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



No. of Printed Pages: 02

SARDAR PATEL UNIVERSITY

B.Sc. Industrial Chemistry

(Semester – V) EXAMINATION

Course No.: US05CICH23

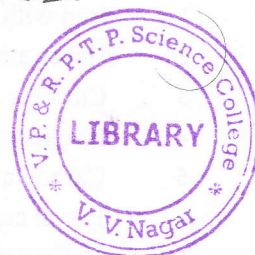
(Chemical Process Industries)

Date: 25/11/2021

Thursday

Total Marks: 70

Time: 3.00 pm to 5.00pm



Q.1. Answer the given multiple choice questions. [10]

- 1 Ammonia is manufactured using \_\_\_\_\_  
 a) Contact process c) Stripping process  
 b) Kellogs process d) Steam Hydrocarbon process
- 2 Mixture of Ammonium nitrate and  $\text{CaCO}_3$  is Known as  
 a) Chalk c) Calci Chalk  
 b) Nitro Chalk d) None of these
- 3 Iodine is used in \_\_\_\_\_  
 a) Medicinal industries c) Dye industries  
 b) Photographic industries d) All of these industries
- 4 Which of the following is used to prepare oxyacetylene flame for cutting and welding?  
 a) Nitrogen c) Oxygen  
 b) Carbon dioxide d) Sulphur dioxide
- 5 In metrological balloons which of the following gas is used?  
 a) Nitrogen c) Oxygen  
 b) Hydrogen d)  $\text{CO}_2$
- 6 During common salt manufacturing by solar evaporation method at  $10^0\text{Be}$  which salt precipitates  
 a) Calcium carbonate c) Ferrous iron  
 b) Calcium Sulphate d) NaCl
- 7 Borazon is also known as  
 a) Boron nitride c) Boron nitrate  
 b) Boron carbide d) Boron nitrogen
- 8 Magnesite has formula  
 a)  $\text{MgCl}_2$  c)  $\text{Mg(OH)}_2$   
 b)  $\text{MgCO}_3$  d)  $\text{MgSO}_4$
- 9 Calcium phosphate is used in manufacturing of  
 a) Phosphrous c) Both a) and b)  
 b) Calcium d) None of these
- 10 In phosphoric acid manufacturing, Sulphuric acid is used as a raw material in which of the following process?  
 a) Wet process c) Both a) and b)  
 b) Blast furnace process. d) None of these

**Q.2. True or False.**

[08]

- 1 Iron with added promoters is used as a catalyst in urea manufacturing.
- 2 Haber and Bosch Process is used for the manufacturing of Ammonia.
- 3 Chlorine is obtained as a byproduct during manufacturing of common salt.
- 4 Hooker cell is a type of Dry diaphragm cell.
- 5 Carbon and quick lime are used as the raw materials for SiC manufacturing.
- 6 Boron carbide is also known as Norbide.
- 7 Yellow phosphorus is converted into red phosphorus.
- 8 Phosphorus is oxidized to  $P_2O_5$  in Blast furnace process during manufacturing of Phosphoric acid.

**Q.3. Short Answer Questions (Attempt any 10 out of 12)**

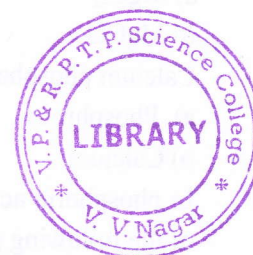
[20]

- 1 Why Biuret formation is undesirable during urea formation ?
- 2 Discuss uses of Ammonia.
- 3 List different methods used for the manufacturing of Ammonium Sulphate.
- 4 Write the names of processes used for the manufacturing of Sodium Carbonate.
- 5 List sources of common salt.
- 6 Write uses of hydrogen.
- 7 List the methods used for the manufacturing of Magnesium.
- 8 Write about different types of furnaces.
- 9 Write uses of Graphite.
- 10 Name the methods used for the manufacturing of Phosphoric acid.
- 11 Write the reactions involved in manufacturing of phosphoric acid from Phosphate rock.
- 12 List uses of Phosphrous.

**Q.4. Long Answer Questions (Attempt any Four).**

[32]

- 1 With the help of diagram explain manufacturing of urea.
- 2 Discuss manufacturing of Ammonium Nitrate.
3. Discuss about ammoniation and carbonation steps of Solvay's Ammonia Soda Process.
4. Write a note on: Nelson Cell.
- 5 Discuss manufacturing of SiC and its uses.
- 6 List different raw materials used for the manufacturing of magnesium. Also explain manufacturing of magnesium using any one of the methods.
- 7 Discuss manufacturing of Phosphoric acid by Wet process.
- 8 Draw a diagram and explain manufacturing of Red phosphrous.



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