

1. Define the following terms : ( 5 % each )

- (1) *Lewis acid and Lewis base*
- (2) *Markovnikov's rule*
- (3) *CIP system or the R-S system*
- (4) *Nucleophilic Aliphatic Substitution  $S_N2$*
- (5) *The Hofmann Elimination*
- (6) *The Zaitsev Elimination*
- (7) *Resonance*
- (8) *Aromatic Compounds, Antiaromatic Compounds,  
Nonaromatic Compounds and Aliphatic Compounds*
- (9) *Electrophilic Aromatic Substitution*
- (10) *Aldol Condensations*

2. 分析化學

1. 請說明如何提高液相層析法的解析度? (10%)
2. 請問如何克服背景干擾? (10%)
3. 質譜分析法的離子源可分成那兩大類? (10%)
4. 請說明紅外線光譜儀最主要是用於觀察化合物的何種特性? (10%)
5. 請推導 Beer's law;  $A = \epsilon bc$ . (10%)