

**UNIVERSITY OF EDUCATION**  
"UEXAM" Semester-IV, 2019

BS Chemistry Session: 2017-21

Course Code: CHEM2113

Subject: Industrial Chemistry

No. 42

Roll No. (in fig.) \_\_\_\_\_

Roll No. (in words) \_\_\_\_\_

Candidate's Signature. \_\_\_\_\_

Signature of Addl. Supt. \_\_\_\_\_

**SECTION: I (MCQ's)**

Time Allowed: 20 Minutes

Max. Marks: 18

NOTE: Encircle the correct/ best answer in each of the followings. Each Question carries 1 mark. Use of remover carries zero mark. Cutting and Overwriting is not allowed.

Q1.

- Petrol and diesel can be obtained from:  
a) Coal Tar    b) Coal  
c) Coal Gas    d) Petroleum
- Washing soda is \_\_\_\_\_  
a) Alkaline    b) Acidic  
c) Basic    d) Neutral
- What is currently the major use of sodium carbonate?  
a) Soap-making                                        b) Glass-making  
c) Water-softening                                  d) Ink removal from paper
- Chemical formula of Caustic soda is:  
a) KOH    b) MgO  
c) NaOH    d) Ca(OH)<sub>2</sub>
- Which of the following is the strongest acid?  
a) Acetic acid                                         b) Formic acid  
c) Water     d) Propanoic acid
- Insect bites and stinging nettles contain:  
a) Formic acid                                         b) Oxalic acid  
c) Tartaric acid                                        d) Malic acid
- Nitric acid is usually produced on an industrial scale by reacting NO prepared by:  
a) Combustion of nitrogen in oxygen.      b) Oxidising ammonia.  
c) Thermal decomposition of ammonia.    d) Catalytic conversion of NO<sub>2</sub>.
- Which one of the following will turn red litmus blue?  
a) Soft drinks                                         b) Vinegar  
c) Baking soda solution                            d) Lemon juice
- Sulfuric acid is not used in \_\_\_\_\_:  
a) Fertilizers    b) Detergents  
c) Toothpaste                                         d) None of the option

- In contact process a pressure used is just above:
  - a) 100kPa
  - b) 450kPa
  - c) 330kPa
  - d) 900kPa
  
- Conversion of sulfur dioxide ( $\text{SO}_2$ ) to sulfur trioxide ( $\text{SO}_3$ ) is basically:
  - a) Dynamic reaction
  - b) Static reaction
  - c) Reversible Reaction
  - d) Irreversible reaction
  
- Another name for lime is:
  - a) Caustic soda
  - b) Calcium dioxide
  - c) Milk of magnesia
  - d) Calcium oxide
  
- What is the chemical formula of gypsum?
  - a)  $\text{CaSO}_4 \cdot 2 \text{H}_2\text{O}$
  - b)  $\text{CaSO}_4 \cdot 10 \text{H}_2\text{O}$
  - c)  $\text{CaSO}_4$
  - d)  $\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$
  
- Baking powder produces:
  - a) Sodium carbonate
  - b) Carbon dioxide
  - c) Oxygen
  - d) Nitrogen
  
- Acid used for manufacture of fertilizers and explosives is:
  - a) Hydrochloric acid
  - b) Nitric acid
  - c) Phosphoric acid
  - d) Sulfuric acid
  
- Density of 35.2% HCl is:
  - a) 1.149
  - b) 1.159
  - c) 1.169
  - d) 1.179
  
- What is the chemical formula of gypsum?
  - a)  $\text{CaSO}_4 \cdot 2 \text{H}_2\text{O}$
  - b)  $\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$
  - c)  $\text{CaSO}_4$
  - d)  $\text{CaSO}_4 \cdot 10 \text{H}_2\text{O}$
  
- Azo dye is prepared by the coupling of phenol and:
  - a) Benzoic acid
  - b) Chlorobenzene
  - c) Diazonium chloride
  - d) o-Nitro aniline

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**Section II (Short Answer)**

Q.2- Write short answers of the following.

3x6 = 18

- (i) What is meant by raw materials?
- (ii) Give a brief description of fuel industry.
- (iii) Define unit operations with examples.
- (iv) What are the applications of hydrochloric acid?
- (v) Describe in short the industrial processes for caustic soda.
- (vi) Write a short note on industrial chemistry.

**Section III (Essay Type)**

Answer the following Questions

6x4 = 24

- Q – 3: a) Explain the manufacturing processes of sulphuric acid with the help of a flow sheet diagram.  
b) What are the applications of sulphuric acid in daily life?
- Q – 4: Describe the manufacturing of cement in industry along with flow sheet diagram. Write the applications of cement in daily life also.
- Q – 5: How the oxalic acid can be manufactured? Draw the flow sheet diagram also. Write the applications of oxalic acid.
- Q – 6: Write a comprehensive note on petroleum industry.