**Lab sheet #4**

**Name:**……………………………………………………………………………… **ID:** ………………………………………………………………………………

**Method and Calculations**:

**Prepare 0.1 liters of 0.045 M sodium phosphate buffer, pH=7.5**

**[pka1= 2.12, pka2 = 7.21 and pka3 = 12.30].**

**1st** 🡺 Write the equations of phosphoric acid dissociation and the pKa of corresponding ones:

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**2nd** 🡺 Choose the pKa value which is near the pH value of the required buffer, to be able to know the ionic species involved in your buffer:

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**3rd** 🡺 calculate number of moles for the two ionic species in the buffer:

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a) From concentrated (15M) NaH3PO4 and solution of 1.5 M NaOH .

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**So:** Add …………….ml of NaOH to the …………… ml of concentrate H3PO4, mix ; then add sufficient water to bring the final volume to 0.1 liters (100 ml), and check the pH.

pH= ………………………

b) From solid NaH2PO4 and solid NaOH.

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**So:** Dissolve the …………… g of NaH2PO 4 and …………… g of NaOH in some water, mix ; then add sufficient water to bring the final volume to 0.1 liters (100 ml), and check the pH.

pH= ………………………

**Note:** Atomic weights: Na = 23, P= 30.97 , O = 16, H = 1