



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Eighth Semester – 2020

Paper: Applied Chemistry (Sp. Theory-II)

Course Code: CHEM-435

Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option.

(10x1=10)

1. In which polymerization, solvents are not used?

- | | |
|-------------------------------|-------------------------|
| (a) Emulsion polymerization | (b) Solution polymers |
| (c) Suspension polymerization | (d) Bulk Polymerization |

2. Which is not an example of addition polymerization?

- | | |
|-----------------------|------------------------|
| (a) Polyvinyl acetate | (b) Polythene |
| (c) Bakelite | (d) Polyvinyl chloride |

3. Which of the following is a synthetic polymer?

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|-----------------------|-------------|
| (a) Polyurethane | (b) Protein |
| (c) Polyvinyl alcohol | (d) Nylon |

4. In which polymerization type, termination step is missing?

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|---------------------------------|---------------------------|
| (a) Addition polymers | (b) Condensation polymers |
| (c) Free-radical polymerization | (d) Living polymers |

5. The pH of sugarcane juice is in the range of

- | | |
|-----------|-----------|
| (a) 2 - 4 | (b) 4 - 5 |
| (c) 7 - 9 | (d) 6 - 7 |

6. Strontium carbonate could be used in sugar industry to

- | | |
|--|--------------------------------------|
| (a) Recover sugar from molasses | (b) Clarification of sugarcane juice |
| (c) Improve the color and taste of sugar | (d) Preservation of sugarcane juice |

7. Which of the following process is used for clarification of sugarcane juice?

- | | |
|------------------|-------------------|
| (a) Sulphitation | (b) Imbibition |
| (c) Affination | (d) Sedimentation |

8. The percentage of carbon contents in anthracite coal is nearly

- | | |
|---------|---------|
| (a) 60% | (b) 50% |
| (c) 90% | (d) 40% |

9. Which is often referred as brown coal?

- | | |
|--------------------|----------------|
| (a) Sub-bituminous | (b) Lignite |
| (c) Bituminous | (d) Anthracite |

10. What is the range for Low Temperature Carbonization?

- | | |
|-----------------|------------------|
| (a) 500-700 °C | (b) 700-900 °C |
| (c) 900-1050 °C | (d) 1000-1200 °C |



ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give short answers to the following questions. (10x2=20)

- a. Describe the term tacticity and give examples.
- b. Differentiate between co-polymers and polyblends, give examples.
- c. Write down three examples of thermoplastic and thermosetting polymers.
- d. What do you understand about coordination polymerization, briefly explain its importance?
- e. What is bagasse, briefly explain its applications?
- f. Briefly explain sulphitation process in sugar industry?
- g. What do you understand about the term “carbonation in sugar industry”?
- h. Differentiate between lignite and anthracite coal.
- i. What is water gas and how it is produced?
- j. What do you understand about the terms LPG and LNG?

Q.3. Answers to the following questions.

- a. Write down main difference between addition and condensation polymerization techniques. (4)
- b. What do you understand cationic polymerization; explain reaction mechanism and synthesis conditions? (6)
- c. What is imbibation? Discuss its importance during cane juice extraction. (4)
- d. What do you understand about “Defection” process, explain its importance in sugar industry? (6)
- e. Compare low temperature and high temperature carbonization processes and their products? (4)
- f. Briefly explain the hydrogenation process of coal. (6)