

# 10<sup>th</sup> Grade Sargodha Board

## Chemistry

2018

### Group A

#### MCQ SECTION

- i) Potable water on earth is only \_\_\_\_\_ of total water. (Mark 1)
- A. 0.6%
  - B. 0.2%
  - C. 0.4%
  - D. 2.1%

Answer:

B. 0.2%

- ii) The boiling range of petroleum ether is: (Mark 1)

- A. 170-250 °C
- B. 30-80 °C
- C. 20-170 °C
- D. 80-170 °C

Answer:

B. 30-80 °C

- iii)  $K_c$  is always equal to: (Mark 1)

- A.  $K_f/K_r$
- B.  $K_r/K_f$
- C.  $R_f/R_r$
- D.  $R_r/R_f$

Answer:

A.  $K_f/K_r$

- iv) The given reaction goes to completion because of  $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$  (Mark 1)

- A. High temperature
- B. CaO is more stable than  $\text{CaCO}_3$
- C.  $\text{CO}_2$  escapes continuously
- D. CaO is not dissociated

Answer:

C.  $\text{CO}_2$  escapes continuously

- v) KCl is an example of: (Mark 1)

- A. double salt
- B. normal salt
- C. mixed salt
- D. complex salt

Answer:

B. normal salt

vi) pH of neutral solution is:

(Mark 1)

A. 6

B. 7

C. 8

D. 14

Answer:

B. 7

vii) Amount of carbon in anthracite coal is:

(Mark 1)

A. 60%

B. 70%

C. 80%

D. 90%

Answer:

D. 90%

viii) Which one of the following is an unsaturated hydrocarbon?

(Mark 1)

A.  $\text{CH}_4$

B.  $\text{C}_2\text{H}_6$

C.  $\text{C}_3\text{H}_4$

D.  $\text{C}_3\text{H}_8$

Answer:

C.  $\text{C}_3\text{H}_4$

ix) Water soluble vitamin is:

(Mark 1)

A. vitamin B

B. vitamin A

C. vitamin D

D. vitamin E

Answer:

A. vitamin B

x) The formula of stearic acid is:

(Mark 1)

A.  $\text{C}_{17}\text{H}_{35}\text{COOH}$

B.  $\text{C}_{17}\text{H}_{33}\text{COOH}$

C.  $\text{C}_{17}\text{H}_{37}\text{COOH}$

D.  $\text{C}_{15}\text{H}_{31}\text{COOH}$

Answer:

A.  $\text{C}_{17}\text{H}_{35}\text{COOH}$

xi) Which gas protects the earth's surface from ultraviolet radiations?

(Mark 1)

A.  $\text{CO}_2$

B. CO

C.  $\text{N}_2$

D.  $\text{O}_3$

Answer:

D. O<sub>3</sub>

xii) Which disease causes severe diarrhea and can be fatal? (Mark 1)

A. Jaundice

B. Cholera

C. Typhoid

D. Hepatitis

Answer:

B. Cholera

## SHORT QUESTION SECTION

### Section-B Q.2

Q.2 i) Define reversible reaction and give an example. (Marks 2)

Q.2 ii) What is relationship between active mass and rate of reaction?

(Marks 2)

Q.2 iii) How we can predict the direction of a reversible reaction?

(Marks 2)

Q.2 iv) Differentiate between reactants and products? (Marks 2)

Q.2 v) Define pH. What is the pH of pure water? (Marks 2)

Q.2 vi) Write down two uses of sodium chloride. (Marks 2)

Q.2 vii) Write the chemical formula of Mohr's salt. (Marks 2)

Q.2 viii) Describe Bronsted Lowry concept of acids and bases?

(Marks 2)

### Section-B Q.3

Q.3 i) Define aromatic compounds give example? (Marks 2)

Q.3 ii) Give two uses of coke. (Marks 2)

Q.3 iii) How are alkyl radicals formed? Give example. (Marks 2)

Q.3 iv) How are addition reactions? Give example. (Marks 2)

Q.3 v) Write down the formula of oxalic acid. (Marks 2)

Q.3 vi) Define carbohydrates. (Marks 2)

Q.3 vii) Give the general formula of amino acids? (Marks 2)

Q.3 viii) Write down the sources of vitamin A. (Marks 2)

### Section-B Q.4

Q.4 i) Write two effects of SO<sub>2</sub>. (Marks 2)

Q.4 ii) Define pollutants. Give two examples of air pollutants. (Marks 2)

Q.4 iii) Define ozone and ozone hole. (Marks 2)

Q.4 iv) Write the causes and effects of fluorosis. (Marks 2)

Q.4 v) How temporary hardness is removed by boiling? (Marks 2)

Q.4 vi) Write two uses of petroleum ether? (Marks 2)

Q.4 vii) How granulation of liquid urea is done? (Marks 2)

Q.4 viii) Define minerals and gangue. (Marks 2)

## LONG QUESTION SECTION

**Q.5 a) State the law of mass action and derive equilibrium constant expression for a general reaction. (Marks 5)**

**Q.5 b) What is salt? Explain with examples the following salts.**

**i) Double salts    ii) Complex salts (Marks 4)**

**Q.6 a) Write five sources of alkanes? (Marks 5)**

**Q.6 b) Write note on oligosaccharides and polysaccharides. (Marks 4)**

**Q.7 a) Write down the procedure for manufacturing of sodium carbonate by Solvay's process? (Marks 5)**

**Q.7 b) Write two methods for removal of temporary hardness of water.**

**Marks 4)**

# 10<sup>th</sup> Grade Sargodha Board

## Chemistry

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### Group B

#### MCQ SECTION

i) Temporary hardness is because of: (Mark 1)

- A.  $\text{MgSO}_4$
- B.  $\text{MgCO}_3$
- C.  $\text{CaCO}_3$
- D.  $\text{Ca}(\text{HCO}_3)_2$

Answer:

D.  $\text{Ca}(\text{HCO}_3)_2$

ii) Crude oil is heated in the furnace upto: (Mark 1)

- A.  $350^\circ\text{C}$
- B.  $300^\circ\text{C}$
- C.  $450^\circ\text{C}$
- D.  $400^\circ\text{C}$

Answer:

D.  $400^\circ\text{C}$

iii) The colour of  $\text{I}_2$  gas is: (Mark 1)

- A. blue
- B. green
- C. purple
- D. red

Answer:

C. purple

iv) If  $Q_c < K_c$  what will be the direction of reaction? (Mark 1)

- A. forward
- B. reverse
- C. equilibrium state
- D. speed up gradually

Answer:

A. forward

v) Which acid is found in apple? (Mark 1)

- A. uric acid
- B. formic acid
- C. citric acid
- D. malic acid

Answer:

D. malic acid

vi) The conjugate base of sulphuric acid is: (Mark 1)



Answer:



vii) In laboratory urea was prepared by: (Mark 1)

A. Wholer

B. Rutherford

C. Berzellius

D. Dalton

Answer:

A. Wholer

viii) Oxidation of alkenes produces: (Mark 1)

A. glyoxal

B. glycol

C. oxalic acid

D. formic acid

Answer:

B. glycol

ix) Which one of the following is tasteless? (Mark 1)

A. sucrose

B. fructose

C. starch

D. glucose

Answer:

A. sucrose

x) Night blindness is because of deficiency of : (Mark 1)

A. vitamin A

B. vitamin C

C. vitamin D

D. vitamin E

Answer:

A. vitamin A

xi) Just above the earth's surface is: (Mark 1)

A. mesosphere

B. stratosphere

C. thermosphere

D. troposphere

Answer:

D. troposphere

xii) Specific heat capacity of water is: (Mark 1)

A.  $4.2 \text{ kJ g}^{-1} \text{ K}^{-1}$

B.  $4.2 \text{ J g}^{-1} \text{ K}^{-1}$

C.  $2.4 \text{ kJ g}^{-1} \text{ K}^{-1}$

D.  $2.4 \text{ J g}^{-1} \text{ K}^{-1}$

Answer:

B.  $4.2 \text{ J g}^{-1} \text{ K}^{-1}$



## SHORT QUESTION SECTION

### Section-B Q.2

- Q.2 i) Why reversible reactions never complete? (Marks 2)
- Q.2 ii) What do you mean by equilibrium constant? (Marks 2)
- Q.2 iii) What represent the very small value of  $K_c$  for a reaction? (Marks 2)
- Q.2 iv) What is static equilibrium? Explain with an example.
- Q.2 v) Write two limitations of Arrhenious concept. (Marks 2)
- Q.2 vi) Write two physical properties of acids. (Marks 2)
- Q.2 vii) Write two uses of PH. (Marks 2)
- Q.2 viii) What are mixed salts? (Marks 2)

### Section-B Q.3

- Q.3 i) Define isomerism. (Marks 2)
- Q.3 ii) How carbon completes its octet? (Marks 2)
- Q.3 iii) What is destructive distillation? (Marks 2)
- Q.3 iv) Write down two uses of metal. (Marks 2)
- Q.3 v) Write two physical properties of alkynes. (Marks 2)
- Q.3 vii) What are advantages of fats soluble vitamins? (Marks 2)
- Q.3 viii) How is gelatin obtained? (Marks 2)

### Section-B Q.4

- Q.4 i) Name the different spheres of atmosphere. (Marks 2)
- Q.4 ii) What is green house effect? (Marks 2)
- Q.4 iii) Define acid rain. (Marks 2)
- Q.4 iv) What do you mean by fluorosis? (Marks 2)
- Q.4 v) Why non-polar compounds are insoluble in water? (Marks 2)
- Q.4 vi) What are minerals? (Marks 2)
- Q.4 vii) Write the two uses of kerosene oil. (Marks 2)
- Q.4 viii) What is fractional distillation? (Marks 2)

## LONG QUESTION SECTION

**Q.5 a) Describe five macroscopic characteristics of dynamic equilibrium.**

(Ma

rks 5)

**Q.5 b) Describe two methods of measuring pH of solution.**

(Marks 4)

**Q.6 a) Write five physical properties of alkenes.**

(Marks 5)

**Q.6 b) Define amino acids, amino acids are building blocks of proteins, explain.**

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Marks 4)

**Q.7 a) Write a detailed note on ammonia Solvay's process.**

(Marks 5)

**Q.7 b) Give four effects of water pollution.**

(Marks 4)