Unit 5 - Practice and applications of ICP - AES for chemical analysis

Week-4 Assignment

The due date for submitting this assignment has passed. Due on 2018-03-07, 23:59 IST.

Submitted assignment

1) Nukiyaman and Tansawa equation shows that the mean droplet diameter of the aerosol particle is:
   - Directly proportional to the liquid viscosity and inversely proportional to the surface tension of the solvent
   - Inversely proportional to the liquid viscosity and directly proportional to the surface tension of the solvent
   - Directly proportional to the liquid viscosity and surface tension of the solvent
   - Inversely proportional to the liquid viscosity and surface tension of the solvent

No, the answer is incorrect.
Score: 0
Accepted Answers:
- Inversely proportional to the liquid viscosity and surface tension of the solvent

2) Concentric and cross flow nebulizers are:
   - Self feeding without ventury effect
   - Not self feeding but with ventury effect
   - Self feeding with ventury effect
   - Not self feeding but without ventury effect

No, the answer is incorrect.
Score: 0
Accepted Answers:
- Self feeding with ventury effect

3) Babington nebulizers are useful whenever the sample contains,
   - Low concentration of the analyte
   - High concentration of the analyte
   - Low concentration of the dissolved salts
   - High concentration of the dissolved salts

No, the answer is incorrect.
Score: 0
Accepted Answers:
- High concentration of the dissolved salts

4) In ICP a mineral sample containing silica and fluoride is to be ashed and analysed. The best method of ashing would be:
5) Multivariate method of calibration of elements is preferred in ICP - AES because,

- Matrix effects are also taken into account
- Interference effects are also taken into account
- Both matrix and interference effects are taken into account
- None of these

No, the answer is incorrect.
Score: 0
Accepted Answers:
Both matrix and interference effects are taken into account

6) ICP - AES is advantageous for chemical analysis of elements because,

- The calibration is linear over several orders of concentration
- The calibration is quadratic or polynomial
- The calibration is better because an internal standard I used
- The calibration is linear over same order of concentration

No, the answer is incorrect.
Score: 0
Accepted Answers:
The calibration is linear over several orders of concentration

7) In ICP - AES, dissociation process frequently takes place between the flame gasses. These ions cause:

- Enhancement of the analytical signal
- Decrease in the analytical signal by suppressing the ionization of the analyte
- No change in the signal if the dissociation produces neutral gases
- None of these

No, the answer is incorrect.
Score: 0
Accepted Answers:
Decrease in the analytical signal by suppressing the ionization of the analyte

8) Back ground correction for interference is possible in ICP - AES because:

- We can do the calibration using greater resolution to reduce the interference
- The software for ICP - AES has powerful routines for deconvolution of overlapping lines
- Back ground is easily corrected by drawing an appropriated base line
- Back ground data is already corrected in the computer

No, the answer is incorrect.
Score: 0
Accepted Answers:
Back ground is easily corrected by drawing an appropriated base line

9) Precision of measurement refers to the closeness of the

- Accurate values
- Most probable values
- True value with / without error
10. Detection limit of an element in ICP-AES is given by:

- $C/k_s$
- $m/k_s$

No, the answer is incorrect.
Score: 0

Accepted Answers:
- Accurate values