Solutions:

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

sol: = Θ(n log b^a) = **Θ(n log 2^3).**

b) T (n) = 64T (n/8) − n^2(log n)

sol: NA (f(n) is -ve)

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

sol: Θ(n^n)

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

sol: Θ(n log n)

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

sol: Θ(n2)