

**ELIZADE UNIVERSITY**

**ILARA-MOKIN**

**ONDO STATE**

**FACULTY: BASIC AND APPLIED SCIENCES**

**DEPARTMENT: PHYSICAL AND CHEMICAL SCIENCES**

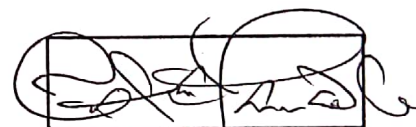
**FIRST SEMESTER EXAMINATIONS**

**2016/2017 ACADEMIC SESSION**

**COURSE CODE: CHM 303**

**COURSE TITLE: Organic Chemistry II**

**DURATION: 2 hours**

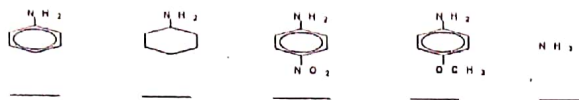


**HOD's SIGNATURE**

**TOTAL MARKS: 60**

**INSTRUCTION: Answer only three questions**

- a. Account for the reason why amines are similar to ammonia in their reactions [2marks]  
 b. Explain the following trends observed in the basicity of amines  
 (i). Aliphatic amines have higher basicity than ammonia [6marks]  
 (ii) Aromatic amines are less basic than aliphatic amines [3marks]  
 c. Arrange the following amines in decreasing order of base strength [5marks]



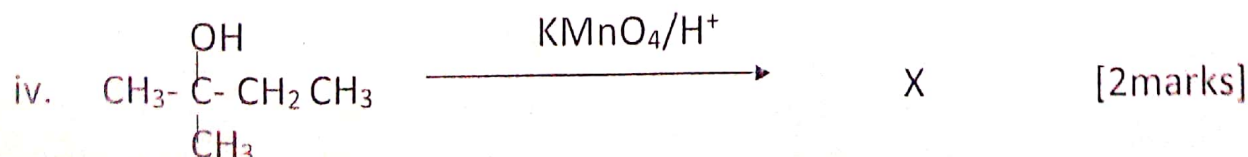
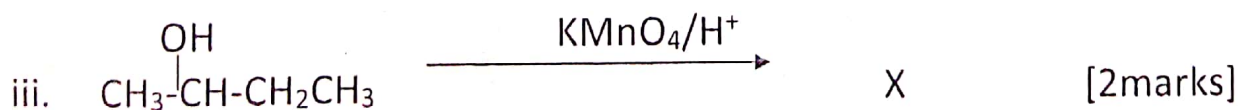
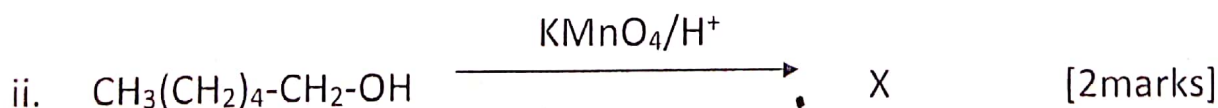
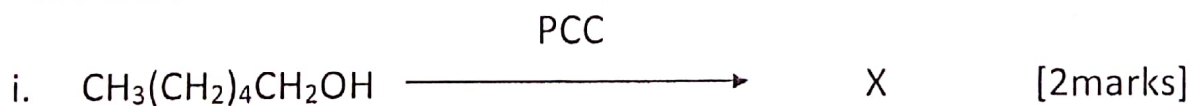
- d. (i). With suitable illustrations differentiate between symmetrical and unsymmetrical ethers [2marks]  
 (ii). What are epoxides?. Why are they more reactive than aliphatic ethers [2marks]

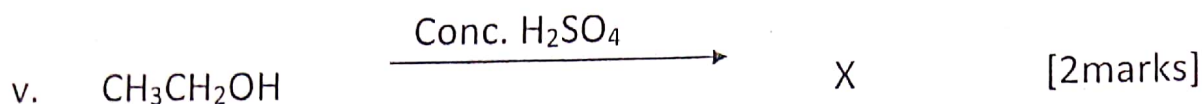
### Question Two.

- a. Differentiate between fats and oils. [2marks]  
 b. (i) Classify each of the following fatty acids either as a saturated or unsaturated fatty acids:  
 Linoleic, Lauric, oleic, myristic, palmitic, linolenic, stearic [2marks]  
 (ii). Which of the two in question 2b(i) will contain more unsaturated fatty acids? [1 mark]  
 c. Enumerate the various chemical analyses that can be used to indicate the types of fatty acid present in fat or oil samples. Give a concise definition of each of them. [8marks]  
 d. (i). Classify the following alcohols as primary, secondary or tertiary.  
 • 2-propanol [1mark]  
 • 4-methyl pentanol [1mark]  
 • 2,3-dimethylbutan-2-ol. [1mark]  
 (ii). Name a simple test to distinguish 1°, 2° and 3°. State the reagents and conditions required for the test and write down the expected observation. [4marks]

### Question Three.

- a. Identify the classes of alcohols in the following reactions and predict the product obtainable from each reaction.





- b. (i). Distinguish between Haloform test and Iodoform test [2marks]
- c. (i) Mention at least 2 salient areas where alcohols find application [2marks]
- (ii). What are Halohydrins? [2marks]
- d. Give the IUPAC and common names of the following Organic compounds [4marks]



#### Question Four

- 4a (i). Explain the effects of substituent on the base strength of aromatic amines. [5 marks]
- b(i) What are heterocycles? [1mark]
- (ii). State all the methods of classifying heterocyclic compounds [3marks]
- (iii). Compare and contrast Aziridine and Azirine [2marks]
- c. What are Polynuclear aromatic compounds? Mention any 5 organic compounds that are polycyclic aromatic. [3marks]
- d. (Classify the following heterocycles as saturated and unsaturated and indicate the class of heterocyclic compounds each belongs : Diazetidene, Diazete, Piperidine, pyridine, Azocane, and Azocine [6marks]