

## Unit 3 - Week 2

## Assignment 2

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

**Due on 2019-08-21, 23:59 IST.**

1) In Bootstrap air refrigeration system 1 point

- The expansion of air takes place in two stages

The ambient air temperature is reduced by expansion for the cooling purpose

- The pressure of air is increased with a secondary Compressor

- The air from evaporator cools the air coming from condenser through a heat exchanger

No, the answer is incorrect.

Score: 0

Accepted Answers:

*The pressure of air is increased with a secondary Compressor*

2) In a vapor compression cycle the refrigerant immediately after expansion valve is 1 point

- Liquid

- Sub-cooled liquid

- Saturated liquid

- Subcooled liquid or wet vapor

No, the answer is incorrect.

Score: 0

Accepted Answers:

*Subcooled liquid or wet vapor*

3) A refrigerator working on Bell-Coleman cycle operates between pressure limits of 1.05 bar and 8.5 bar. Air is drawn from the cold chamber at 10°C. Air coming out of compressor is cooled to 30°C before entering the expansion cylinder. The expansion and compression follow the law of  $p\gamma^{1.35} = \text{constant}$ . Heat extracted from the cold chamber per kg of air 1 point

- 150.41 KJ/kg

- 107.25 KJ/kg

- 115.53 KJ/kg

- 96.36 KJ/kg

No, the answer is incorrect.

Score: 0

Accepted Answers:

*107.25 KJ/kg*

4) The function of a ..... is to remove the vapour from the evaporator and to raise its temperature and pressure to a point such that it (vapour) can be condensed with normally available condensing media. 1 point

- Evaporator

- Expansion valve

- Compressor

- Condenser

No, the answer is incorrect.

Score: 0

Accepted Answers:

*Compressor*

5) The change in evaporator temperature in a refrigeration cycle, as compared to change in condenser temperature, influences the value of C.O.P 1 point

More

- Less

- Equally

- Unpredictable

No, the answer is incorrect.

Score: 0

Accepted Answers:

*More*

6) With reciprocating compressor in vapour compression refrigeration system, wet compression is not desirable because 1 point

- liquid trapped up in the head of cylinder may damage the compressor valves

- COP of the cycle decreases

- volumetric efficiency of compressor decreases

- mass flow rate per ton of refrigerant increases

No, the answer is incorrect.

Score: 0

Accepted Answers:

*liquid trapped up in the head of cylinder may damage the compressor valves*

7) In a vapor compression refrigeration plant, the refrigerant leaves the evaporator at 195 KJ/kg and the condenser at 65 KJ/kg. For every kg of refrigerant, the plant can supply per second, a cooling load of 1 point

- 70 KW

- 100 KW

- 130 KW

- 160 KW

No, the answer is incorrect.

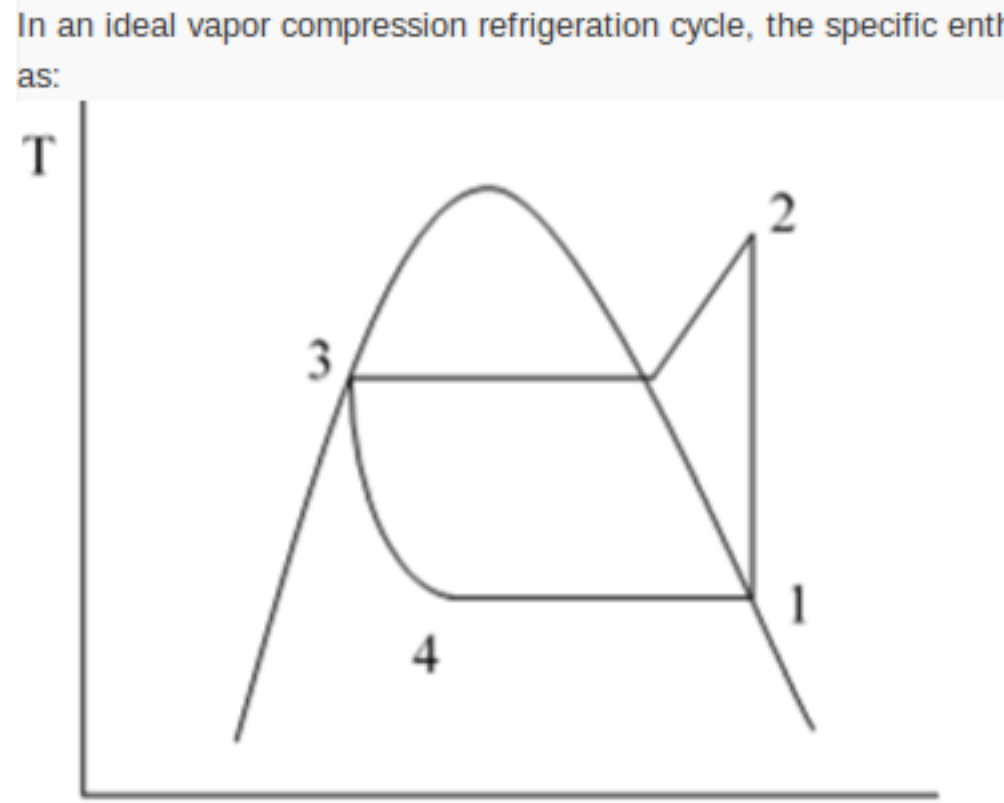
Score: 0

Accepted Answers:

*130 KW*

8) Read the following and answer question 8-10. 1 point

In an ideal vapor compression refrigeration cycle, the specific enthalpy of refrigerant (in KJ/kg) at the following states is given as:



Inlet of condenser: 312

Exit of condenser: 124

Exit of evaporator: 268

The COP of this cycle is

- 2.27

- 2.75

- 3.27

- 3.75

No, the answer is incorrect.

Score: 0

Accepted Answers:

*3.27*

9) Heat rejected from the refrigerant and absorbed by the refrigerant are (in KJ/kg) 1 point

- 188 & 51

- 188 & 144

- 144 & 188

- 51 & 144

No, the answer is incorrect.

Score: 0

Accepted Answers:

*188 & 144*

10) Refrigeration effect in ton of refrigeration if the mass flow rate of refrigerant in the cycle is 0.2 kg/s 1 point

- 6.8

- 9.4

- 7.4

- 8.2

No, the answer is incorrect.

Score: 0

Accepted Answers:

*8.2*