

※ 考生請注意：本試題不可使用計算機。請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

每題 5 分，共 20 題

答案請精簡，儘量以公式表達。公式中之每一符號須清楚定義。

- (1) What is Raoult's law ?
- (2) What is ideal solution ?
- (3) What is regular solution ?
- (4) What is compression factor ?
- (5) What is Boyle temperature ?
- (6) What is the condition for $df=g(x,y)dx+h(x,y)dy$ being exact ?
- (7) What is $(C_p - C_v)$ for a perfect gas ?
- (8) What is Kirchhoff's law ?
- (9) Please define internal pressure.
- (10) Please define Jouel-Thomson coefficient.
- (11) Express the efficiency of a Carnot engine using T_c and T_h .
- (12) What is Clausius inequality ?
- (13) What is ΔS for the expansion of ideal gas from V_i to V_f ?
- (14) What is Nernst heat theorem ?
- (15) What is Helmholtz energy ?
- (16) What is the relationship between ΔG and ΔG^0 ?
- (17) Write the equation for the value of equilibrium constant at different temperatures.
- (18) Express dG in terms of change in P and V for a closed system.
- (19) What is Gibbs-Helmholtz equation ?
- (20) What is Clapeyron equation ?