



NATIONAL OPEN UNIVERSITY OF NIGERIA
DEPARTMENT OF PURE AND APPLIED SCIENCES
SEPTEMBER, 2020_1 EXAMINATIONS

COURSE CODE: CHM 312

CREDIT UNIT: 2

COURSE TITLE: INDUSTRIAL CHEMICAL PROCESSES I

TIME: 2 HRS

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

QUESTION ONE

- (a) What is the importance of Styrene Butadiene Rubber? 6mks
- (b) In tabular form, differentiate between Microbial and Enzymatic Fermentation. 4mks
- (c) What quality(ies) of wine is/are determined by the grape type? 2mks
- (d) State the basic difference between the production of Red wine and White wine. 2mks
- (e) LDPE versus HDPE, which is better for film packaging? Give your reasons. 2 ½ mks
- (f) State the three most important steps in pesticide production(s). 3mks
- (g) In what are the following applied;
 - i. Isobutylene
 - ii. Polyvinyl acetate
 - iii. Polyurethane 3mks
- (h) Using balanced chemical equation only, show the production of Benzaldehyde from Toluene. 2 ½ mks

QUESTION TWO

- (a) With the aid of chemical structure only, differentiate between aspirin and penicillin. 5mks
- (b) Polymers are classified based on
 - i. Their response to heating
 - ii. Nature of Monomers.

With necessary examples, explain how these are done. 10mks

QUESTION THREE

Stoichiometrically show how Trimethoprim is produced. 15 mks

QUESTION FOUR

- (a) Use chemical equation only to explain Rhodia's two steps Vanillin production. 7mks
- (b) Define the term Flavour. 2mks

- (c) Enumerate the advantages of emulsion polymerization process. 6mks

QUESTION FIVE

- (a) To make white wine ready for consumers, explain what you must do after fermentation.

10mks

- (b) What is the role of the following?

- i. Larvicides
- ii. Desiccants
- iii. Ovicides
- iv. Avicides
- v. Nematicides

5mks