NAME: SID:

Problem 1: Below you are given five choices of parameters p, q, e, d of RSA. For each choice tell whether these parameters are correct[1] (write YES/NO). If not, give a brief justification (at most 10 words).

p	q	e	d	correct?	justify if not correct
3	5	3	3		
13	9	7	55		
13	11	7	103		
17	17	3	171		
11	13	25	37		

[1]To clarify, correctness refers only to mathematical correctness, namely whether the decryption function is the inverse of the encryption function. This should not be confused with security.

Problem 2: Solve the recurrence equation $T_n = 3T_{n-1} - T_{n-2}$, for $T_0 = 0$, $T_1 = 1$. Follow the steps below.

(a) Characteristic polynomial and its roots:

(b) General solution:

(c) Equations for initial conditions and its solution:

(d) Final answer: