## LIST OF TABLES

Page
Table 2.1. Table of students' understanding conception ..... 7
Table 3.1. Table of the member of sample from each school ..... 16
Table 4.1. The Average of students' achievements ..... 20
Table 4.2. Grouping criteria based on students‘ achievements for each school ..... 21
Table 4.3. Number of students' ability in each group for all schools ..... 21
Table 4.4. Area of misconceptions highlighted by each item of the test instrument ..... 22
Table 4.5. The correct and incorrect responses for Question 1 ..... 24
Table 4.6. The percentage of student's responses for Question 1 ..... 24
Table 4.7. The correct and incorrect responses for Question 7 ..... 25
Table 4.8. The percentage of student's responses for Question 7 ..... 25
Table 4.9. The correct and incorrect responses for Question 11 ..... 26
Table 4.10. The percentage of student's responses for Question 11 ..... 27
Table 4.11. The correct and incorrect responses for Question 12 ..... 28
Table 4.12. The percentage of student's responses for Question 12 ..... 28
Table 4.13. The correct and incorrect responses for Question 14 ..... 29
Table 4.14. The percentage of student's responses for Question 14 ..... 29
Table 4.15. The correct and incorrect responses for Question 16 ..... 30
Table 4.16. The percentage of student's responses for Question 16 ..... 30
Table 4.17. The correct and incorrect responses for Question 2 ..... 31
Table 4.18. The percentage of student's responses for Question 2 ..... 31
Table 4.19. The correct and incorrect responses for Question 8 ..... 34
Table 4.20. The percentage of student's responses for Question 8 ..... 34
Table 4.21. The correct and incorrect responses for Question 17 ..... 35
Table 4.22. The percentage of student's responses for Question 17 ..... 35
Table 4.23. The correct and incorrect responses for Question 18 ..... 36
Table 4.24. The percentage of student's responses for Question 18 ..... 36
Table 4.25. The correct and incorrect responses for Question 4 ..... 37
Table 4.26. The percentage of student's responses for Question 4 ..... 38
Table 4.27. The correct and incorrect responses for Question 6 ..... 39
Table 4.28. The percentage of student's responses for Question 6 ..... 39
Table 4.29. The correct and incorrect responses for Question 19 ..... 40
Table 4.30. The percentage of student's responses for Question 19 ..... 41
Table 4.31. The correct and incorrect responses for Question 5 ..... 42
Table 4.32. The percentage of student's responses for Question 5 ..... 42
Table 4.33. The correct and incorrect responses for Question 15 ..... 43
Table 4.34. The percentage of student's responses for Question 15 ..... 44
Table 4.35. The correct and incorrect responses for Question 9 ..... 45
Table 4.36. The percentage of student's responses for Question 9 ..... 45
Table 4.37. The correct and incorrect responses for Question 20 ..... 46
Table 4.38. The percentage of student's responses for Question 20 ..... 47
Table 4.39. The correct and incorrect responses for Question 3 ..... 48
Table 4.40. The percentage of student's responses for Question 3 ..... 48
Table 4.41. The correct and incorrect responses for Question 10 ..... 50
Table 4.42. The percentage of student's responses for Question 10 ..... 50
Table 4.43. The correct and incorrect responses for Question 13 ..... 51
Table 4.44. The percentage of student's responses for Question 13 ..... 51
Table 4.45. The frequency of correct responses to the first tier compared with the frequency of correct responses to both tiers. ..... 52
Table 4.46. Percentage of students' misconception ..... 53
Table 4.47. The percentage (\%) of senior high schools students grade XI ( $\mathrm{n}=184$ )
Selecting each response combination ..... 54
Table 4.48. Common misconceptions of buffer solutions held by senior highSchools students grade XI $(\mathrm{n}=184)$55

