School of Chemistry and Biochemistry, TIET, Patiala
Applied Chemistry (UCB008)
Tutorial Sheet (Atomic Spectroscopy -Part-I)

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1. What is spectroscopy?
2. What is atomic spectroscopy?
3. What is the difference between atomic absorption and emission spectra?
4. What is an "atomizer"?
5. What kind of light is detected in atomic absorption spectroscopy (AAS) and atomic emission spectroscopy (AES)?
6. Why is the color of a flame containing sodium atoms different from that of a flame containing potassium atoms?
7. What is the difference between a total consumption burner and a premix burner? Which is used for which technique?
8. What is the principle of atomic emission spectrophotometry?
9. List various steps involved until the detection of analyte using AES.
10. Name the factors that affect the intensity of emitted radiation in AES?
11. What are the main limitations of flame photometry (AES)?
12. If E_1 and E_2 are the energies of ground state and excited state for a metal M, then what is the wavelength of emitted radiation?
13. What temperature can be achieved by each of the following flames?
    (a) air/natural gas
    (b) air/acetylene
    (c) N_2O/acetylene
    (d) oxygen/acetylene
14. What is the purpose of the high-energy flame, discharge, or plasma source in atomic spectroscopy?
