

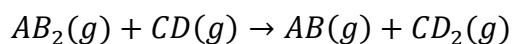
**UNIVERSITI MALAYSIA PAHANG**  
**PROCESS CHEMISTRY AND PHARMA ENGINEERING**  
**ASSIGNMENT**



NAME : \_\_\_\_\_

MATRIC NO : \_\_\_\_\_

1. Consider the reaction between  $AB_2$  and  $CD$ :



The initial rate of the reaction is measured at several different concentrations of the reactants, and tabulated in Table 1. From the data, determine:

- a) The rate law for the reaction (8 marks)
- b) The rate constant ( $k$ ) for the reaction (2 marks)

Table 1: Time versus  $AB_2$  concentration

Time (s)	$[AB_2]$ (M)
0	0.01000
50	0.00887
100	0.00797
150	0.00723
200	0.00662
250	0.00611
300	0.00567
350	0.00528
400	0.00495
450	0.00466
500	0.00440
550	0.00416
600	0.00395
650	0.00376
700	0.00359
750	0.00343
800	0.00329
850	0.00316
900	0.00303
950	0.00292
1000	0.00282