**373 Math**

**Excercises Chapter 3**

3.1: 1,2,3,4,5,6,8,9,13,15,16.

3.2: 1,3,4,6,8,9,10,12.

**Additional Problems:**

Q1: Let $f:R\rightarrow R$ be given by $f\left(x\right)=\left\{\begin{array}{c}1 x\geq 0\\-1 x<0\end{array}\right.$

Detemine whether $f $is

a) $τ\_{cof}-U $continuous.

b) $U-τ\_{cof} $continuous.

c) $F\_{1}-U $continuous.

d) $U-F\_{1} $ continuous.

e) $C-C $continuous.

3.3: 1,2,3,4,7,8,11,13,14.15.20,21,22.

**Additional Problems:**

Q2: Let $f:\left(X‚F\right)\rightarrow \left(Y‚S\right)$be a homeomorphism, $A⊆X. $Prove the

Following:

a) If $a\in int\left(A\right),$ then $f\left(a\right)\in int\left(f\left(A\right)\right).$

b) If $a\in Bd\left(A\right),$ then $f\left(a\right)\in Bd\left(f\left(A\right)\right).$

**Excercises Chapter 4**

4.1: 1,2,3,4,5,6,8,11.