

SEAT No. \_\_\_\_\_

No. of Printed Pages : 2

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# Sardar Patel University

B. Sc. (Semester – V) Examination

Date: 28-12-2020, Monday

Time: 02.00pm – 04.00pm

Industrial Chemistry Vocational

COURSE NO: US05CICV23 (Heavy and Fine Chemicals)

Notes: Figures to the right indicate full marks.

Total marks: 70

Q.1 Answer the following Multiple-Choice Questions. (All are compulsory) (10)

- After blending, iodized salt will contain 0.01% of?  
A. Sodium thiosulfate  
B. Sodium carbonate  
C. Potassium iodide  
D. None of these
- Phosphoric acid is prepared from  
A. Chalcopyrite  
B. Cryolite  
C. None of these  
D. Rock phosphate
- White phosphorus converted into red phosphorous around 35-50% \_\_\_\_\_ period of time.  
A. 1-2 hour  
B. 5-6 hour  
C. 8-10hour  
D. 20-21 hour
- Process in which sodium carbonate is manufactured is called  
A. Calcination  
B. Metallurgy  
C. Solvay process  
D. Carbonation
- Le-Blanc process is a primitive process for the manufacture of  
A. Caustic soda  
B. Soda ash  
C. Bromine from sea water  
D. Hydrochloric acid
- Solvay process is used to make.....  
A. Potassium carbonate  
B. Sodium carbonate  
C. NaCl  
D. NaOH
- What is the yield of the high temperature continuous chlorination of propylene?  
A. Allyl chloride  
B. Dichlorohydrin  
C. Epichlorohydrin  
D. None of these
- Which of the following is in the presence of an electron lone pair gives rise to the principal properties of the phosphines?  
A. Oxidizability  
B. Ability to function as a ligand in complexes  
C. Nucleophilicity  
D. All of these
- Molecular formula of 1-methyl-2-pyrrolidone is \_\_\_\_\_  
A.  $C_5H_9NO$   
B.  $C_5H_9NO_2$   
C.  $C_5H_{10}NO$   
D.  $C_6H_9NO$
- Reaction of t-butyl ether with silver carbonate in dry ether yields \_\_\_\_\_  
A. sec- butyl ether  
B. iso butyl ether  
C. n-butyl ether  
D. t-butyl ether

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(P.T.O.)

Q.2 Are the following statements true or false? (All are compulsory) (08)

1. Phosphorus is used to prepare red phosphorus used in match industries. – True / False?
2. Triple superphosphate is a much more concentrated fertilizer than ordinary superphosphate. – True / False?
3. Potassium bromide is not approved by the US Food and Drug Administration for use in humans to control seizures. – True / False?
4. Potassium bromide is white crystalline powder and freely soluble in water. – True / False?
5. Propargyl alcohol is a component in oil -well acidizing composition. – True / False?
6. Pyridine is an excellent solvent, especially for dehydrochlorination reactions and extraction of antibiotics. – True / False?
7. Methane reacts more readily with chlorine than with Fluorine. – True / False?
8. The most important uses of ethanolamine are in the production of emulsifiers, detergent raw materials, and textile chemicals. – True / False?

Q.3 Answer the following short questions (Attempt Any 10 out of 12) (20)

1. Enlist the raw materials required for manufacture of triple superphosphate.
2. Enlist the raw materials required for manufacture of iodine and fluorine.
3. Write uses of red phosphorous.
4. Write properties and uses of Potassium Dichromate
5. Write properties and uses of Perchloric Acid
6. Write properties and uses of Sodium Borohydride
7. Enlist various uses of "Vinyl Acetate".
8. Enlist various uses of "Phenol".
9. Draw the flow sheet for "Acetone from Isopropyl Alcohol" process.
10. Write properties and uses of "Methyl chloride".
11. Write properties and uses of "Ethanolamine".
12. Write properties and uses of "N-alkylated ethanolamine".

Q.4 Answer the following Long questions (Attempt Any 04) (32)

1. With the help of flow diagram explain the manufacture of Ammonia.
2. Write short note on titanium tetrachloride.
3. With the help of flow diagram explain the manufacture of Oxalic Acid.
4. Write short note on "Karl-fisher reagents".
5. With the help of flow diagram explain manufacture of "Phenol by Cumene process".
6. With the help of flow diagram explain manufacture of Phthalic anhydride from Naphthalene.
7. Write a note on "DMF".
8. Write a note on "THF".