- They can present scientific and technical information resulting from laboratory experimentation in both written and oral formats.
- They are in a position to explain the principle, instrumentation and applications of colorimetric analysis of various biochemical compounds.

Course outcome:

- Students will have the ability to think critically and analyze biochemical problems.
- They can present scientific and technical information resulting from laboratory experimentation in both written and oral formats.
- They are in a position to explain the principle, instrumentation and applications of colorimetric analysis of various biochemical compounds.

REFERENCES:

1. Introduction to practical Biochemistry. David T. Plummer
2. Lab Manual of Biochemistry By Nigam. 2007. Tata McGraw-Hill Education, USA.
3. Biochemical Methods. S. Sadasivam and A. Manickam. 3rd ed, New Age International P.

BCP 408: PRACTICAL BIOANALYTICAL TECHNIQUES: HARD CORE

Practical: 8 hours/week **Total Credits: 04**

Course objectives:

- To use different types of chromatographic techniques to detect amino acids, lipids and carbohydrates.
- To characterize oil and fat to check their purity.
- To use various techniques to purify proteins.
- To separate and detect proteins using electrophoretic techniques.

Experiments:

1. Detection of amino acids by circular chromatography
2. Detection of amino acids by ascending chromatography.
3. Detection of amino acids by descending chromatography.
4. Detection of amino acids by 2D- paper chromatography.
5. Detection of amino acids by thin layer chromatography.
6. Detection of lipids by thin layer chromatography.
7. Detection of carbohydrates by paper chromatography.
8. Detection of carbohydrates by thin layer chromatography.
9. Saponification number of oil and fat.
10. Iodine number of oil and fat.
11. Trichloroacetic acid precipitation of proteins.
12. Preparation of casein from milk.
13. Acetone precipitation of proteins
14. Purification of proteins: Ammonium sulphate precipitation (salting out), Dialysis,.
15. Separation and detection of proteins – Native PAGE, Denaturing PAGE.

Course outcome:

- Students would gain knowledge about the biochemical techniques and their applications in day to-day life.