**Time complexity Problems:**

**)**



**NA**



**NA**



**(n logn)**



**()**

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

**Solutions:**

Applying Master’s Theorem :

a= 3, b=2, f(n) = n therefore d = 1

here a >

therefore case 3 applies T(n) = **)**

Therefore, substitute the values we get

**)**



**Here f(n) is negative, Master’s theorem doesn’t apply**



**Here a is not a constant, hence Master’s theorem doesn’t apply**

1. Applying Master’s Theorem :

a = 3, b = 3 , f(n) = n/2, d = 1

a = , therefore case 2 applies T(n) = Ɵ( log n)

**(n logn)**

1. Applying Master’s Theorem :

a = 7, b = 3 , f(n) = , d = 2

a < , therefore case 1 T(n) = Ɵ()

**()**