Exam 2 Format

- 6 argument forms, 15 points each, plus 10 free points
- Symbolic argument forms (no translations)
- For each one, you will be asked to construct a derivation of the conclusion from the premises.
- The rule sheet will be provided.

1 problem from Set D
2 problems from Set E
2 problems from Set F
1 problem from Set G (91-96)
There are 6 kinds of formulas in Sentential Logic:

1. atomic formulas $P, Q, \text{ etc.}$
2. negations $\neg$
3. conjunctions $\&$
4. conditionals $\rightarrow$
5. disjunctions $\vee$
6. biconditionals $\leftrightarrow$

For each of these, there is a *suggested show-strategy*.
Show-Disjunction Strategy

Example 1

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>(1)</td>
<td>P \rightarrow (Q &amp; R)</td>
</tr>
<tr>
<td>(2)</td>
<td>SHOW: (P \rightarrow Q) &amp; (P \rightarrow R)</td>
</tr>
<tr>
<td>(3)</td>
<td>SHOW: P \rightarrow Q</td>
</tr>
<tr>
<td>(4)</td>
<td>P</td>
</tr>
<tr>
<td>(5)</td>
<td>SHOW: Q</td>
</tr>
<tr>
<td>(6)</td>
<td>Q &amp; R</td>
</tr>
<tr>
<td>(7)</td>
<td>Q</td>
</tr>
<tr>
<td>(8)</td>
<td>SHOW: P \rightarrow R</td>
</tr>
<tr>
<td>(9)</td>
<td>P</td>
</tr>
<tr>
<td>(10)</td>
<td>SHOW: R</td>
</tr>
<tr>
<td>(11)</td>
<td>Q &amp; R</td>
</tr>
<tr>
<td>(12)</td>
<td>R</td>
</tr>
</tbody>
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Show-Conjunction Strategy

Example 2

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>(1)</td>
<td>P \rightarrow Q</td>
</tr>
<tr>
<td>(2)</td>
<td>Q \rightarrow P</td>
</tr>
<tr>
<td>(3)</td>
<td>Q \rightarrow \neg P</td>
</tr>
<tr>
<td>(4)</td>
<td>SHOW: \neg P &amp; \neg Q</td>
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<tr>
<td>(5)</td>
<td>SHOW: \neg P</td>
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<tr>
<td>(6)</td>
<td>P</td>
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<td>(7)</td>
<td>SHOW: \neg P</td>
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<td>(8)</td>
<td>Q</td>
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<td>(9)</td>
<td>\neg P</td>
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<tr>
<td>(10)</td>
<td>\neg P</td>
</tr>
<tr>
<td>(11)</td>
<td>SHOW: \neg Q</td>
</tr>
<tr>
<td>(12)</td>
<td>Q</td>
</tr>
<tr>
<td>(13)</td>
<td>SHOW: \neg Q</td>
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<tr>
<td>(14)</td>
<td>P</td>
</tr>
<tr>
<td>(15)</td>
<td>\neg P</td>
</tr>
<tr>
<td>(16)</td>
<td>\neg P</td>
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<td>Formula</td>
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</tr>
<tr>
<td>1</td>
<td>$P \lor Q$</td>
</tr>
<tr>
<td>2</td>
<td>$P \rightarrow \neg Q$</td>
</tr>
<tr>
<td>3</td>
<td>SHOW: $(P \rightarrow Q) \rightarrow (Q \land \neg P)$</td>
</tr>
<tr>
<td>4</td>
<td>$P \rightarrow Q$</td>
</tr>
<tr>
<td>5</td>
<td>SHOW: $Q \land \neg P$</td>
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<tr>
<td>6</td>
<td>SHOW: $Q$</td>
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<tr>
<td>7</td>
<td>$\neg Q$</td>
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<tr>
<td>8</td>
<td>SHOW: $\times$</td>
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<tr>
<td>9</td>
<td>$P$</td>
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<tr>
<td>10</td>
<td>$Q$</td>
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<tr>
<td>11</td>
<td>$\times$</td>
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<tr>
<td>12</td>
<td>SHOW: $\neg P$</td>
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<tr>
<td>13</td>
<td>$P$</td>
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<tr>
<td>14</td>
<td>SHOW: $\times$</td>
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<tr>
<td>15</td>
<td>$\neg Q$</td>
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<tr>
<td>16</td>
<td>$\neg P$</td>
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<tr>
<td>17</td>
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