Department of Mathematics and Statistics, KFUPM

Math-101 Semester-151 QUIZ I

NAME: S.No. ID:

Maximum Marks: 8 Section: Time Allowed: 25 minutes

(1) Consider the function $f(x) = \begin{cases} \sqrt{1-x^2} & 0 \le x < 1 \\ 1 & 1 \le x < 2 \\ 2 & x = 2. \end{cases}$

(a) Sketch the graph of the function f. (b) What are the domain and range of f ?

(c) At what points does only the left-hand limit exist ?

(d) At what points does only the right-hand limit exist ?

(e) At what points "a", if any, does $\lim_{x \to a} f(x)$ exist ?

(2) (a) Find $lim_{x \to 2\pi^-}\ x\ csc(x)$ (b) $lim_{x \to 2^-}\ 2 - |x|$