We continue the investigation of coorbit spaces which can be attached to every integrable, irreducible, unitary representation of a locally compact group G and every reasonable function space on G. Whereas Part I was devoted to atomic decompositions of such spaces, Part II deals with general properties of these spaces as Banach spaces. Among other things we show that inclusions, the quality of embeddings, reflexivity and minimality and maximality of coorbit spaces can be completely characterized by the same properties of the corresponding sequence spaces. In concrete examples (cf. Part III) one recovers several and often difficult theorems with ease.