



NATIONAL OPEN UNIVERSITY OF NIGERIA
DEPARTMENT OF PURE AND APPLIED SCIENCES
2021_1 EXAMINATIONS

COURSE CODE: CHM 312

CREDIT UNIT: 2

COURSE TITLE: INDUSTRIAL CHEMICAL PROCESSES 1

TIME: 2 HRS

INSTRUCTION: *Answer question 1 and any other 3 questions*

Question 1

1. a. In a tabular form give examples of six common adhesives and their uses [9 marks]
- b. Write short note on low explosives [4 marks]
- c. Outline five advantages of artificial flavour over natural flavouring agents [5 marks]
- d. i. List four factors that affect the actions of enzymes [4 marks]
- ii. What are the steps involved in fermentation process? [3 marks]

Question 2

- 2a. List the four distinct steps involves in wine-making process [4 marks]
- b. Explain the differences between red wine and white wine production [3 marks]
- c. With an example each, classify polymers based on;
 - i. Nature of monomers [4 marks]
 - ii. Mode of polymerisation [4 marks]

Question 3

- 3a. Use chemical reaction to show the synthesis of aspirin [6 marks]
- b. Itemise the six bases on which dyes are classify [6 marks]
- c. What are the full meanings of the following acronyms? [3 marks]
 - i. LDPE
 - ii. LLDPE
 - iii. HDPE

Question 4

- 4a. Draw the structure of penicillin and identify all the functional groups in it. [8 marks]

- b. Outline four careteria that a substances must satisfied before it can be considered as adhesives [4 marks]
- c. List three applications of polyethylene [3 marks]

Question 5

- 5. a. List five classes of synthetic adhesives [5 marks]
- b. What are the four basic flavors which the nerve endings in the taste buds on the tongue can detect? [4 marks]
- c. What are the applications of Styrene Butadiene Rubber? [6 marks]