

Minor-I TXL 361 (Evaluation of Textile Materials)

12-02-2016

Max Marks-20

1.00-2.00 pm

Attempt all questions.

1. A lot of polyester yarns was tested for strength. The values obtained were:
10, 11, 12, 13, 14 lb. find out the % mean deviation and the range of the lot. [2]
2. Four hundred bobbins were tested for count. The mean count was 40 and standard deviation was 8. find out: [2]
 - a) The number of bobbins having count falling in the range - **mean \pm 1.96 S.D.**
 - b) The number of bobbins having count above **mean + 2.58 S.D.**
3. Draw a comb sorter diagram for a typical cotton fibre lot. Indicate short fibre % and the dispersion in it. [2]
4. You have two lots of polyester staple fibres, one with a staple length of 40 mm and the other with 20 mm. The denier of both the fibres is same. Both are tested for fineness in an airflow based instrument. What will be the result (comparative) and why? [1]
5. A lot of polyester fibres has a mix of the above two varieties (in question 6). The number of each fibre in the mix is equal. [1+2+4]
 - a) Find out the weight ratio of the two fibres in the blend
 - b) Draw a fibre sorter diagram of the fibre mix
 - c) Draw a span length diagram of the fibre mix
6. The count distribution of a lot of yarns is known to have a normal distribution. Draw a neat diagram showing the sampling distribution of population, when the sample contains 5 and 25 bobbins respectively. [2]
7. A lot of cotton yarns is known to have tensile strength of 200 g. When twenty five bobbins are tested for yarn strength, the mean strength is found to be 195 g and the SD 9 g. Is the yarn too weak to warrant an action? [2]
8. How do you interpret different micronaire values of two different cotton fibre lots of the same genetic variety? [2]