Theoretical Question 3: Answer Form

(a) $A = \quad$ and $\tan \phi = \quad$

At $\omega = \omega_0$, $A = \quad$ and $\phi = \quad$

(b) The condition on $\omega$ for a non-vanishing output signal:

The magnitude of the dc signal =

(c) The magnitude of the signal =

(d) $\Delta m = \quad$ kg
<table>
<thead>
<tr>
<th>Country Code</th>
<th>Student Code</th>
<th>Question Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

(e) \( \omega_0' = \)

(f) \( d_o = \quad \text{; Evaluated } d_o = \quad \text{nm.} \)

\[ \omega_0' = 0 \]

\[ d_o = \quad \text{nm.} \]