Instructions	OL P.O BOX 327- 01030 GATUNDU APER 3 END TERM I EXAM TIME 2HRS
 Write your name admission num Answer all the questions in the sp Mathematical tables and electroni All working must be shown clear 	ber and class in the spaces provided above paces provided in the question paper. ic calculators may be used.
1. You are provided with exactly 2g of H ₂ C ₂ O ₄ . 2H ₂ O) You are required to determine the mol	of solid D,(Oxalic acid molecular formula ;
Place 30cm ³ of distilled water into a 10 Measure the initial temperature of the D at once. Stir the mixture carefully	water and record it in table III below. A 11 11
Measure the final temperature reached TABLE III Final temperature (°C)	and record it in table III below.
TABLE III	and record it in table III below.
TABLE III Final temperature (°C)	and record it in table III below.
TABLE III Final temperature (°C) Initial temperature (°C)	and record it in table III below. (3ma

	the relative formula mass of oxalic acid. B; H=1, C=12, O=16)		(1marks)
			` '
Ţ	V. Moles of solid D, oxalic acid (H ₂ C ₂ O ₄ . 2	Phon (O. Hu	
-	7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7	31120) used.	(2marks
V	7. Molar heat of solution, ΔH of solid D, (O	xalic acid)	(1mark
<i>פיי</i> ו			
a) P	You are provided with solid E. Carry ou accord your observations and inferences in tut all the solid E provided in a boiling tu noroughly. Divide the resulting solution and ydroxide solution dropwise until in excess.	he spaces provided. ibe and add 10cm³ o	f distilled water and shake
	Observation	ns	
L			2mk
b) In fl	sert a clean metallic spatula (or wet) to thame.	e second portion and	burn it in a non-luminous
	Observation	is	
			1mk
c) T	o the third portion, add 4 drops of Lead (II)	nitrate colution	
	Observations		
		<u>.</u>	

V) acid.	Observations	
		2mk
To the fifth portion, ac	ld 3 drops of acidified potassium ma	nganate (VII)
	Observations	0 (1.2)
		,
		ŀ
		2mk
To the sixth portion, ac	ld 3 drops of acidified potassium chr	omate VI
	Observations	Olitate VI
		21-
		2mk