



UNIVERSITY OF THE PUNJAB

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

Paper: Applied Chemistry (Sp. Theory-I)

Course Code: CHEM-434 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)

- (i) In the formation of "hardened" fats from vegetable oils, the hydrogen
- a) causes cross-linking between chains
 - b) causes hydrolysis to occur
 - c) increases the carbon chain length
 - d) reduces the number of carbon-carbon double bonds

- (ii) The essential fatty acids for human and other animals are
- a) Oleic acid & Stearic acid
 - b) Oleic acid & Linolenic acid
 - c) Linoleic acid & Linolenic acid
 - d) None

- (iii) The main acidification process in leather industry is
- a) Pickling
 - b) Tanning
 - c) Deliming
 - d) Finishing

- (iv) Which petrochemical is not obtained from ethylene
- a) Dichloroethane
 - b) Ethyl benzene
 - c) Ethylene glycol
 - d) Acetaldehyde

- (v) _____ has the lowest melting point
- a) Caprylic acid
 - b) Capric acid
 - c) Lauric acid
 - d) Butyric acid

- (vi) The fibre that dissolves in 59% (w/w) sulphuric acid solution is
- a) wool
 - b) Polypropylene
 - c) Cotton
 - d) Viscose

- (vii) The reaction of propyne with H_2SO_4 and $HgSO_4$ gives
- a) Allyl alcohol
 - b) Acetone
 - c) Vinyl alcohol
 - d) Propionaldehyde

- (viii) The mercerization of cotton is conducted by using
- a) NaOH
 - b) NH_4OH
 - c) NaCl
 - d) H_2SO_4

- (ix) Today, 80-90% of leather in the world are tanned by
- a) Vegetable tanning
 - b) Wet blue tanning
 - c) Wet white tanning
 - d) None of the above

- (x) Nylon 66 is made by the reaction of hexamethylene diamine with
- a) Succinic acid
 - b) Malonic acid
 - c) Hexanedioic acid
 - d) None



ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

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

- (i) Enlist major industrial chemicals produced from ethylene.
- (ii) Give reactions for the conversion of methane to acetylene.
- (iii) What do you mean by emulsions and give its types?
- (iv) Differentiate between simple and mixed triglycerides with one example of each.
- (v) Define nitration and write down possible product obtain from nitration of propane.
- (vi) Differentiate between simple and mixed triglycerides with one example of each.
- (vii) Write down any one method for the production of 'xylene'. How it can be oxidized?
- (viii) Distinguish between primary petrochemical and intermediate petrochemicals. Give examples.
- (ix) Enlist the main tanning systems, also mention the most common systems with reasons.
- (x) Describe the processes during delimiting and bating in leather industry.

Answers to the following questions. (3x10=30)

- Q No. 03 (a)** Give brief description of 'steps involved in converting animal skin to leather. (6)
- (b) What are the major pollutants of leather industry and how are these treated? (4)
- Q No. 04 (a)** Describe different steps involved in the extraction of 'COTTON SEED OIL'. (5)
- (b) Describe the process of manufacturing of acetate rayon. (5)
- Q No. 05 (a)** Give the importance of acetylene and benzene as petrochemicals. (7)
- (b) Write down the properties of synthetic fibres. (3)