



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**DEPARTMENT OF PURE AND APPLIED SCIENCES**  
**JANUARY, 2018 EXAMINATIONS**

**COURSE CODE:** CHM 304

**CREDIT UNIT:** 2

**COURSE TITLE:** COLOUR CHEMISTRY AND TECHNOLOGY

**TIME:** 2 HRS

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

CHM304 EXAM 2017\_2

**Questions 1**

- a. Differentiate between additive and subtractive primary colours. (6 mark).
- b. What are dyes? (4 mark).
- c. Outline any ten types of dye based on the classification by the International Trade Commission (5 mark).
- d. Briefly explain the term "colour modifiers" and state what happens when no or different methyl groups are added to Pararosanil dye (6 mark).
- d. Mention the Technical features of High Temperature High Pressure Soft flow Dyeing Machine (4 mark)

**Questions 2**

- a) List three key features of soft flow dyeing machine (3 mark).
- b) Discuss the advantages of Overflow Dyeing Machine (6 mark).
- c) Briefly explain three main types of pigments. (6 mark).
- d)

**Questions 3**

- a) State six limitations of natural pigments (6 mark).
- b) Briefly explain 9 (nine) major difference between dyes and pigments (9 mark).

**Questions 4**

- a) With the aid of a simple diagram, describe the operation of a Hank dyeing machine. (9 mark).
- b) Enumerate the advantages of both Jig dyeing and Beam dyeing machines. (5 mark).

**Question 5**

- a) Write short notes on the following: (10 mark).
  - i) Fibres
  - ii) Tertiary Colours
  - iii) Vat Dye
- b) What is an Auxochrome ? (5 mark).