

FME3200- REFRESHER COURSE FOR PHARMACISTS -- LEVEL 03  
FINAL EXAMINATION  
DURATION: TWO (02) HOURS

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DATE: 13<sup>TH</sup> OCTOBER 2022

TIME: 10.00 A.M. -12.00 NOON

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Part B – 06 Short Answer Question (50 Marks)

Answer all questions.

(50 marks are allocated for each and the total marks of SAQs will be calculated to 50)

01.

- 1.1 Define homeostasis. (15 marks)
- 1.2 Give three (03) examples for homeostatic processes in human body. (15 marks)
- 1.3 List two (02) physiological changes for each of the following conditions. (20 marks)
- When human body temperature increases (hyperthermia)
  - When human body temperature decreases (hypothermia)

02.

- 2.1 Explain the meaning of each of the following  $\Delta G^\circ$  signs. (12 marks)
- $\Delta G^\circ (-)$
  - $\Delta G^\circ (+)$
  - $\Delta G^\circ (0)$
- 2.2 The energy in ATP can be converted to many other forms. List four (04) of them. (18 marks)
- 2.3 Substrate concentration is one of the factors that affect the enzyme activity. Name five (05) other factors that affect the enzyme activity. (20 marks)

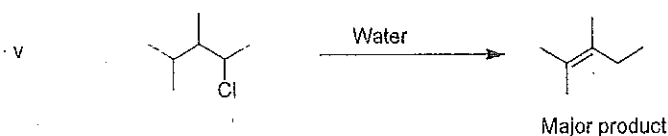
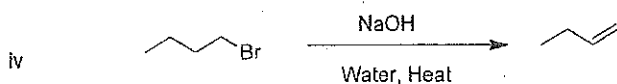
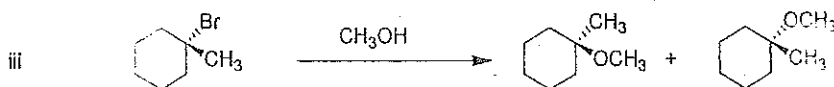
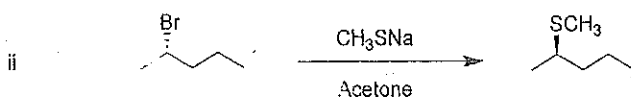
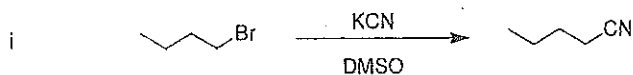
03.

- 3.1 Arrange the following acids in the order of increasing acidity. (20 marks)  
Trifluoroacetic acid, Acetic acid, Trichloroacetic acid, Formic acid
- 3.2 Explain why diethyl amine is more basic than ethyl amine. (30 marks)

04.

Label whether the following reactions will proceed through  $S_N1$ ,  $S_N2$ , E1 or E2 Mechanism.

(50 marks)



05.

5.1 List three (03) common characteristics of microorganisms. (15 marks)

5.2 Write the three (03) domains which used to categorize microorganisms. (15 marks)

5.3 Write four (04) types of mycoses. (20 marks)

06.

6.1 Simplify the expression of  $\log_4 32 + \log_4 8$  (10 marks)

6.2 Consider the equation of  $y = x(3x - 2)(x - 2) - 5(1 - x)$

i. Expand the equation. (15 marks)

ii. Find the first derivative.  $\left(\frac{dy}{dx}\right)$  (25 marks)