



NATIONAL OPEN UNIVERSITY OF NIGERIA
DEPARTMENT OF PURE AND APPLIED SCIENCES
2020_2 EXAMINATIONS...

COURSE CODE: CHM312

CREDIT UNIT: 2

COURSE TITLE: INDUSTRIAL CHEMICAL PROCESSES 1

TIME: 2 HRS

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

1. (a) In a table, compare and contrast enzymatic fermentation and microbial fermentation in terms of (i) Rate of reaction (ii) Purity of Product (iii) Cost of Process and (iv) Number of products formed. (8mks)
(b) State with its application(s) the common adhesives in Industrial Chemical Processes (9mks)
(c) (i) Identify the SBR that requires both cold and hot polymerization processes. (1mk)
(ii) Use equations only to differentiate between cold and hot polymerization processes. (7mks)
2. (a) Identify the main classes of Synthetic adhesives. 2mks
(b) Explain in detail how Epoxy resins are synthesized. 4mks
(c) State the first discovered naturally occurring antibiotic and the organism from which it is derived. 2mks
(d) Show clearly the media formulation of the antibiotic in 2(c). 7mks
3. What do you understand by the following:
(a) Antibiotics 5 ½ mks
(b) Antibacterial 5 ½ mks
(c) Analgesics 4mks
Give appropriate examples where necessary.
4. (a) Define the term "Racking". (2mks)
(b) Wine X is red and cloudy, Wine Y is red and very clear, Wine Z is golden yellow and cloudy. In a table, compare and contrast the production of X, Y and Z in terms of
(i) Grape types,
(ii) How the Grapes are crushed,
(iii) Fermentation process and

(iv) Fermentation time (13mks)

5. (a) Briefly explain the terms:

(i) Kilning (2mks)

(ii) Malting (4mks)

(b) Considering Beer production, discuss vividly on the following:

(i) First fermentation 5mks

(ii) Second fermentation 4mks