

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF TEXTILE TECHNOLOGY
END OF SEMESTER EXAMINATIONS JANUARY 2008
TEXTILE PRINTING TXT 4123
TIME: 3HOURS

INSTRUCTIONS

1. Answer question **1 and any four** other questions. Each question carries 20 marks.
2. The first fifteen minutes should be spent reading the question paper and making notes
3. **Do not** open you answer sheet until told to do so
4. Marks will be awarded for skill in appreciating the scope of questions, clarity of argument and conciseness of presentations as well as for the knowledge displayed by you.

1. Give a detailed account of the procedures and process steps that are carried out in order to transfer a design from paper and fabric sample onto the screen. (Your discussion must focus on flatbed screen and rotary screen-printing). Also give a brief account of technological advances that have led to the speeding up of this/these procedures. (20 marks)
2. Discuss the reasons why pigment printing accounts for almost 50% of printing worldwide. Comment on print paste formulation, choice of auxiliaries, selection of pigments and processing conditions. Indicate the circumstances under which pigments are useful for printing alongside other dye classes. (20 marks)
3. Evaluate the technical and economic significance of the following recent trends in printing:
 - (a) The use of laser technology in screen production. (10 marks)
 - (b) Automation and computer control within the colour kitchen (10marks)
4. Discuss the development of ink jet printing of textiles, including possible future trends. (20 marks)

5. Write a concise account of thickeners for different print systems. (20 marks)
6. (a) Critically compare and contrast printing with different transfer printing methods. (15 marks)
- (b) A company has chosen to acquire transfer-printing machines for printing of 2010 team logos etc. Discuss the suitability of such a choice of printing system. (5 marks)
7. Detail the technical and economic merits of using either flatbed screen-printing or rotary screen-printing in printing of textile fabrics. (20 marks)

END OF QUESTION PAPER