

Answer the following Questions:

Illustrate your Answer by means of diagrammatic sketches

Question (1) :

- (a) What is the difference between woollen and worsted yarns?
- (b) State the purpose of wool combing and explain the four combing operation which are performed during the combing cycle on the rectilinear combing machine in worsted spinning.

Question (2) :

- (a) State the two trends for producing roving in worsted spinning. Also describe the drafting systems used for each trend and give one example for each type.
- (b) In recent years, improved drafting systems have been incorporated in spinning frames. Classify the different spinning drafting systems used in worsted spinning.

Question (3) :

- (a) Compare between the different types of spinning machines used in worsted spinning in terms of :
 - Type of produced yarns.
 - Principle
 - Advantages and disadvantages
- (b) Calculate the actual twist (T/m) in ring spinning machine in worsted spinning having the following data :
 - Spindle speed=13000 r.p.m
 - Front roller diameter (of drafting system) = 25 mm and rotational speed=170 r.p.m
 - Bobbin diameter=30 mm.

With my best wishes
Dr. I.M. El-Shahhat