CODE: EED - 293 / B020
REEFER CONTAINER TECHNICIAN COURSE

FINAL EVALUATION PAPER
Reefer Container Theory & Practice

- *This question paper consists of 06 questions.*
- *Answer all the questions.*

Date: 20/01/ 2023.
Time allocated: 02Hr.

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01. a. What is the testing tool use for refrigeration system trouble shoot?

(04 Marks)

    b. What is the Controller Humidity setting range (Minimum & Maxim) of the Carrier unit ML2i Reefer model?

(04 Marks)

02. a. What procedure need to be followed for full gas charging to the reefer container?

(08 Marks)

03. State the main functions carried out by the Microprocessor Controller of the Reefer unit?

(10 Marks)

04. a. Draw a complete Vapor Refrigeration cycle diagram with main four components and name the following devices & controls in your diagram.
    i. Liquid Receiver
    ii. Filter Drier
    iii. All 3 Service Valves
    iv. SMV- Suction Modulation Valve
    v. Quench Valve
    vi. TXV Equalizer line
    vii. Supply/Return Sensors

(14 Marks)

05. a. What are the work permits involved in shipboard operations? (05 Marks)

    c. State the rest hour requirements as per MLC. (05 Marks)

    d. What are the banned refrigerant types? (05 Marks)

    e. What official record you should maintain in case of HCFC reefer system maintenance?

(05 Marks)

    f. What is HP cut out and LP cut out. (05 Marks)

    g. Discuss the safe procedure of disposal / collecting of refrigerant from a system.

(05 Marks)

06. a. Mention 3 entities to ensure while reefer container inspection and daily reefer rounds.

(05 Marks)

b. Draw a diagram to show the arrangement how Emergency Generator panel is connected to main circuit board. (04 Marks)

c. State 2 essential loads connected to the emergency switch board? (02 Marks)

d. Explain what is   i. Delivery Air Temperature
                      ii. Return Air Temperature.   (06 Marks)
                      iii. Fresh Air opening.

e. What happens frequency converter is bypassed in star cool unit? (02 Marks)

f. Assume the compressor in a reefer container which loaded in your vessel is not starting. State 3 factors can cause the issue. (03 Marks)

g. State 2 reasons each for low suction pressure and high discharge pressure in the refrigerant circuit according to your knowledge. (08 Mark