Session Plan for CSE1002 Winter '18

Session	Topics Covered
1	Overview of Divide and conquer - Tower of Hanoi problem*
2	Conditional Statements, Looping Statements
3	Arrays – single and multi dimension
4 & 5	Functions (Pass by Value and address) – recursion
	Inlab 1
6 & 7	Pointers and Dynamic memory allocation
8 & 9	Structure – union – Macros
	Inlab 2
10	Assessment – I
11	Overview of Abstraction technique -Travelling Salesman Problem*, Inline functions, functions with default arguments
12	Exception handling (Standard Exceptions), Functions with reference (independent reference, function pass by reference, function return by reference)
	Overview of OOP concepts and UML class diagram Video lecture: https://www.youtube.com/watch?v=Vy_gLkxuCnw https://www.youtube.com/watch?v=3cmzqZzwNDM https://www.youtube.com/watch?v=3cmzqZzwNDM Videosfor drawing class diagrams using Dia: https://www.youtube.com/watch?v=SXYjvLZblNo
13	Designing UML diagrams
14	Classes and objects, Static data members
15	Dynamic memory allocation, Array of objects(static and dynamic)
16	Constructors(default, parameterised, copy) and destructors. Shallow and deep copying
	Inlab 3
17	Overview of Exhaustive approach- Cabbage, Goat, farmer problem* Case study – Railway Reservation Systems**, Friend functions and Friend classes
18	Function overloading concept
	Inlab 4
19	Assessment – II
20	Operator overloading – unary operator, subscript operator []
	Operator overloading – all operators: Video lecture
21	Operator overloading – binary operator using friend and member function
22	Operator overloading – Type Conversion
	Inlab 5
23	Overview of Greedy Technique - Scheduling Problem* Case study - Railway Reservation Systems**, Single and hierarchy inheritance
24	Multilevel inheritance
25	Multipath, hybrid inheritance
	Inlab 6

26	Dynamic polymorphism – virtual functions
27	Dynamic polymorphism – pure virtual functions
	Inlab 7
28	Assessment – III
29	Greedy Technique - Knapsack Problem*, Case study - Railway Reservation Systems** Exception Handling (User-defined Exceptions)
30	Generic Programming – Function template
31	Generic Programming – Class template, Class Template Inheritance
	Inlab 8
32	STL – Container, Algorithm, Iterator- vector, map
33	STL –list, stack
	Inlab 9
34	Assessment IV
35	Divide and conquer - Strassen's Matrix multiplications*, formatted iostreams Sequential – writing and reading objects into/from files
	Manipulators , overloading Inserters(<<) and Extractors(>>) Video lecture: https://www.youtube.com/watch?v=TmFNZxDw9mk https://www.youtube.com/watch?v=xE8_w5cu99Q
36	Random files - writing and reading objects into/from files
	Inlab 10
37	Challenging Task 1
38	Challenging Task 2

Total: 10 Inlabs, 4 Assessments and 2 Challenging Tasks.

Note: If any Deviations in the planned sessions will be informed.

Code of Conduct: You have to upload your original works.

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