Seifert fibered spaces can be viewed as circle bundles over surface orbifolds. We consider the case when these manifolds can be equipped with contact forms whose Reeb orbits realize the Seifert fibers, and we define an invariant for the Legendrian knots in these contact manifolds. Our invariant takes the form of a differential graded algebra, and it can be computed combinatorially from an appropriately labeled Lagrangian projection. (Received September 13, 2010)