



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

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

1. What is the difference between Precision and Accuracy
2. What is meant by quality control chart?
3. Define mole fraction. write down its formula?
4. What are the possible uses of F-test?
5. Enlist the possible electronic transitions in a molecule.
6. What the applications of Beer Lambert's law?
7. What is the difference between single and double beam spectrophotometer?
8. What are electromagnetic radiations?
9. What is the difference between Bathochromic effect and hypsochromic effect?
10. Enlist the methods to detect colorless spots in TLC.
11. What is the main function of binder in TLC?
12. Write two limitations of paper chromatography.
13. What is the difference between retarding and propelling forces ?
14. What is the difference between adsorption and partition chromatography?
15. What is the difference between wet and dry packing in column chromatography?

Answer the following questions.

- Q2 (a): What are the new developing trends in analytical chemistry? Explain. (5)  
(b) Define Standard deviation. What is the significance of student T test? (5)
- Q3 (a) What type of adsorbents and solvents can be used in Column Chromatography? (5)  
(b) How can you detect colorless spots in TLC? (5)
- Q4 (a) Discuss chemical deviation from Beer Lambert Law. (5)  
(b) How do UV/Vis radiations interact of with matter? (5)