Part I – Phonetics (Jessica)

Everyone got 5 points for seeing that it was "Massachusetts"

The most common mistake was not explaining how the other two choices were ruled out, though a few really detailed walk-throughs of the spectrogram that did not appeal to what would be expected in the other choice still received full credit.
I was generally looking for two pieces of evidence to rule out each option (4 total), but since there were a lot of things that could rule out both, a lot came down to how well you explained them. Examples of evidence:

* The number and placement of fricatives in [mæsətʃusɪts] vs. [mæʃtpəteɪɹoz] and [ɹʌmplsɪlskɪn]

* The height of F1 in the different vowels

* Difference between voiced and voiceless segments, esp. with respect to the final [s] in Massachusetts and [n] in 'Rumpelstilskin'

* The difference between the vowel in 'Massachusetts' and the stop in 'mashed potatoes' after the [mæ] + fricative sequence

Some people didn't use IPA when referring to segments, or used them irregularly.

Part II – Phonology (Roey)

1) Identify the morphemes in the following Gascon data

ka	dog
pai	father
tabas	horsefly
brawlu	bumblebee
dolart	dollar
musɛk / musɛt	Insect bite
nap / nat	turnip
awradʒe	storm
gat	cat
endret	place
yn / ym/ yŋ / y	indefinite marker
dys / dyj	two
-s / -es	plural suffix

Strictly speaking, the –ts ending which sometimes occurs is not an allomorph of the plural suffix, but rather the result of a phonological process affecting the stem. But we accepted any answer that made sense with the rules given in (3).

2) Identify the allomorphs and the environments they occur in.

i. Indefinite marker:

yn	before t, d, n	before alveolar consonants
ym	before p, b, m	before labial consonants
yŋ	before k, g	before velar consonants
y	before a, e	before vowels

ii. Two:

dyj	before b, d, m, n, g	before voiced consonants
dys	before k, p, t, a, e	elsewhere

iii. Plural marker:

es	Words ending in s	after s (*other generalizations, like "after strident", are also plausible. There is no way of telling from the data*)
s	Words ending in a, i, u, t, e, p, k	elsewhere

.
iv. words ending in consonants:

musɛk , nap	singular
musɛt, nat	plural (before –s)

Again, some of you also had a –ts environment for the plural marker and not different allomporhs for the stems. This is perfectly okay so long as there were appropriate rules to handle the deletion of final p/k

3)
i. indefinite marker: The base form is /yn/.
Note: From the data we had in this assignment, /ym/, /yn/ and /yŋ/ are all equally likely to be the base form, and any of these answers was accepted.
However, the base form in not likely to be /y/, because that would require a nasal insertion rule, which is far less common (or phonetically motivated) than a deletion rule.

ii. Two: The base form is /dys/, since it appears in the "elsewhere condition" (there is no natural way of grouping vowels with voiceless stops, as opposed to the natural grouping of voiced consonants).

iii. Plural marker: The base form is /s/, since we can easily motivate the other environments by way of cluster simplification. (There would be no natural way to account for the processes otherwise)

iv. Consonant-final words: The base forms are /musɛk/ , /nap/. Assuming /musɛt/ and /nat/ as the base form would not allow us to make a generalization about the final /t/ (since we do have words that end in a /t/ and do not alternate)

Rules:

/n/ → [m] / _ C^{labial}
/n/ → [ŋ] / _ C^{velar}
/n/ → ∅ / V _ V   *Note: The environment cannot be just before a vowel, because we have words like [nap]*

/s/ → [j] / _ C^{voiced}
∅ → [e] / s _ s
C$^{voiceless\ stop}$ → [t] / _ s   *Note: We can write the rule like this (and not limit it to p and k) because there is no harm in having /t/ also "turn into" a [t]*

Part III – Comparative Reconstruction (Penny)

English	German	Swedish	Proto Form
dip	tif	djʉp	*dVp
lip	lawfən	löpa	*lVpan
lik	lawx	lök	*lVk
wejk	vaxən	vaka	*vVkan
dɛd	tot	död	*dVd
rajd	rajtən	rɪda	*rVdan
fʊt	fus	fut	*fVt
kɛn	kɛnən	ʃena	*kVnan
kʌm	komən	koma	*kVman

*v > w   *d > t   k > ʃ/_V^{front} (a nice example of palatalization)
*n > ø/_#   *^{vl} > F^{vl}/V_   n > ø/_#
*ă > ə   *ă > ə (this is preferable to * ə>a because ə is a reduced vowel, a common   result of unstressed position, but I accepted both rules.)

Ordering: German t > s before d > t
                English *n > ø/_# before *ă > ə

Major principles:
        majority rules
        phonetic plausibility
        nothing comes from nowhere

Conflicts among these principles:

> Nothing-comes-from-nowhere and phonetic-plausibility both trump majority-rules in the case of word-final *an.
> Something can come from nowhere if it solves a phonetic problem, for example if the insertion of a stop resolves a difficult cluster (e.g. kamra>kambra). But no such case applies to word-final *n in these data.

A number of people interpreted *w and *j as consonants because of where they occur in the IPA chart. You've been exposed to these repeatedly in the context of diphthongs, so you should have recognized them as part of the stressed vowel and not dealt with them, but I didn't take off points for treating them as consonants. (In fact, some people came up with a clever environment for k>x in German on the basis of these glides.)

I also didn't take anything off for ignoring the instruction not to account for the stressed vowels, even though it was really annoying.

I didn't take off for deleting *an in one rule, although maybe I should have.

Part IV – Morphosyntax   (Ivan)

a. (10 pts)
   Morphemes:
   Nouns: beta (`boy'), b'Alu (`bear'), kirog (`tiger')
   Verbal roots: yoy ('see'), n~og ('eat')
   Verbal prefix: ob- (`causative')
   Verbal suffixes: -og (`past tense'), -e (`future tense')
   marker: te

DISCUSSION: It's hard to know from these data whether te is a direct object marker or maybe a verb marker. But since it occurs with or without a subject NP in the same sentence, without changing the meaning, there's no reason to think it has anything to do with the subject. Since the instructions "identify" and "report it out as a complete lexicon" were perhaps a bit unclear, we were generous in grading part a.

   Morphological Rules:

   combine the prefix ob with a verbal root with meaning X to make a verbal stem whose meaning is `cause to X', e.g.
   ob- + yoy = the verbal stem obyoy (`cause to see' = `show')

   combine a verbal root or stem with meaning X with the suffix og or e to make a word whose meaning is `X happened in the past' or `X will happen in the future', e.g. obyoy + og = the word

obyoyog (`showed') Also: yoy + og = the word yoyog (`saw')

b. (5 pts)
```
      Word
     /  \
   Stem  Suf
   / \   |
 Pre Root og
  |   |
 ob  yoy      Stem: `causing to see'
              Word: `causing to see happened in the past' (= `showed')
```

DISCUSSION: You may wonder why the causative prefix is analyzed as a
root-prefix building a stem to which the tense suffix is subsequently
attached. One answer is semantic - the meaning of the tense suffix is
to locate the stem's event in space time. The causative prefix changes
the event that gets located; it doesn't cause the event to change its
temporal location. So there's a natural feeding relation between the
two, assuming that the semantics mirrors the morphological structure
(this is often called the `Mirror Principle' in morphological
theory). Also, tense inflections are obligatory - every verb has
tensed realizations, but not all verbs are causatives. Obligatory morphology
usually comes `outside' of optional morphology (This is often discussed in
terms of inflectional morphology coming outside of derivational morphology).

c. (10 pts) Syntax Rules:

    S --> (NP) VP
    NP --> N
    VP --> NP (Mrk) V

DISCUSSION: This correctly guarantees that when there's only one NP
expressed, it's the direct object NP. And no matter what the true
function of the marker turns out to be, it is optionally generated
between the direct object NP and the verb. Note that this predicts
optionality of the te, whether the subject is expressed or not. This
prediction goes beyond the data we have. Finally, this analysis
correctly blocks te-marking on multiple NPs, thus predicting the
ungrammatical example included in the data set.

d. (10 pts) Two sentences meaning `He will see the boy':

```
    S        S
    |        |
    VP       VP
   /|\      / \
```

```
NP Mrk V    NP    V
 |  |  |    |     |
beta te yoye beta yoye
```