

**ARMY BURN HALL COLLEGE FOR GIRLS ABBOTTABAD**  
**ENTRANCE TEST EXAMS 2021**

**CLASS/SEC: JC** \_\_\_\_\_

**TIME: 1hr**

**NAME** \_\_\_\_\_

**SUBJECT: CHEMISTRY**

**MAX MARKS: 20**

**CENTER NUMBER** \_\_\_\_\_

**Q1. Choose the correct answer.**

1. Which of following shows charge for ammonium ion  $\text{NH}_4$ ?

- A. +1
- B. +2
- C. - 1
- D. - 2

2. The molecular mass of  $\text{H}_2\text{O}_2$  is

- A. 34
- B. 16
- C. 18
- D. 42

3. Which of following will not change position of element in periodic table?

- A. proton number   B. isotopes   C. chemical properties   D. physical properties

4. Which molecules all contain one or more double covalent bonds?

- A. chlorine, nitrogen and methane
- B. chlorine, oxygen and ethene
- C. oxygen, hydrogen chloride and ethene
- D. oxygen, carbon dioxide, ethene

5. The metals Cr, Co, Fe and Mn are all transition elements.

Which particles have the same number of electrons?

- A.  $\text{Co}^{2+}$  and Cr
- B.  $\text{Co}^{2+}$  and  $\text{Fe}^{3+}$
- C. Cr and  $\text{Mn}^{2+}$
- D.  $\text{Fe}^{3+}$  and  $\text{Mn}^{2+}$

6. Which substance has metallic bonding?

	conducts electricity		state of product formed on reaction with oxygen
	when solid	when liquid	
A	✓	✓	solid
B	✓	✓	gas
C	✗	✓	no reaction
D	✗	✗	solid

7. Which compound contains only covalent bonds?

A. NaCl

B. CaO

C. NH<sub>3</sub>

D. K

8. Which row shows correct statements about the speed at which a gas diffuses?

	effect of molecular mass	effect of temperature
A	higher molecular mass diffuses faster	diffusion is faster at higher temperatures
B	higher molecular mass diffuses faster	diffusion is faster at lower temperatures
C	lower molecular mass diffuses faster	diffusion is faster at higher temperatures
D	lower molecular mass diffuses faster	diffusion is faster at lower temperatures

9. What happens when sodium chloride melts?

- Covalent bonds in a giant lattice are broken.
- Electrons are released from atoms.
- Electrostatic forces of attraction between ions are overcome
- Sea of electrons flow

10. What is the relative molecular mass,  $M_r$ , of CuSO<sub>4</sub>·5H<sub>2</sub>O?

- 130
- 250
- 260
- 360

**LONG QUESTION [10]**

1. Kinetic theory explains the properties of matter in terms of the arrangement and movement of particles.

Nitrogen is a gas at room temperature. Nitrogen molecules, are spread far apart and move in a random manner at high speed.

- (i) Draw the electronic structure of a nitrogen molecule.  
Show only the outer electron shells.

[2]

- (ii) Compare the conduction of ionic compounds in solid state and in molten form.

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[3]

- (b) What type of bond is formed between Magnesium and Chlorine? define

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[2]

- (c) Draw the dot and cross diagram for the Magnesium and Oxide ions.

[3]