

Name:  
Student #:  
Laboratory Demonstrator Gp.:

# Chemistry 151 Midterm: 14th February 2022

CHM151 February 2022  
Inorganic Chemistry Section

Please see the periodic table at the end of this section.

	Mark obtained
Question 1. / 10 marks	
Question 2. / 4 marks	
Question 3. / 6 marks	
Total / 20 marks	

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## QUESTION 1

- (a) **(4 marks)** Draw the molecular structures and compare and contrast the bonding in  $\text{B}_2\text{H}_6$  and in  $\text{Al}_2\text{Cl}_6$ .

- (b) **(6 marks)** List, describe and distinguish three allotropes of carbon.

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## QUESTION 2

(a) **(2 marks)** Draw the Lewis dot diagram of CBr<sub>4</sub> and IBr<sub>5</sub> and include all lone pairs of electrons.

(b) **(2 marks)** Describe and distinguish between coordination compounds that exhibit coordination isomerism and linkage isomerism. Give an example of each.

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### QUESTION 3

**(6 marks)** Distinguish between diamagnetic and paramagnetic compounds. Explain how one determines the magnetic nature of a material.

## Periodic Table

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