Nelson Muntz is preparing a few questions that will be used to shortlist potential candidates for the position of an analyst. Hank Azaria the administrator at his firm is taking printouts of the question states. He notes a few questions on the print-out. The first few statements on the paper are as follows –

Statement #1: “ETF’s are designed to provide international diversification with excellent liquidity at low cost. They are however not designed to be tax efficient.”

Statement #2: “A stock was bought at $22 on Jan 1 2010 during the year the firm issued dividends worth $2.5 per share. On 30th Dec 2010 the stock was priced at $27.”

Statement #3: “Estimate the beta of MNK Corp. a privately held company. The company has a debt-to-equity ratio of 60:40. A comparable firm DTBHJ Corp. has a beta of 1.35 with a debt-to-equity of 35:65.”

While interviewing the potential candidates Muntz decides to make the proceedings even more interesting. He asks the candidates to calculate the required rate of return using the FFM-model. The risk-free rate is 4.1%, RMRF is 4.1%, SMB is 2.5% and HML is 2.0%. The respective beta factors are 0.85, 1.14 and 1.2.

He finds that a candidate Ruth Powers looks especially very promising. He asks her to calculate the WACC for DTBHJ Corp. The following information is provided:

- Debt as % of total capital = 35%
- Tax rate = 32%
- Given beta is 1.35 while the expected return from the market is 10.5% and risk free rate is 4.1%.
- The company has also issued long-term debt with YTM of 5.6%

Powers provides the required solution. Muntz is satisfied with the answer and asks her to solve one final question. He asks her to calculate the required rate of return given the unanticipated change in confidence risk is 2.5%, time horizon risk is 0.75%, inflation risk is 4.35%, business cycle risk is 1.52% and market timing risk is 3.71%.

Question

1. The statement regarding ETF’s is *most likely*

<table>
<thead>
<tr>
<th>International Diversification</th>
<th>Tax Efficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Correct</td>
<td>Incorrect</td>
</tr>
<tr>
<td>B Incorrect</td>
<td>Correct</td>
</tr>
<tr>
<td>C Correct</td>
<td>Correct</td>
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2. The holding period return for the stock is *closest to*
   A. 34.09%
   B. 32.45%
   C. 24.25%

3. The beta for MNK Corp. is *closest to*
   A. 1.5714
   B. 1.4625
   C. 1.3124

4. Given the above information the required return using the Fama-French model is *closest to*
   A. 11.142%
   B. 10.345%
   C. 12.835%
5. The WACC for DTBHJ Corp. is closest to
   A. 9.8%
   B. 9.6%
   C. 8.5%

6. Given that the T-bill rate is 7.52% and the sensitivity betas are given as follows
   Sensitivity to confidence risk = 2.02
   Sensitivity to time horizon risk = 0.95
   Sensitivity to inflation risk = -0.84
   Sensitivity to business cycle risk = 0.95
   Sensitivity to market-timing risk = 1.20
   A. 15.52%
   B. 14.17%
   C. 16.24%