**CHE1031 Mock Final Exam Numerical Short Key**

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| ***EXAM 1: Lectures 1 & 2*** |

**Lecture 1: Fundamentals to measurement**

5. = 1 x 1013 fm

7. a. 100.090090

8. = 600 with just 1 sf

9. 1.4368 x 10-6

10. = 4.93 cm3 or mL

**Lecture 2: Atoms, Molecules & Formulas**

16. 195 – 78 = neutrons

17. = 220.42 g/mol

***EXAM 2: Lectures 3, 4 & 5***

**Lecture 3: Moles, formulas, equations, stoichiometry & limiting reactants**

22. = 2.94x10-7 moles

23. = 2.4x1024 atoms H

24. 105.99 g/mol

25. MW = 342 g/mol

% C = 42.1%

% H = 6.49%

% O = 51.5%

26. = 3.99

= 10.0 C4H10O1

= 1.00

29. = 43 g

30. = 5.85 g Li3N 🡸 limiting thus theoretical

**Lecture 4: Aqueous solution chemistry**

32. = 13.8 g KCl

33. = 50.0 mL

40. = 0.0102 M acid

44. e. +6

**Lecture 5: Electrochemistry**

51. = +0.30 V

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| ***EXAM 3: Lectures 6 & 7*** |

**Lecture 6: Sub-atomic & quantum structure**

**Lecture 7: Chemical bonding**

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| ***EXAM 4: Lectures 8, 10 & 11 (abridged)*** |

**Lecture 8: Thermochemistry**

76. = -16.6 J

**8.5: Enthalpy**

77. = -36 kJ

78. = +162 kJ

79. -1300 kJ

80. +571.66 kJ

81. = 1.46 g

83. = -3267.4 kJ

84. = -76.4 kJ

**Lecture 10: Kinetics *(abridged)***

**Lecture 11: Equilibrium *(abridged)***

95. = 2.4x10**3**

97. = 11.0