5 SUMMARY

The intertidal opening of selected sampling sites of this study was very narrow and approximately about 6 to 8 m. The surface of selected sampling sites was very much sharp edged. The upper intertidal zone was made of rocks with fine creeks as well as pools, which help populations of this zone to interchange along with the upcoming tidal water. Some of the abundant species found in all selected sampling sites. High intertidal zone is flooded for the duration of high tides only. Organisms such as barnacles, chitons, anemones, crabs etc. found in this zone. Middle tide zone or mid-littoral/ zone is (un)covered twice a day. Common organisms are sponges, barnacles, crabs. Low intertidal zone or lower littoral zone is covered with water most of the time. It is only uncovered when the tide is extremely low. In contrast to the other zones, the organisms are not well adapted to long periods of dryness or to extreme temperatures. The common organisms in this region are seaweed, crabs, sea anemone.

Entire coast of selected study area has been occupied by mainly three classes of the algae i.e. Chlorophycea, Pheophycea and Rhodophycea. Total 22 species were recorded from selected sampling site. From that Chlorophycea was the most diverse class with 12 species from all three recorded class. Out of total recorded 22 species of algae, 5 species distributed all over the coast, which were found at all selected sampling sites, it include two species of sargassum, one species of padina and two species of *Ulva*.

Faunal macro benthos, observed at intertidal zone of selected sampling sites were mainly six groups, such as Porifera, Arthropod, Mollusca, Echinodermata, Annelida and Cnidaria. In this study Mollusca was the most dominant and divers from all

recorded Phylum at all selected sampling site of this study. Among all the class of Mollusca, gastropod was the most abundant at all selected sampling sites. All these were responsible to provide good breeding ground to sustain population of species. Total 81 species of Macro benthos (fauna) were recorded from all selected sampling site of this study. 43 species of Mollusca, 17 species of Cnidaria, 11 species of Arthropoda, 6 species from Porifera, 3 and 1 species from Annelida and Echinodermata respectively were recorded in this study.

During the course of this study, *Cellana radiata, Onchidium verruculatum, Conus miliaris, Nerita albicilla, Turbo coronatus, , Turbo intercostalis, Trochus radiates and Rhinoclavis sinensis,* were the most dominate species at all the selected coastlines, hence for population ecological studies three species from above dominant molluscs were selected i.e., *Onchidium verruculatum*, *Cellana radiata*, *Conus miliaris.* Therefore, the ecological studies, faunal attributes like Density, Abundance and Frequency of above said dominant species were measured.

No significant variation observed in population ecology of *onchidium* between all selected sampling sites except for Aadri. At Aadri no difference were recorded in case of Abundance but density and frequency recorded were significantly higher in comparison to other selected sampling sites. No seasonal variation was recorded in population ecology of O*nchidium* at all selected sampling sites except for Aadri, where density and abundance were recorded significant low during summer.

In case of *Conus* no significant variation was recorded in population ecology between all selected sampling sites as well as no seasonal variation were recorded except for Chorwad, where density and abundance were significant low during summer and post monsoon and frequency was low at Vadodara Dodiya during summer.

No seasonal variation was recorded in population ecology of all selected sampling sites in *Cellana*. No significant variation observed in population ecology of *Cellana* between all selected sampling sites except for Aadri, where population ecology such as density abundance and frequency were significant high with compare to all other selected sampling sites.

The sea water quality of present study reports that there was no significant variation between selected sampling sites of this study during the period of December 2014 to November 2015. Normal tidal activities were observed possibly because of the nature of the open sites. The quality of water of these coastal regimes at all selected sampling area was almost at the ideal conditions due to absence or very less significant anthropogenic impacts on this coast. Analysed water samples shows water quality status of selected sampling site, which can be used as a base line reference data and useful for environmental monitoring of coastal sites.