

**DEPARTMENT OF CHEMISTRY
FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
FIRST SEMESTER EXAMINATION, 2011/2012 SESSION**

COURSE CODE: PLT 413

UNITS: 3

COURSE TITLE: Technology of Fibres and Plastics

TIME ALLOWED: 2HRS

INSTRUCTION: ANSWER ANY FOUR QUESTIONS ONLY

1 (a) Define the term 'fibre'. Give one example of the following fibres:

(i) Animal (ii) Vegetable (iii) Mineral (iv) Synthetic cellulosic fibres.

(b) Describe the processes for formation of (i) regenerated protein (ii) regenerated cellulose.

2 (a) Explain the differences between viscose rayon and cellophane.

(b) Discuss the formation and important applications of cellulose ethers.

3 (a) Explain three (3) methods used for converting fibres to fabric.

(b) What are the agents and purposes for the following fibre after treatments: (i) scouring
(ii) lubrication (iii) sizing (iv) conditioning?

4 (a) Using diagrams only, differentiate between melt spinning, dry spinning and wet spinning.

(b) State the factors that decide the choice of each of the spinning methods stated above. Also give example of polymers suitable for each type.

5(a) Define the term plastic. Draw a schematic diagram of dies suitable for the following

products: (i) rod (ii) film (iii) tube (iv) filament.

(b) Write short note on compression moulding.