THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1.   Answer the following short questions: **(15x2=30)**

i)   Write down Nernst Equation for unipositive Ion.
ii)   Define Electrode Potential.
iii)   Define primary reference electrode with example.
iv)   How Calomel electrode is represented?
v)   Compare peaks obtained by capillary and packed column.
vi)   Write down two characteristics of detectors used in gas chromatography.
vii)   Write down two disadvantages of flame ionization detector.
viii)   What is effect of carrier gas velocity on resolution?
ix)   Give two difference between DSC and DTA.
x)   Define thermometric titration.
xi)   What is principle of TDA?
xii)   Define resolution in HPLC.
xiii)   What is Pre-column in HPLC?
xiv)   ~~Name adsorbents used in HPLC column.~~
xv)   Differentiate between heat flux DSC and power compensated DSC.

Answer the following questions.   **(3x10=30)**

Q: No. 2 (a) Derive Nernst Equation.

(b) How pH is determined from glass electrode?

Q: No. 3 (a) Describe the characteristics of detectors in gas chromatography.

(b) Describe the working of thermal conductivity detectors.

Q: No. 4 (a) Describe application of TDA curves.

(b) How sample is introduced in HPLC?