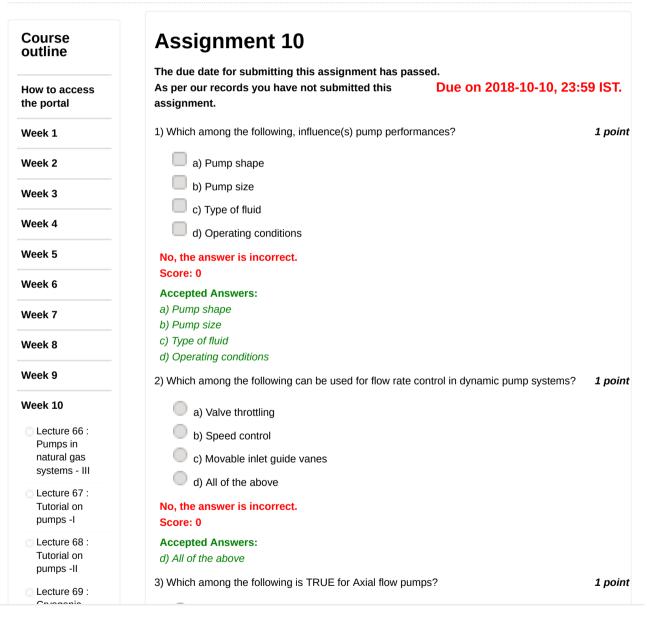
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## **Unit 11 - Week 10**



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and liquefaction Score: 0 in natural gas ce De **Accepted Answers:** systems - II c) Low head and high flow rate Lecture 71: Tutorial on 1 point Which among the following gives the specific speed of a pump? refrigeration - I Lecture 72: a)  $N_S = \frac{(H)^{1/2}}{N^{1/3}\sqrt{Q}}$ Tutorial on refrigeration - II b)  $N_s = \frac{N\sqrt{Q}}{(H)^{5/4}}$ Lecture 73: Cryogenic c)  $N_s = \frac{N\sqrt{Q}}{(H)^{3/4}}$ refrigeration and liquefaction d)  $N_s = \frac{(H)^{3/4}}{N\sqrt{Q}}$ in natural gas systems - III Lecture 73: Corrigendum Lecture Materials Quiz: Assignment 10 Feedback for No, the answer is incorrect. Week 10 Score: 0 **Accepted Answers:** Week 11 Week 12 5) For a Carnot refrigerator operating between 330 K and 60 K, the coefficient of performance 1 point of the refrigerator is Download Videos a) 0.222 (a) 0.312 **Assignment** Solution c) 0.546 Interactive d) 0.897 Session with Students No, the answer is incorrect. Score: 0 **Accepted Answers:** a) 0.222 6) The minimum work requirement to remove 300 W from a region at 12.0 K for a sink 1 point temperature of 310 K, would be a) 5468 W b) -7450 W C) -5468 W d) 54.68 kW No, the answer is incorrect. Score: 0 **Accepted Answers:** b) -7450 W 7) Which among the following is true for adiabatic expansion? 0 points a) Will always result in cooling of gas after expansion b) Will not produce external work

c) Cannot usually handle two-phase vapour-liquid system

d) If the working fluid is ideal gas, the expansion results in the lowering of temperature  No, the answer is incorrect.
Score: 0
Accepted Answers: b) Will not produce external work
8) Out of the following, which is/are true for Linde-Hampson refrigeration system? 1 point
a) Nitrogen is used as refrigerant to maintain the temperature between 66 and 115 K.
b) Lowest temperature is limited by the triple point of the refrigerant at which the refrigerant would freeze.
c) Highest temperature is dictated by the critical point of the refrigerant at which heat of vaporization becomes zero.
d) Cooled gas is expanded through a Joule-Thomson valve to create two-phase mixture.
No, the answer is incorrect. Score: 0
Accepted Answers:  a) Nitrogen is used as refrigerant to maintain the temperature between 66 and 115 K.  b) Lowest temperature is limited by the triple point of the refrigerant at which the refrigerant would free c) Highest temperature is dictated by the critical point of the refrigerant at which heat of vaporization becomes zero.  d) Cooled gas is expanded through a Joule-Thomson valve to create two-phase mixture.
9) If a gas gets heated up during depressurization, its Joule-Thomson coefficient ( $\mu_{JT}$ ) of the <b>1 point</b>
gas is always
a) Greater than zero
b) Equal to zero c) Less than zero
d) None of the above
No, the answer is incorrect.
Score: 0
Accepted Answers:
c) Less than zero $ 10) \  \   \text{The source temperature for an ideal isobaric-source refrigerator varies from } 5K(T_1) \  \   \text{to 1 point } \\ 25K(T_2) \  \   while removing 2.5 kW of energy (Q) from the low temperature source, using an ideal gas as the working fluid. If the sink temperature (T_0) is 305 K, the COP is$
a. 0.0424
<b>b</b> . 0.1056
C0.0424
d0.1056
No, the answer is incorrect. Score: 0
Accepted Answers: a. 0.0424
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