Common mistakes:

Q2.

    a. Big mistake:

π_{Title} ($\sigma_{Gender = \text{'male'}}$ (MovieStar) $\bowtie$ StarsIn) $\bowtie$ Movie
Reason: it returns movies that have both male and female stars – we want ones that ONLY have male stars.

Mistake, but points not taken off for:

M $\leftarrow$ π_{Title}((σGender = 'male' (MovieStar) $\bowtie$ StarsIn $\bowtie$ Movie)

F $\leftarrow$ π_{Title}((σGender = 'female' (MovieStar) $\bowtie$ StarsIn $\bowtie$ Movie)
This join is not required. It may return movies having both male and female stars which could be replaced with π_{Title}(Movie). The last one returns everything including movies having only females! But after M – F they won't be in the result.

    b. In order to make this work, you needed to have both the condition that name = character and the condition that MovieStar.StarID = StarsIn.StarID. However, most of you are used to using natural joins, so many of you neglected to include that last condition and only did the first one… but since the condition was specified, the join will not be executed, and the join on StarID won't happen.

Some people also forgot the (natural) join with Movie at the end.

    c. The biggest mistake here was not selecting the proper attributes in the division. Some examples:
        a. Working with title instead of MovieID (title isn't a key)
        b. Dividing by MovieID instead of StarID
        c. Using Movie alone in the numerator (need StarsIn)
Other errors included not taking the title at the end – just leaving the MovieID, or getting the females in "The Thing" but not using division – using intersection or joins instead. That's not to say that there's no way to make this work, but I don't think anyone did it correctly.

3a. was fairly straightforward

3b. The biggest mistake is that underlining a2 will not work. This makes a1 and a2 together a key. In ER, you can only specify ONE key, so the correct answer was that in ER you can only specify one key.

3c. You need aggregation. Using a ternary relationship creates a relationship between C, D, and E, which was not what was asked . Adding two lines to E is even worse, since then it's a many to many relationship between C, D, E, and E.

Q4:

1. Failing to combine any tables ~ -5 points
2. Combining T with F instead of T with E or combining T with F and T with E ~ 3 points
3. Minor mistakes: ~1 point each
   a. Missing/wrong foreign keys
   b. Wrong primary keys
   c. Failing to declare attribute d1 as unique in ET table
   d. Very creative interpretation of SQL syntax
4. Mistakes that the grader kindly ignored and did NOT deduct marks for:
   a. Not null constraints
   b. Minor syntax errors
5. Also, we completely ignored any statements about "on delete" or "on update"