

## Unit 2 - Week 1

### Course outline

How to access the portal?

#### Week 1

Recapitulation of Thermodynamics

Introduction to Refrigeration

Air Refrigeration Cycle

Aircraft Refrigeration Cycles-1

Aircraft Refrigeration Cycles-2

Quiz : Assignment 1

#### Week 2

#### Week 3

#### Week 4

#### Week 5

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#### Week 7

#### Week 8

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## Assignment 1

The due date for submitting this assignment has passed.  
As per our records you have not submitted this assignment.

**Due on 2019-08-14, 23:59 IST.**

1) Heat and work are

1 point

- Intensive property  
 Extensive property  
 Point function  
 Path function

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Path function

2) If a close system is undergoing an irreversible process, the entropy of the system

1 point

- Must increase  
 Always remains constant  
 Must decrease  
 Can increase, decrease or remain constant

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Can increase, decrease or remain constant

3) The specific volume of water when heated at 0°C

1 point

- first increases and then decreases  
 first decreases and then increases  
 increases steadily  
 decreases steadily

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
first decreases and then increases

4) The temperature limits of a heat pump cycle are +27°C and -23°C, then the Carnot COP will be

1 point

- 0.2  
 1.2  
 5  
 6

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
6

5) The function of a ..... is to provide a heat transfer surface through which a heat passes from the hot refrigerant vapour to the condensing medium

1 point

- Evaporator  
 Expansion valve  
 Compressor  
 Condenser

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Condenser

6) Which of the following is the advantage of air cycle used in airplanes

1 point

- COP is high  
 Refrigeration system is light in weight  
 Compression ratio is high  
 Sensible heating and cooling of refrigerant

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Refrigeration system is light in weight

7) Ice is formed at 0°C from water at 20°C. The temperature of the brine is -8°C. Find out the kg of ice formed per kWh. Assume that the refrigeration cycle used is perfect reversed Carnot cycle. Take latent heat of ice as 335 kJ/kg

1 point

- 87.53 kg  
 81.35 kg  
 67.97 kg  
 77.35 kg

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
81.35 kg

8) A cold storage is to be maintained at -5°C while the surroundings are at 35°C. The heat leakage from the surroundings into the cold storage is estimated to be 29 kW. The actual C.O.P. of the refrigeration plant used is one third that of an ideal plant working between the same temperatures. Find the power required to drive the plant

1 point

- 11.58 kJ/s  
 12.98 kJ/s  
 12.90 kJ/s  
 10.98 kJ/s

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
11.58 kJ/s

9) Critical temperature is the temperature above which

1 point

- A gas will never liquefy  
 A gas will immediately liquefy  
 Water will start boiling  
 Latent heat of water vapor will be maximum

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
A gas will never liquefy

10) A refrigerating system operates on the reversed Carnot cycle. The higher temperature of the refrigerant in the system is 35°C and the lower temperature is -15°C. Determine Co-efficient of performance

1 point

- 5.16  
 3.7  
 2.3  
 5.5

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
5.16