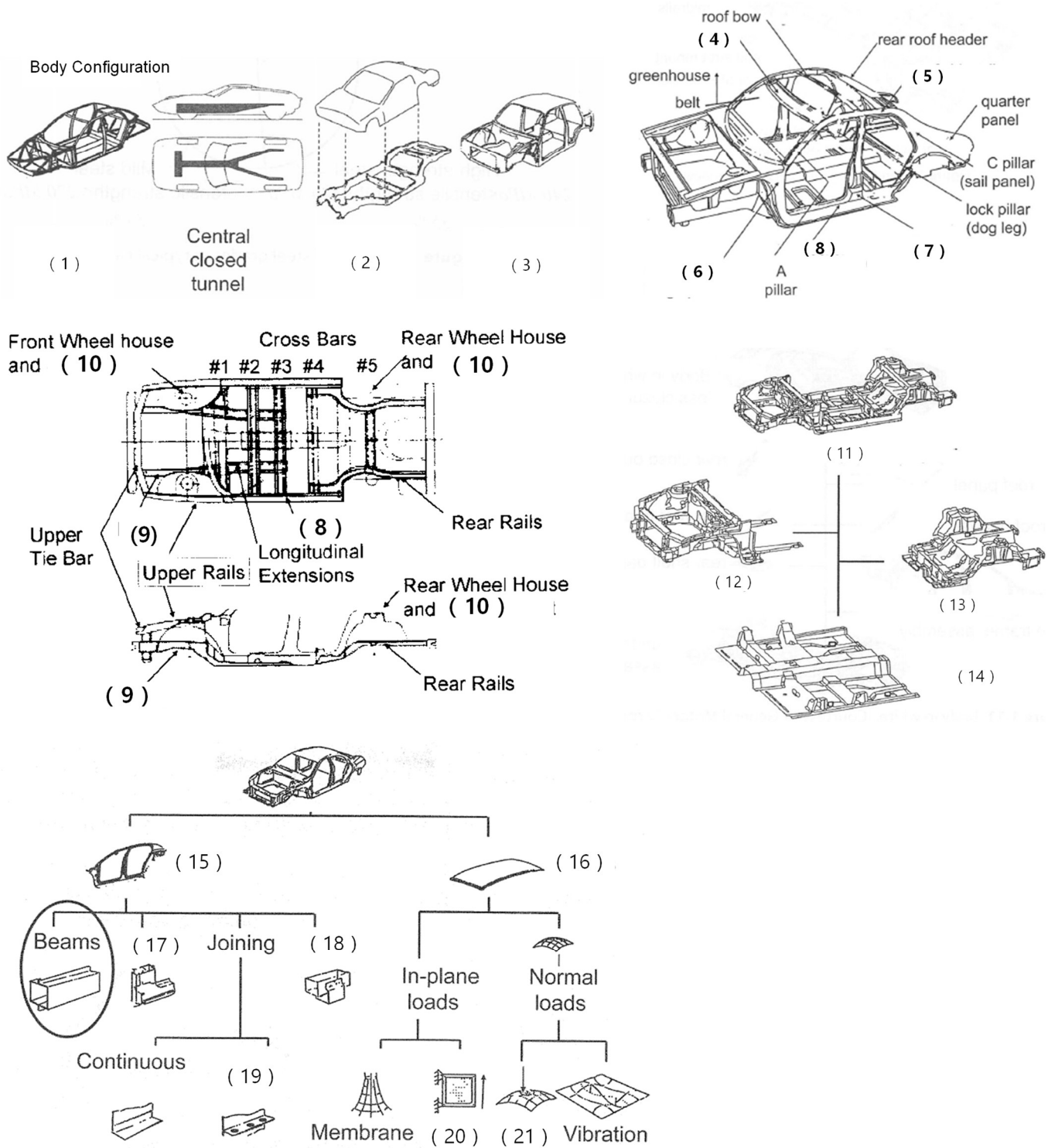
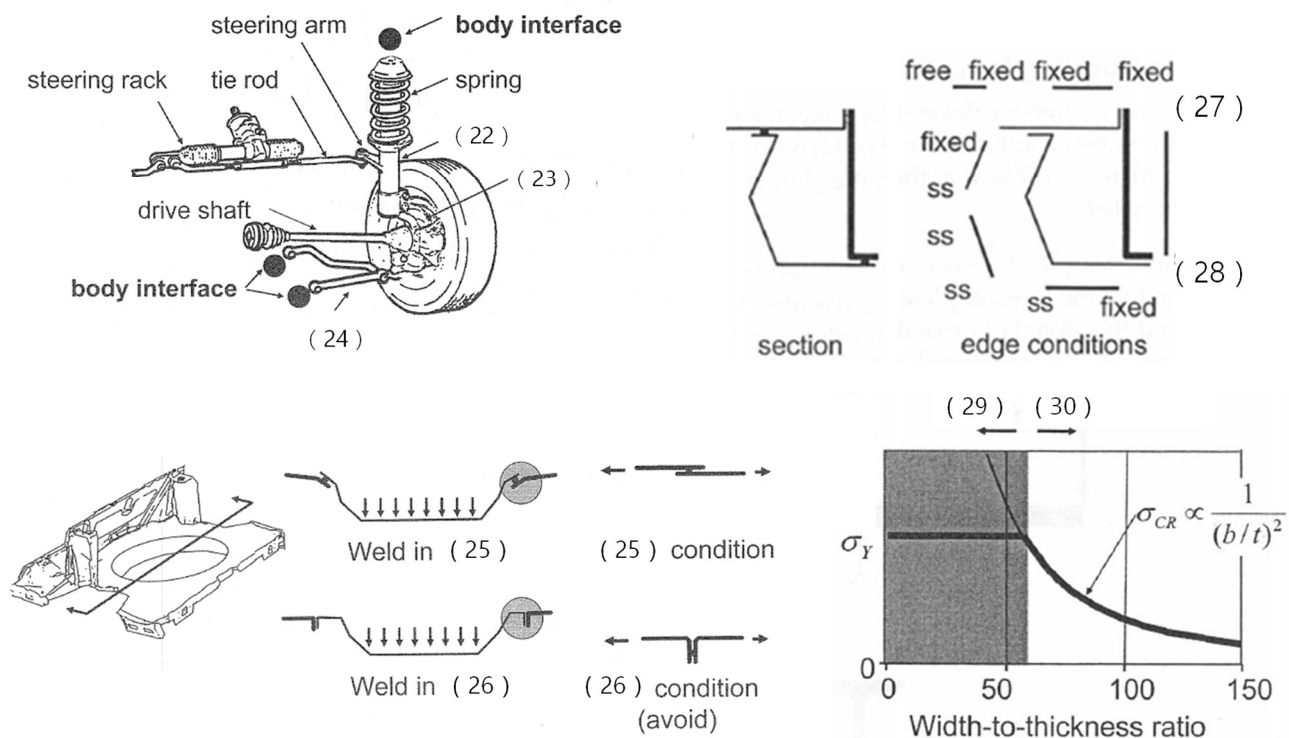


1. Fill in the blanks. (1 pts each)





2. List all modes to calculate the steady-state maximum front tire patch loads. (5 pts)
3. Describe three categories of structural requirements by drawing a typical load-deflection curve. (10 pts)
4. Describe the followings. (5 pts each)
 - (1) lightweight index of the automotive body structure
 - (2) way to predict deflections and stresses in a beam with a non-symmetric section and loaded in some arbitrary direction
 - (3) effect of spot-weld on longitudinal stiffness
 - (4) effective width of the plate
 - (5) joint efficiency
5. Explain strategies (5 pts each)
 - (1) to reduce local distortion under a point load so that the ideal beam stiffness is more fully utilized
 - (2) to inhibit plate buckling
 - (3) to reduce the relatively high compression in shear panel at the intersection of the beams
6. Describe design principles which result in joints with high stiffness. (5 pts)
7. Describe the procedure to calculate the body torsional stiffness analytically. (10 pts)