Homework 6

1. (10 points) Please write the Lagrange density of QCD with covariant gauge fixing term in the most detailed form.

2. (10 Optional) Derive the vertex of quark – gluon – quark interaction

3. (15 points) Derive the vertex of the three gluon interaction

4. (15 points) Derive the vertex of four – gluon interaction

5. (10 points) Derive the vertex of ghost – gluon – ghost interaction.

6. (10 points) Summarize the Feynman Rules for QCD for the covariant as wel as axial gauges.