

## Question 1

How many hydrogen atoms are there in 1 mole of water?

$A_r(\text{O}) = 16$ ;  $A_r(\text{H}) = 1$ ;  $N_A = 6,022 \cdot 10^{23}$

- ☐ A  $6,022 \cdot 10^{23}$
- ☐ B  $12,044 \cdot 10^{23}$
- ☐ C  $3,011 \cdot 10^{23}$
- ☐ D  $3,1 \cdot 10^{23}$

## Question 2

Nucleophiles are characterized by:

- ☐ A positive charge
- ☐ B unpaired electron
- ☐ C lone pair of valence electrons
- ☐ D vacant orbital

### Question 3

The electron configuration of phosphorus (group 15/VA) is:

- ☐ A  $1s^2 2s^2 2p^6 3s^1 3p^4$
- ☐ B  $[\text{He}] 3s^2 3p^3$
- ☐ C  $1s^2 2s^2 2p^6 3s^2 3p^3$
- ☐ D  $[\text{Ne}] 3p^5$

### Question 4

Which of the following is **not** a hormone?

- ☐ A prolactin
- ☐ B glycogen
- ☐ C thyroxine
- ☐ D oxytocin

### Question 5

The correct formula of methyl acetate is:

- ☐ A  $\text{CH}_3\text{CH}_2\text{COOCH}_2\text{CH}_3$
- ☐ B  $\text{CH}_3\text{COOCH}_3$
- ☐ C  $\text{CH}_3\text{CH}_2\text{COOCH}_3$
- ☐ D  $\text{CH}_3\text{COOCH}_2\text{CH}_3$

### Question 6

Which compound is an amine?

- ☐ A  $\text{C}_6\text{H}_5\text{NO}_2$
- ☐ B  $\text{C}_6\text{H}_5\text{-N} = \text{N-C}_6\text{H}_5$
- ☐ C  $\text{CH}_3\text{NHCH}_3$
- ☐ D  $\text{CH}_3\text{CH}_2\text{CONH}_2$

### Question 7

Which element reacts with water most vigorously?

- ☐ A K
- ☐ B Na
- ☐ C Li
- ☐ D Fe

### Question 8

Electrolysis of sodium chloride **does not** generate:

- ☐ A hydrogen chloride
- ☐ B chlorine
- ☐ C hydrogen
- ☐ D sodium

## Question 9

Phenol is:

- ☐ A more acidic than ethanol
- ☐ B less acidic than ethanol
- ☐ C as acidic as ethanol
- ☐ D more basic than ethanol

## Question 10

2-chloropentane and 3-chloropentane are:

- ☐ A optical antipodes
- ☐ B *cis*- and *trans*- isomers
- ☐ C structural (constitutional) isomers
- ☐ D conformational isomers