List of Tables

Part-A

2.1 Relevant details of sediment cores from the WCMI 9

2.2 Thorium measurements to check validity of assumption, $^{228}Th \equiv ^{232}Th$ . . . 12

2.3 Results of analysis of USGS rock standards W-1 and G-2 13

3.1 Distribution of ^{137}Cs in the sediment core J-7 19

3.2 $CaCO_3$ concentration and radionuclide data for the upper slope sediments 21

3.3 $CaCO_3$ concentration and radionuclide data for the lower slope sediments . 23

3.4 ^{14}C ages of WCMI sediments 26

3.5 Rates of sediment accumulation and $^{210}Pb_{excess}$ inventory in WCMI sediments 30

3.6 Mn concentration on a $CaCO_3$ free basis in the upper slope sediments . . . 32

3.7 Benthic Mn flux from margin sediments 34

3.8 Mn concentration on a $CaCO_3$ free basis in the lower slope sediments . . . 39

3.9 Metal/Al ratio in WCMI sediments 44

Part–B

6.1 Reproducibility of chloride measurement by the two different methods . . . 69

7.1 Oxygen isotope, major ion ratios and salt contents in various water reservoirs from the lake area 74

7.2 Chemical composition of source waters used in the Hardie-Eugster model calculation for brines evolution 89

7.3 Model calculated evolution of the brine from various initial endmembers of waters 90

7.4 Saturation index of minerals observed in the various Sambhar lake waters . 98

7.5 Saturation state of various minerals in a brine sample from the lake 99

7.6 U, Ra and $^{234}U/^{238}U$, $^{228}Ra/^{226}Ra$ and $^{210}Po/^{210}Pb$ activity ratios in the Sambhar lake waters 101