

THE OPEN UNIVERSITY OF SRI LANKA
 BACHELOR OF INDUSTRIAL STUDIES /
 BACHELOR OF TECHNOLOGY
 FINAL EXAMINATION 2008 / 2009
 TTX4235 YARN MANUFACTURE II
 DURATION - THREE HOURS



DATE: 9th March 2009

TIME: 09.30-12.30 HOURS

Total Number of Questions = ~~10~~
 09 Number of questions to be answered = 06

Answer the question 1, which is compulsory, and five (05) additional questions.
 Question 1 carries twenty five (25) marks and questions 2 to 10 carry fifteen (15) marks each.

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 C. M. Herath
 9/3/2009
 Sr. Examiner
 [C. M. Herath]

01. Compulsory Question

- a) What are the differences between Merino wool and Carpet wool? (2%)
- b) The wool fibre quality is defined by numbers and the grading system in the world market based on British numbering system. Clearly explain the meaning of wool fibre quality 60^s (2%)
- c) Briefly explain what it mean by wool carbonizing (2%)
- d) What is the purpose of the gilling operation in the worsted yarn manufacture? (2%)
- e) Mention what "hackling" is in linen (Flax) yarn manufacture? (2%)
- f) What do you understand by the term "Tow"? (2%)
- g) Name three types of thrown silk yarns (2%)
- h) What do you understand by the term "Degumming of Thrown Silk"? (2%)
- i) Which type of texturing method give the Zig-Zag type of crimp? (2%)
- j) What are the objectives of yarn folding? (2%)
- k) What are the advantages of open-end spinning? (2%)

l) What are the purposes of crimping of staple fibre? (1%)

m) What are the two reasons for shuffling or randomization of fibre ends? (2%)

(02) Write short notes on the following.

(a) Wool scouring (04%)

(b) Gilling (04%)

(c) Mule spinning (03%)

(d) Reasons for wool blending (04%)

(03) (a) Briefly explain the carding process and gilling process involved in worsted yarn manufacture. (10%)

(b) Explain the process of necessity of back washing in worsted yarn manufacture. (05%)

(04) (a) Give names of four type of thrown silk and explain them briefly. (07%)

(b) Briefly explain the classification of waste silk and manufacture of spun silk yarn. (08%)

(05) (a) Clearly explain the meaning of shuffling and the reason for shuffling. (07%)

(b) With the aid of suitable diagrams describe the single stage tow conversion process. (08%)

(06) (a) What do you mean by the term "texturing" (03%)

(b) Classify the textured yarns according to the standard classification and briefly discuss their properties and end uses. (06%)

(c) Explain the process of air – jet texturing. (06%)

- (07) (a) List out and briefly discuss the special properties of sewing threads. (06%)
- (b) Classify and discuss the characteristics of the sewing threads according to the fibre type. (05%)
- (c) Write short notes on sewing thread packages such as reel, cop, cone, and vicone. (04%)
- (08) (a) List out the advantages and disadvantages of modern spinning systems over the ring spinning system. (05%)
- (b) Explain the air vortex spinning process with suitable diagrams. (05%)
- (c) Explain the electrostatic spinning process with suitable diagrams. (05%)
- (09) (a) What do you mean by the term "false twisting"? (05%)
- (b) Explain the method of faciated yarn formation by using false twist technique. (06%)
- (c) What are the three main reasons for applying lubricants to fibre before spinning processing? (04%)