**Assignment 2 Week 4**

**Subject: Database systems(ICT 3157)**

**Date : 29-8-2020 Duration: 45 mins**

**Answer all the questions:**

1. Justify the need to have candidate key and foreign key in a database.

Ans: candidate keys are able to identify the tuples/entities uniquely. It further ensures no duplicate entries are entered.

Foreign keys allows to connect between various tables/relations in the database.

Note: definition of candidate and foreign key does not fetch marks)

2. For the following schema

Employee(person\_name, street, city)

Works(person\_name, company\_name, salary)

Company(company\_name, city)

Give an expression in relational algebra to express each of the following:

a)Find the names, street address, and cities of residence of all employees who **work in “Miami**” (2marks)

ans:

π(person\_name, street, city)

(σcompany.city=”Miami”((employee|×|works)|×|company))

b) Find the names of all employees who **live in “Miami**” and whose

salary is greater than $100,000. (1 mark)

π(person\_name)( σ (city=”Miami ^ salary>100000)(employee|X|works))