Exam 2 key

1. Clone: Full credit required more than genomic identity (but that got 3 pts). For 4 points, your definition had to include the concept that clones are related by a descent without recombination.

SNP: See your book

DNA footprinting: A method to detect where a protein binds on DNA. For details see your book, chapter 16.

Target site duplication: This is also in your book.

Initiation of Transcription: There are four general steps:

<table>
<thead>
<tr>
<th>Step</th>
<th>Eukaryotes</th>
<th>E. coli</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Binding</td>
<td>Involves GTFs</td>
<td>requires σ</td>
</tr>
<tr>
<td>2) Open complex formation</td>
<td></td>
<td>requires σ</td>
</tr>
<tr>
<td>3) &quot;initiation&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4) Promoter clearance</td>
<td>Requires TFIIH</td>
<td>σ leaves</td>
</tr>
</tbody>
</table>

See slide 9, lecture 12, Alberts Figure 8-43 for more detail.

1. c
2. b
3. a
4. b
5. a
6. a
7. b
8. a
9. a
10. b
11. a

12. a, b, c, f, and g are true
13. a is true
14. a and b are true
15. see Table 11.1 in Hartwell
16. see Table 9.2 in Hartwell