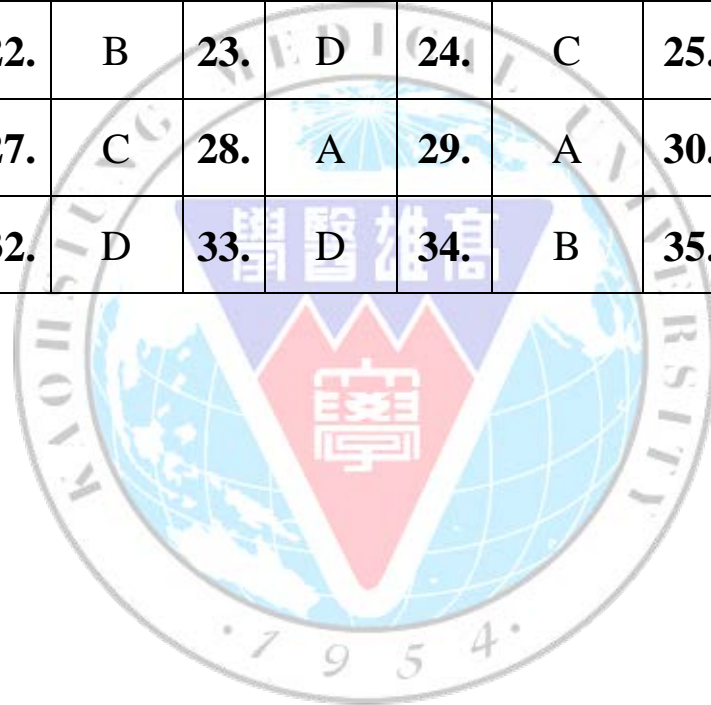


高雄醫學大學 109 學年度學生轉系考試【英文】

參考答案

1.	B	2.	A	3.	D	4.	C	5.	A
6.	B	7.	C	8.	A	9.	A	10.	D
11.	A	12.	B	13.	B	14.	D	15.	C
16.	A	17.	C	18.	C	19.	A	20.	B
21.	D	22.	B	23.	D	24.	C	25.	A
26.	D	27.	C	28.	A	29.	A	30.	B
31.	A	32.	D	33.	D	34.	B	35.	A



高雄醫學大學 109 學年度學生轉系考試【普通生物學】

參考答案

1.	A	2.	D	3.	B	4.	E	5.	C
6.	D	7.	E	8.	D	9.	A	10.	B
11.	B	12.	C	13.	D	14.	A	15.	C
16.	E	17.	A	18.	C	19.	B	20.	D
21.	A	22.	D	23.	C	24.	E	25.	A
26.	B	27.	A	28.	D	29.	E	30.	C
31.	B	32.	D	33.	E	34.	C	35.	A
36.	C	37.	A	38.	B	39.	D	40.	D
41.	E	42.	B	43.	C	44.	A	45.	B
46.	C	47.	E	48.	A	49.	B	50.	B

高雄醫學大學 109 學年度學生轉系考試【普通化學】

第一部分 單選題 (60%, 4% each)

1.	B	2.	E	3.	D	4.	D	5.	C
6.	D	7.	C	8.	B	9.	A	10.	A
11.	D	12.	A	13.	B	14.	C	15.	D

第二部分 非單選題 (將試題題號及答案依照順序寫在此卷上, 40%)

1. 1-a $^{238}_{92}\text{U} \rightarrow ^{234}_{90}\text{Th} + ^4_2\text{He}$

1-b $^{201}_{80}\text{Hg} + ^0_{-1}\text{e} \rightarrow ^{201}_{79}\text{Au}$

	B ₂	C ₂	N ₂
σ_{2p}^*	—	—	—
π_{2p}^*	—	—	—
σ_{2p}	—	—	↑↓
π_{2p}	↑↓ ↑↓	↑↓ ↑↓	↑↓ ↑↓
σ_{2p}^*	↑↓	↑↓	↑↓
σ_{2s}	↑↓	↑↓	↑↓
	Paramagnetic	Diamagnetic	Diamagnetic
	1	2	3
z	290	620	942
	159	131	110

2.

HOMO: σ_{2p} , LUMO, π_{2p} ,

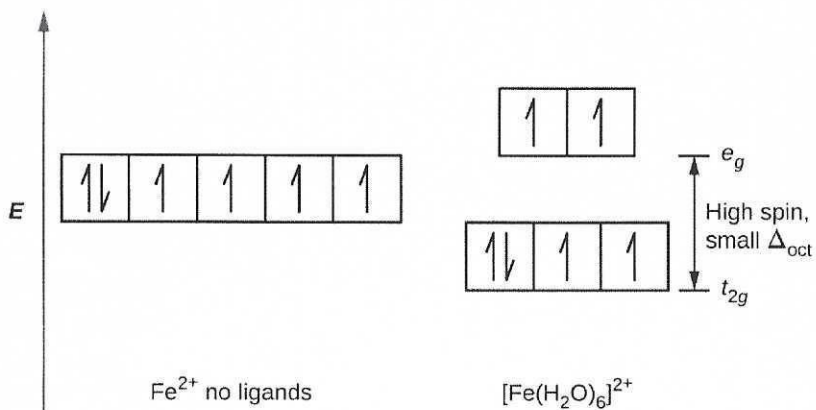
N₂ had the highest bond energy because of the largest bond order 3

N₂⁺ and N₂⁻ both show paramagnetism property

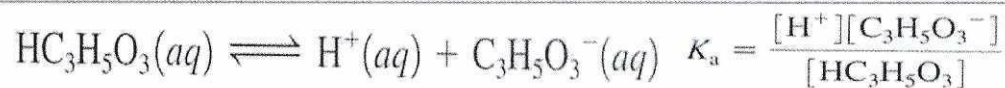
3.

Sc: [Ar]3d¹4s²
 Ti: [Ar]3d²4s²
 V: [Ar]3d³4s²
 Cr: [Ar]3d⁵4s¹
 Mn: [Ar]3d⁵4s²
 Fe: [Ar]3d⁶4s²
 Co: [Ar]3d⁷4s²
 Ni: [Ar]3d⁸4s²
 Cu: [Ar]3d¹⁰4s¹
 Zn: [Ar]3d¹⁰4s²

4.



5.



$$\text{Percent dissociation} = 3.7\% = \frac{x}{[\text{HC}_3\text{H}_5\text{O}_3]_0} \times 100\% = \frac{x}{0.10} \times 100\%$$

$$x = \frac{3.7}{100}(0.10) = 3.7 \times 10^{-3} \text{ mol/L}$$

$$[\text{HC}_3\text{H}_5\text{O}_3] = 0.10 - x = 0.10 \text{ M} \quad (\text{to the correct number of significant figures})$$

$$[\text{C}_3\text{H}_5\text{O}_3^-] = [\text{H}^+] = x = 3.7 \times 10^{-3} \text{ M}$$

$$K_a = \frac{[\text{H}^+][\text{C}_3\text{H}_5\text{O}_3^-]}{[\text{HC}_3\text{H}_5\text{O}_3]} = \frac{(3.7 \times 10^{-3})(3.7 \times 10^{-3})}{0.10} = 1.4 \times 10^{-4}$$