

CHEMISTRY Honors Practical Examination' 2021

Gurudas College Centre

Paper- CC-11-P (Physical Chemistry)

FM-30

Time: 2hr

Write a FORTRAN program to determine the pH of a weak acid using Newton-Raphson method.

1. Write down the theory mentioning the following points:
 - (a) Derivation of working formula
 - (b) Principle of Newton Raphson method and its derivation
 - (c) Give limitations of this method
 - (d) Write down the algorithm
2. Write down the program explaining steps in it.
3. Using the program evaluate the pH of 0.05 (N) weak acid solution with pKa value 4.75 at 25°C.

(5+5+2+3) + 10 + 5