Q.1 What do you mean by asymptotic analysis of an algorithm? Explain different types os asymptotic notations.

Q.2 What are the properties of red-black tree? Design a suitable tree with satisfies all the properties of red-black tree.

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Q.3 Write an stable sort algorithm using a suitable example with its complexity.

Q.4 Write an algorithm for Heapify using a suitable example.

Q.5 Solve a recurrence relation using iterative method.

T (n) = 16 T(n/4) + n^3

Q.6 Write and explain an algorithm of Quick sort using DAC strategy. Also analyze the time complexity.

Q.7 Perform an insertion operations using a suitable algorithm in B Tree on the following data set: 8, 9, 10, 11, 15, 20, 17. Degree is given 2.