

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**DEPARTMENT OF TEXTILE TECHNOLOGY**

**FINAL EXAMINATIONS DECEMBER 2004**

**TEXTILE PRINTING TXT 4123**

**TIME: 3HOURS**

**INSTRUCTIONS**

Answer all questions in section A and any 4 questions in section B .Each question in section B carries 15 marks

**SECTION A – answer all questions in this section**

1. (a) Write a brief account of carpet printing, noting any recent innovations that have occurred. (10 marks)
- (b) Compare and contrast the application of dyes and pigments by the dyeing process to that by the printing process. (10 marks)
2. Write short accounts on the following,
  - i. rotary screen engraving
  - ii. flat screen engraving (5marks)
3. Explain or define the following terms used in printing
  - i. Print paste rheology
  - ii. seersucker
  - iii. resist printing
  - iv. half tone
  - v. step-and-repeat
  - vi. discharge agents
  - vii. real wax prints
  - viii. penta 125
  - ix. burnout style (9 marks)
4. Write a short essay on transfer printing, paying particular attention to :
  - i. transfer and fixation method
  - ii. production of the printed transfer paper
  - iii. associated equipment (6 marks)

**SECTION B (answer any four questions)**

1. Write short notes on the following
  - i. discharge and resist printing techniques
  - ii. printing of cotton/polyester blends (15 marks)
2. Discuss the importance of the “after” printing processes, paying particular attention to their contribution to the quality of the final printed product. (15 marks)
3. Screen printing can be divided into a number of options. State the options and discuss the advantages and disadvantages of each system that you mention. (15marks)
4. Evaluate the technical and economic significance of the following recent trends in printing;
  - i. The use of laser technology in screen production.
  - ii. Automation and computer control within the colour kitchen. (15 marks)
5. Discuss the increasing importance of pigment printing. Comment on the print paste formulation, choice of auxiliaries, selection of pigments and process conditions. Indicate the circumstances in which pigments are useful in printing alongside other dye classes. (15 marks)

**END OF QUESTION PAPER**