COMSATS University Islamabad, Lahore Campus

Quiz # 2 – FALL 2020

Course Title:	Design and Analysis of Algorithms	Course Code:	CSC301	Credit Hours:	3
Course Instructor:	Dr. Hasan Jamal	Date:	7 PM on 09/12/2020		
Deadline:	8 PM on 09/12/2020	**Maximum Marks:**		**12**	

Important Instructions / Guidelines:

- Submit your solution on Google Classroom.
- Any form of cheating or copying will result in zero marks.
- One mark will be deducted per two minutes of late submission over the submission deadline.

Question: **[Marks: 12]**

Given a hash table of size 17 and two hash functions, $H_1(K) = K\ Mod\ 17$ and $H_2(K) = 1 + (K\ Mod\ 13)$. $H_1(K)$ determines the starting location and $H_2(K)$ is the probe function that determines the offset in case of collision. Draw the contents of the hash table if open addressing with double probing is used to resolve collisions. What values will be in the hash table after the following sequence of insertions? Show all your steps and draw the hash table after insertion of each key to obtain full marks (1 mark per each key insertion).

6, 13, 17, 21, 28, 15, 33, 23, 32, 22, 3, 37