Report Submission Guidelines:

1. Plot the percentage biased differential characteristics for the two data sets provided in two graph sheets. (Write your roll number and name at the top of the sheets)
2. Plot the reference characteristic for the mentioned setting for each graph plotted.
3. Write on your assessment for each experimental data set compared to reference graph.
4. Write your suggestions how the performance of the relay can be improved further.
5. A transformer differential relay observes the presence of 2nd, 4th and 5th harmonic components as (11%, 5% and 36%) respectively of the fundamental component in the differential current. Such a situation indicates which of the following situation?

    a) Inrush
    b) Overexcitation
    c) High loading
    d) CT saturation

    Have your detail explanation for this considering all the above 4 conditions of the transformer. (in 100 words)
6. High voltage and low voltage CT ratios for a 25 MVA, 220 kV/33 kV, 50 Hz, Yy0 transformer with both side grounded are 100/5 and 600/5 respectively. For an internal phase-A-to-ground fault condition, phase A current measured at high voltage and low voltage sides are 440 A and 1800 A respectively. What will be the maximum bias setting for a single-slope percentage bias differential relay to detect such a fault condition? Consider the transformer to be in unloaded condition.

Pages to be submitted

- Page-1 :roll No, Name at the top, discussion on observations of the 2 cases as mentioned in the earlier slide
- Page-2 –page-3- graph papers with plots (roll No, Name at the top)
- Page 4- the assignment given in point-5 in earlier slide (roll No, Name at the top)
- Page-5 for point5 in the earlier slide (roll No, Name at the top)
- Page6- for ponit6 in the earlier slide (roll No, Name at the top)
- Create a pdf of all the pages in order and submit (moodle)