Unit 3 - Week 1

Assignment 1

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-02-12, 23:59 IST.

1) The volume (in mm³) occupied by a wool fibre of 3.5 dtex fineness, 40 mm length, and 1310 kg/m³ density is approximately
   ○ 0.0107
   ○ 0.0254
   ○ 0.0368
   ○ 0.0419

   No, the answer is incorrect.
   Score: 0
   Accepted Answers: 0.0107

2) The diameter (in micrometer) of a cotton fibre having 1.6 dtex fineness and 1520 kg/m³ density is approximately
   ○ 8
   ○ 12
   ○ 16
   ○ 20

   No, the answer is incorrect.
   Score: 0
   Accepted Answers: 0

3) An ordinary shirt of 200 g weight is made up of cotton fibers, each of 1.5 dtex fineness, 0.28 shape factor, and 1520 kg/m³ density. The total surface area (in m²) occupied by the fibers in the shirt is approximately
   ○ 0.29
   ○ 0.36
   ○ 0.47
   ○ 0.60

   No, the answer is incorrect.
   Score: 0
   Accepted Answers: 0

4) The surface area per unit volume (in mm⁻¹) of a cotton fiber of 1.5 dtex fineness, 0.28 shape factor, and 1520 kg/m³ density is approximately
   ○ 283
   ○ 391
   ○ 420
   ○ 457

   No, the answer is incorrect.
   Score: 0
   Accepted Answers: 0

5) The breaking length (in km) of a fiber with 0.45 N/tex tenacity is approximately
   ○ 63.02
   ○ 63.71
   ○ 63.85
   ○ 63.96

   No, the answer is incorrect.
   Score: 0
   Accepted Answers: 0

6) A fiber blend is made up of 55% polyester fibers (by weight) and 45% viscose fibers (by weight). The average fiber properties of individual components are mentioned below:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Polyester</th>
<th>Viscose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile (daN)</td>
<td>1.6</td>
<td>1.8</td>
</tr>
<tr>
<td>Length (mm)</td>
<td>44</td>
<td>28</td>
</tr>
<tr>
<td>Density (kg/m³)</td>
<td>1.560</td>
<td>1.730</td>
</tr>
</tbody>
</table>

   The average volume fraction (in %) of polyester to viscose fibers in the blend is approximately
   ○ 0.6139
   ○ 0.5642
   ○ 0.5146
   ○ 0.5248

   No, the answer is incorrect.
   Score: 0
   Accepted Answers: 0.5642