Assignment 6

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

1) A carded ring spun yarn of 40 tex count and 500 m⁻¹ twist was prepared from viscose fibers of 36 mm length and 3 dtex fineness. In this yarn, the packing density and coefficient $k_o$ were determined as 0.45 and 0.90, respectively. Assuming a constant period of migration of 10 mm, the fundamental equation of Teloa's ideal fiber migration can be expressed as

$$\tan^2 \alpha = \frac{\tan^2 \beta + 1}{(1.884)^2 \tan^2 \beta - 1}$$

No, the answer is incorrect.
Score: 0
Accepted Answers:
$$\tan^2 \alpha = \frac{\tan^2 \beta + 1}{(1.884)^2 \tan^2 \beta - 1}$$

2) A carded ring spun yarn of 40 tex count and 500 m⁻¹ twist was prepared from viscose fibers of 36 mm length and 3 dtex fineness. This yarn was characterized for the radial fiber migration in this yarn by tracer fiber technique and the following results were obtained.

<table>
<thead>
<tr>
<th>$p_\text{[m]}$</th>
<th>0.1</th>
<th>0.2</th>
<th>0.3</th>
<th>0.4</th>
<th>0.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>$D_{[m]}$</td>
<td>12</td>
<td>6</td>
<td>4</td>
<td>3</td>
<td>2.4</td>
</tr>
</tbody>
</table>

The values of packing density and coefficient $k_o$ were found as 0.45 and 0.90, respectively.

The fundamental equation of equidistant migration in this yarn can be expressed as

$$\tan^2 \alpha = 0.0009(\tan^2 \beta + 1)$$

No, the answer is incorrect.
Score: 0
Accepted Answers:
$$\tan^2 \alpha = 0.0107(\tan^2 \beta + 1)$$