## Question One Answers:

**1. T (n) = 3T (n/2) + n**

Answer: $\Theta\left(n^{\log_2 3}\right)$

**2. T(n) = 64T (n/8) – n^2(log n)**

Answer: NA

**3. T (n) = 2nT (n/2) + n^n**

Answer: NA

**4. T (n) = 3T (n/3) + n/2**

Answer: $\Theta\left(n \log n\right)$

**5. T (n) = 7T (n/3) + n^2**

Answer: $\Theta\left(n^2\right)$