Guidelines for B.Sc. (H) Computer Science Semester I w.e.f. 2011

These are only guidelines and in no case to be treated as syllabus. The guidelines may be updated from time to time. Click <u>here</u> for changes that were made in September, 2008.

Chapter	Торіс	Reference
Chap 1	Introduction to Computers	[2]
Appendix D	Numbering Systems	[2]
Chap 1.1 – 1.4	Introduction to Problem Solving	[1]
Chap 2	Fundamental Algorithms	[1]
Chap 3	Factoring Methods	[1]
Chap 2	Introduction to the C++ Language	[2]
Chap 3	Structure of a C++ Program	[2]
Chap 4	Functions	[2]
Chap 5	Selection-Making decisions	[2]
Chap 6	Repetition	[2]
Chap 7	Text I/O	[2]
Chap 8	Arrays	[2]
Chap 9	Pointers	[2]
Chap 10	Classes	[2]
Chap 11	More Class Features and Other Types	[2]
Chap 12	Inheritance and Aggregation	[2]
Chap 14	Strings	[2]
Chap 15	Exception Handling	[2]

CSHT 101 – Programming Fundamentals

* Except "Software Engineering and Programming Style" section in every chapter of [2]

References:

- [1] R.G. Dromey, **How to solve it by Computer**, Pearson Education
- [2] B. A. Forouzan and R. F. Gilberg, **Computer Science**, A Structured Approach using C++ (2nd ed.), Indian Edition, Cengage Learning, 2004.

102 - Discrete Structures

S. No.	Торіс	[Reference] Chapter / Section	No. of Lectures
1.	Sets, Relation, Functions	 [1] 1.1 to 1.6 * [1] 3.1, 3.3, 3.4, 3.7 (excluding Lattices) * [2] 2.3 [2] 5.2 (Only Introduction Section) 	10
2.	Permutation and Combination	[1] 2.1 to 2.4	5
3.	Graphs	[2] Chapter 8 excluding 8.6	
4.	Trees	[2] 9.1 [2] 9.4 (Only Introduction Section)	10
5.	Generating Functions	[1] Chapter 8 excluding 8.3, 8.5	5
6.	Recurrence Relation	[1] Chapter 9 upto 9.7[3] Chapter 4 (excluding proof of Master's Theorem)	13
7.	Growth of Functions	[3] Appendix A[2] 3.1 (excluding Greedy & Halting)[2] 3.2	5
8.	Logic (Prepositional & Predicate)	[1] 1.8 to 1.17 *	12

*Given Program Codes in reference [1] not to be done

References:

- [1] C.L. Liu & Mahopatra, Elements of Discrete mathematics, Third Edition, Tata McGraw Hill
- [2] Kenneth Rosen, Discrete Mathematics and Its Applications, Sixth Edition
- [3] T.H. Coremen, C.E. Leiserson, R. L. Rivest, Introduction to algorithms, Prentice Hall on India (second edition)
- [4] J. P. Trembley, R. Manohar, Discrete Mathematical Structures with application to computer science, Tata McGraw Hill.
- [5] M. O. Albertson and J. P. Hutchinson, Discrete Mathematics with Algorithms