

الامتحان النهائي في المقرر ٣٥٠ ( التحليل الآلي لطلاب الهندسة الكيميائية )  
الفصل الدراسي الأول للعام الجامعي ١٤٢٦/١٤٢٧ هـ  
مدرس المقرر : د. عبد الله بن محمد عزيز الرحمن

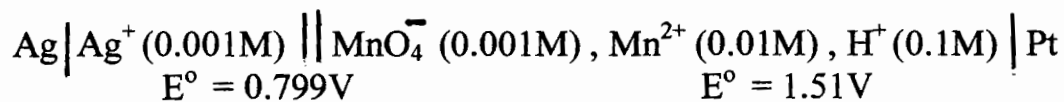
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(Q1) :

"1" Explain the determination of the following ions , using the chemical equations :-

- Lead by FIA-Spectrometry?
- Sulphide by the methylene blue method?
- Copper  $\text{II}$  by photometric titration?
- Chloride by coulometric titration?

"2" Calculate the potential of the following cell?



and then deduce the cell reaction?

(Q2) : Describe briefly the following:-

- The atomic emission by plasma discharge?
- The solid – state membrane electrodes?
- The photomultiplier tube?
- Fluorescence of the aromatic compounds?
- The essential components of a double-beam atomic absorption spectrometer?

Good luck