

**SARDAR PATEL UNIVERSITY**  
**B.Sc. (I Semester) Examination**  
**2016**

**11<sup>th</sup> April 2016 (Monday)**

**2.30 pm - 4.30 pm**

**Subject code: US01CICV01**  
**Industrial aspects of chemistry**  
**Industrial Chemistry (Vocational)**

**Time: 02:30 pm to 4:30 pm**

**Total Marks: 70**

- Q-1 Select right option from given in the following questions. (10)**
- I** What is the average % of carbon in crude petroleum?  
 (a) 15-20 (b) 84-86 (c) 25-35 (d) 50-60
- II** The general formula of paraffin is \_\_\_\_\_  
 (a)  $C_nH_{2n-2}$  (b)  $C_nH_{2n+2}$  (c)  $C_nH_{2n}$  (d)  $C_nH_{2n-1}$
- III** Girbotol process is used in crude oil to remove \_\_\_\_\_  
 (a) Salt (b) Sulfur (c) Water (d) Hydrogen
- IV** Hydrogen sulfide is removed from coal gas by reacting it with \_\_\_\_\_  
 (a) NaOH (b)  $Fe_2O_3$  (c)  $H_2O$  (d)  $NH_3$
- V** Which one is the highest rank coal?  
 (a) Lignite (b) Bituminous coal (c) Anthracite (d) charcoal
- VI** Which of the following is not true for bituminous coal?  
 (a) Laminated structure (b) Soiled hands  
 (c) Black colour (d) Domestic fuel
- VII** Cellulose dissolves in \_\_\_\_\_  
 (a) Water (b) Ammoniacal copper hydroxide solution  
 (c) Ether (d) Ethanol
- VIII** Which of the following gives blue colour with iodine?  
 (a)  $\alpha$ -amylose (b)  $\beta$ - amylose (c) Cellulose (d) Celluloid
- IX** Which is the most common form of crystalline alumina?  
 (a) Corundum (b) Carbon (c) Benitoite (d) White
- X** In which colour rubies are obtained?  
 (a) Deep red colour (b) Blue (c) Green (d) White

- Q-2 Answer any ten of the following: (20)**
- I** Define the term reforming and enlist its types.
- II** Give an origin of petroleum.
- III** Enlist the advantages of alcohol blended petrol.
- IV** Enlist the classification of fuels.
- V** Enlist the properties of metallurgical coke.
- VI** Compare low temperature carbonization v/s high temperature carbonization process.
- VII** What is cuprasilk?
- VIII** Draw the structure of  $\alpha$ - amylose.
- IX** What is pyroxyline?
- X** Enlist the various uses of zeolite.
- XI** What is graphite?
- XII** Enlist the sources of inorganic carbon.

- Q-3** Enlist the various steps used for the refining of crude oil and discuss each steps with suitable neat diagram. (10)

OR

- Q-3** What is cracking? Enlist the types of cracking and discuss each type with neat diagram. (10)
- Q-4** (a) Enlist the types of carbonization and explain the carbonization process with neat diagram. (05)
- (b) Discuss the distillation of coaltar. (05)

OR

- Q-4 (a) Write the chemical composition for (05)  
(a) Lignite  
(b) Wood  
(c) Peat  
(b) Explain ultimate analysis in detail. (05)

- Q-5 (a) Write the preparation, properties & uses of (05)  
(a) Glycerol  
(b) Ethanol  
(b) Explain the paper manufacturing processes (05)

OR

- Q-5 (a) Write the preparation, properties and uses of starch. (05)  
(b) Write the preparation, properties & uses of the following (05)  
(a) Inulin  
(b) Dextrin  
(c) Glycogen

- Q-6 (a) Write the appearance, structure, general properties and characteristics of carbon. (05)  
(b) Write a brief note on clay. (05)

OR

- Q-6 (a) Write a brief note on mica. (05)  
(b) Write structure, properties, occurrence and preparation of aluminium oxide. (05)

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