

**RESERVED**

OBAFEMI AWOLOWO UNIVERSITY, ILE-IFE, NIGERIA  
DEPARTMENT OF CHEMISTRY, FACULTY OF SCIENCE  
2010/2011 HARMATTAN SEMESTER EXAMINATION

CHM 405 – INTRODUCTION TO INDUSTRIAL CHEMISTRY.      **TIME: 2 HOURS**

**Instruction: Attempt all Questions. Answer the two sections in separate booklets**

**SECTION A**

- 1a. Give the name and structure of a typical (i) Anionic monomer and (ii) Cationic monomer
  - b. Outline the processes involved in cationic polymerization to form a named polymer.
  - c. Describe any three structural features of cationic monomers that affect the ease of polymerisation
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- 2a. What factors affect colour fastness of azo dyes and how can it be improved?
  - b. Give the equations of the reactions involved in monoazo dye formation using O-methylaniline and  $\alpha$ -naphthol as main organic reagents.
  - c. Write briefly on the three types of commercial iron.

**SECTION B**

- 3a. Differentiate between lean and wet gas.
  - b. What is the composition of a typical Premium Petrol Spirit (PMS) and how can you synthesize (produce) it?
  - c. What is "Plaster of Paris" and why is it useful in setting of broken bones?
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- 4a. What are the components of a typical hair pomade? Discuss its preparation.
  - b. Discuss the bonds that hold hair strands together.
  - c. The African skin is more delicate than those of Caucasians. Why?