

**UNIVERSITY B.T & EVENING COLLEGE**  
**DEPARTMENT OF PHYSICS**  
**SEMESTER III**  
**ASSIGNMENT PHYSICS GE**  
**LAST DATE OF SUBMISSION : 26/02/2020**  
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all the answers are required to be done .

1. Determine the coefficient of performance for a refrigerator working between heat reservoirs of temperature  $-10^{\circ}\text{C}$  and  $20^{\circ}\text{C}$ .

2. Write down the expression of change in entropy of a system whose initial state is  $(P_1, V_1, T_1)$  and final state is  $(P_2, V_2, T_2)$  in case of  
(i) Isothermal change (e.g  $T_1=T_2$ ) ; (ii) Isobaric change (e.g  $P_1=P_2$ ) ; (iii) Isochoric change ( $V_1=V_2$ ).

3. Derive Maxwell's Thermodynamic Relations by the state functions U,P,V,T,S.  
Where U,P,V,T,S carries their usual meaning in Thermodynamics.