PART 1

Marks: 10 (2 marks each)

The time complexity of the below functions in Θ form. Wrote NA in the function does not apply.

a) T (n) = 3T (n/2) + n

🡺 nlogba = n log23

b) T (n) = 64T (n/8) − n^2(log n)

🡺NA

F(n) which is the combination time, is not positive

c) T (n) = 2nT (n/2) + n^n

🡺NA

Since, a is not a constant; the number of subproblems should be fixed.

d) T (n) = 3T (n/3) + n/2

🡺f(n)= Θ(nlogn)

e) T (n) = 7T (n/3) + n^2

🡺Θ n2