Suez Canal University
Faculty of Computers and Informatics
Department of Basic Science

Activity -1st Term 2022/2023

Program: software	Course: Discrete mathematics	Course Code: MAT101
Level: First Year	Lecturer: Dr. Asmaa Awad	Date: 8/11/2022
Total Pages:	Total Marks: 15	Time Allowed: 1 Hours

Answer the following Questions

Question No. 1 :

1- Let $f(x) = \left\lfloor \frac{x^2}{3} \right\rfloor$. Find $f(s)$, if $s = \{-2, -1, 0, 1, 2, 3\}$.

2- Let R_1 be the function from $\{l, m, n\}$ to itself such that $R_1(l) = m$, $R_1(m) = n$, $R_1(n) = l$ and R_2 be the function from $\{l, m, n\}$ to $\{-1, 0, 1\}$ such that $R_2(l) = 1$, $R_2(m) = 0$, $R_2(n) = -1$ .Find $(R_1 0\ R_2)$ and $(R_2 0\ R_1)$?

1- Find these terms a_0, a_1, a_4, a_5 of the sequence $\{a_n\}$, $a_n = 2.(-3)^n + 5^n$.

2- Compute the value of the double summation $\sum_{i=0}^{2} \sum_{j=0}^{3} (2i + 3j)$.

Question No. 3 :

1- Let $\{a_n\}$ be a sequence that satisfies the recurrence relation $a_n = a_{n-1} - a_{n-2}, \ for\ n = 2,3,4, ...$
Suppose that $a_0 = 3, a_1 = 5$. What are $a_2\ and\ a_3$.

2- Find the inverse of the function if exist $f(x) = 2x - 5$