Class 3 Handout

I. Are they wffs? If so, which connective is the main connective?

      1. (P ∨ Q) ⊃ ~R
      2. ~X(Y ∨ Z)
      3. (S ∨ T · U) ⊃ S
      4. ~(G ⊃ H)
      5. ~{(P ⊃ Q) · [P ≡ ~(Q ∨ R)]}
      6. ~[A · (B ∨ C)] ≡ [(A · B) ∨ (A · C)]
      7. [(D · E) ∨ F] · G

II. Translate these to propositional logic, using obvious letters:

1. Ford introduces a new model and either Chrysler raises prices or General Motors changes colors.
2. Both Toyota does not open a new plant and Ford does not introduce a new model.
3. Honda initiates an ad campaign if and only if Chrysler raises prices.
4. Either Saab increases salaries and Toyota opens a new plant or Honda initiates an ad campaign and
      General Motors changes colors.
5. Toyota's opening a new plant is a necessary condition for General Motors' changing colors, and
      Ford's introducing a new model is a sufficient condition for Chrysler's raising prices.
6. If Saab increases salaries, then if Toyota opens a new plant, then Honda initiates an ad campaign.
7. Audi lays off workers; however, if Chrysler raises prices then either General Motors does not change
      colors or Ford does not introduce a new model.