A.Y.-2021-22 – S. Y. B. Tech – Computer Engineering	
ODD SEMSTER (SEM-III)	
Subject- Discrete Structures	Sub Code- PCCO3030T
Day & Date- Friday, 21/01/2022	Time- 10.45 am to 12 pm
Term Test – II - Max Marks-15	

Note- Solve any 03 out of 04

Q. N.	Question	Marks
1	Let f(x) = x+2, g(x) = x-2 & h(x)=3x for x $\in$ R, where R is set of real numbers. Find gof, fog, fof, gog, foh, hog, hof, hoh, fohog.	5
2	By using mathematical induction prove that the given equation is true for all positive integers. 1 x 2 + 3 x 4 + 5 x 6 + …. + (2n - 1) x 2n = n(n+1)(4n−1)/3	5
3	How many different strings of length six can be generated using either three uppercase alphabets followed by three digits or four uppercase alphabets followed by two digits.	5
4	Solve following recurrence relation using Homogeneous Solution- a_r-10a_{r-1}+25a_{r-2}=0, where a_0=3 and a_1=17	5