



**Time: 1 h**  
**183 Ch**  
**23/5/2016**

**1<sup>st</sup> Year Students**  
**Applied Inorgan. Chem.**

**Benha University**  
**Faculty of Science**  
**Chemistry Department**

**Answer the following questions:**

- (1) The percentage of potassium in potassium diammonium phosphate fertilizer is equal to.....
  - a) 53 %
  - b) 23 %
  - c) 33 %
  - d) 43%
- (2) .....cause bad taste and smell of drinking water
  - a) Primary standard
  - b) Secondary contaminants
  - c) Secondary standard
  - d) primary contaminants
- (3) Solubility of metals in drinking water increase at.....concentration of acid
  - a) High
  - b) Low
  - c) Moderate
  - d) None of them
- (4) At higher pH of the drinking water the solubility of toxic metal ions.....
  - a) Increase
  - b) Decrease
  - c) Constant
  - d) None of them
- (5) TDS can be estimated by .....specific conductance by a factor between 0.55 and 0.75
  - a) Dividing
  - b) Subtracting
  - c) Multiplying
  - d) None of them
- (6) Dissolved oxygen is.....related to drinking water quality
  - a) Directly
  - b) Reverse
  - c) None of them
  - d) Not directly

- (7) Total dissolved solid can pass from a filter with pores size.....
- a) Greater than 0.45 micrometers
  - b) Less than 0.45 micrometers
  - c) Equal to 0.45 micrometers
  - d) Equal to 4.50 micrometers
- (8) The percentage of phosphate in triple superphosphate (TSP) fertilizer is equal to .....
- a) 84%
  - b) 48%
  - c) 60%
  - d) 20%
- (9) Pure water has..... specific conductance and sea water have.....
- a) High-high
  - b) High-low
  - c) Low-high
  - d) Low-low
- (10) When water is saturated with air at 1 atmospheric pressure and 25°C, the amount of oxygen dissolved is .....
- a) 7.32 mg/L
  - b) 8.32 mg/L
  - c) 9.32 mg/L
  - d) 8.23 mg/L
- (11) Pipes of water will be corrode at.....value
- a) Low pH
  - b) High pH
  - c) Moderate pH
  - d) None of them
- (12) pH of Sea water is ..... to distilled water
- a) Slightly basic
  - b) Slightly acidic
  - c) Equal
  - d) None of them
- (13) Acid-base indicators are organic molecules that change their color depending on .....of the solution
- a) Turbidity
  - b) pH
  - c) TDS
  - d) TSS

- (14) There is ..... relation between turbidity and intensity of scattered light
- inverse
  - Direct
  - No
  - None of them
- (15) (35-15-30) numbers means that the fertilizer contains .....
- Potassium and Nitrogen
  - Nitrogen
  - Potassium and Phosphate
  - Nitrogen, Phosphate and Potassium
- (16) (60-0-0) numbers means that the fertilizer contains .....
- Nitrogen
  - Phosphate
  - Potassium and Phosphate
  - Nitrogen, Phosphate and Potassium
- (17) Carbonate, chloride, sodium, sulfate and other ions that follow.....solids in water
- Total dissolved
  - Total suspended
  - a and b
  - None of them
- (18) The unit of the total dissolved solid in water sample can represent by .....while specific conductance .....
- Mole – microhmos
  - mg – microhmos /cm
  - mg/l – microhmos
  - mg/l – microhmos /cm
- (19) fishes require .....of dissolved oxygen for survive
- 4 – 6 mg/l
  - 6 – 8 mg/l
  - 5 – 6 mg/l
  - 4 – 5 mg/l
- (20) Amount of dissolved oxygen decreases as the .....increase, while.....decrease
- Temperature –partial pressure
  - Temperature – salinity
  - Salinity – temperature
  - Partial pressure – temperature

- (21) The process of manufacture of NaOH according to the equation,  
 $\text{Na}_2\text{CO}_{3(\text{aq})} + \text{Ca}(\text{OH})_{2(\text{s})} \rightarrow 2\text{NaOH}_{(\text{aq})} + \text{CaCO}_{3(\text{s})}$  refer to.....
- Chloralkali
  - Slaked lime
  - Soda ash
  - Lime-soda
- (22) Electrolysis of brine solution produces ratio simultaneously 1: 1.13: 0.028 that refer to.....
- Chlorine : sodium hydroxide : hydrogen
  - Sodium hydroxide : chlorine : hydrogen
  - Hydrogen : chlorine : sodium hydroxide
  - Hydrogen: sodium hydroxide : chlorine
- (23) In the mercury – cell process the anode and cathode used simultaneously are .....
- Mercury – graphite
  - Mercury – modified titanium
  - graphite – Mercury
  - None of them
- (24) Urea is a basic nitrogen fertilizer and it contains ..... of nitrogen
- 35 %
  - 48 %
  - 20 %
  - 50 %
- (25) The side reaction in the electrolysis of sodium chloride due to formation.....
- Sodium hydroxide
  - Sodium chlorite
  - Sodium hypochlorite
  - Hypochloric acid
- (26) Dry distillation of nitrogenous vegetable and animal waste product according to the following equation:
- $$\text{.....} + \text{.....} \rightarrow \text{NH}_3 + \text{H}_2\text{O}$$
- $\text{N}_2, \text{H}_2$
  - $\text{N}_2\text{O}, \text{H}_2$
  - $\text{NO}_2, \text{H}_2$
  - $\text{NO}, \text{H}_2$

- (27) In the synthesis of ammonia by Haber – Bosch process, the reaction must be carried at.....and the reaction is .....
- a) Low temperature and low pressure, endothermic
  - b) Low temperature and high pressure, exothermic
  - c) High temperature and high pressure, endothermic
  - d) High temperature and low pressure, exothermic
- (28) The catalyst used in ammonia synthesis is active if .....used
- a) Pure Iron metal
  - b) Mixture of iron with  $\text{Al}_2\text{O}_3$  at low pressure
  - c) Mixture of iron with  $\text{K}_2\text{O}$  at high temperature
  - d) Mixture of iron with  $\text{Al}_2\text{O}_3$  and  $\text{K}_2\text{O}$
- (29) In membrane cells, the membrane used are chemically active to allow.....
- a) Sodium ions and hydroxyl ions to pass through
  - b) hydroxyl ions to pass through but reject sodium ions
  - c) Sodium ions to pass through but reject hydroxyl ions
  - d) Sodium ions and chlorine to pass through
- (30) The role of iron catalyst in ammonia synthesis is.....
- a) Reduce activation energy for the release atomic nitrogen
  - b) Raise activation energy for the release atomic nitrogen
  - c) No effect on activation energy for the release atomic nitrogen
  - d) None of them

*With Best Regards*

**Dr/ Naglaa Mashal**

**&**

**Dr Ayman Awad Ali**

## Model Answer (MCQ)

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