



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS**  
**SEPTEMBER/OCTOBER 2015 EXAMINATION**

**SCHOOL OF SCIENCE AND TECHNOLOGY**

**COURSE CODE:** CHM 304

**CREDIT UNIT:** 2

**COURSE TITLE:** COLOUR CHEMISTRY AND TECHNOLOGY

**DURATION:** 2 HRS

**INSTRUCTION:** Answer any 4 questions

1. (a) What factors affect the selection of Pigments? (7 mks)  
(b) Discuss the limitations of Natural Pigments. (10 ½ mks)
2. (a) Organic Pigments possess certain key features. What are these? (10 ½ mks)  
(b) Why are Organic Pigments majorly chemically synthesized? (1 mk)  
(c) Mention some of the preferred applications of Aluminium pigments. (6 mks)
3. (a) What gives Dyes Solubility and Cohesiveness? Explain. (5 ½ mks)  
(b) Discuss the applications of pigments in the Ceramic Industry. (12 mks)
4. Write short notes on the following:  
(i) Acid Dyes (6 ½ mks)  
(ii) Direct Dyes (6 mks)  
(iii) Basic Dyes (5 mks)
5. (a) Describe a simple experiment for making of Natural Dyes from Plant materials. (10 ½ mks)  
(b) Write short notes on the uses of Kevlar and Nomex. (7 mks)
6. (a) What are the special features of Pad Batch Dyeing Process? (13 ½ mks)  
(b) Mention the features of the Beam Dyeing Machine. (4 mks)