DEPARTMENT OF CHEMISTRY				*CLASS: II B. Sc. Chemistry*				
Sem	**Course Type**	**Course Code**	**Course Title**	**Credits**	**Contact Hours/week**	**CIA**	**Ext**	**Total**
III	Add on course	20U4CAO1	Add on for beginners	2	2	50	50	100

UNIT I - Chemistry of cosmetics and perfumes (6 hours)

A General study including preparation and uses of the following:

Hair dye, hair spray, shampoo, Suntan lotions, Face Powder, Lipsticks, Talcum Powder, Nail enamel, Creams (Cold, Vanishing and Shaving Creams), Antiperspirants and artificial flavours. Essential oils and their importance in Cosmetic industries with reference to Eugenol, Geraniol, Sandalwood oil, jasmone, 2-phenylethyl alcohol, Eucalyptus, Civetone, Muscone.

UNIT II - Pesticide Chemistry (6 hours)

General Introduction to pesticides (Natural and Synthetic), benefits and advance effects, Changing Concept of pesticides, Structural activity relationship, Synthesis and technical manufacture and use of representative pesticides in the following classes: Organo chlorides (DDT, Gammexene); Organo phosphate (Malation, Parathion); Carbamate(Carbofuran and Carbaryl); Quinones (Chloranil), Anilides (alachlor and Butachlor)

UNIT III – Fermentation (6 hours)

Aerobic and anaerobic fermentation, Production of (i) Ethyl alcohol and Citric acid (ii) Antibiotics Penicillin, Cephalosporin, Chloromycetin and Streptomycin (iii) Lysine, Glutamic acid, Vitamin B2, Vitamin C. Preparation of Aspirin and Magnesium bisilicate (Antacid)

UNIT IV - Business Skills for chemists (6 hours)

Key business concepts: Business plans, Market need, Market used, Project management and routes to market.Chemistry in Industry**:**Current Challenges and Opportunities for the Chemistry & using Industries, Role of Chemistry in India and global economics.Makingmoney**:**Financial aspects of business with case studies.Intellectualproperty:Concept of intellectual property, patents.

UNIT V - Biochemistry of disease (6 hours)

A diagnostic approach by blood/urine analysis.

Blood: Composition and function of blood and preservation of sample, Anaemia, Regulation, estimation and interpretation for blood sugar, ureacreatinine, cholesterol and bilirubin.

Urine: Collection and preservation of samples formation of urine. Composition andestimation of constituents of normal and pathological urine.

References:

1. Patrick.G. (2017), Introduction to Medicinal Chemistry, Oxford University Press.
2. Singh.H; Kapoor S.K (1996), Medicinal and Pharmaceutical Chemistry, VallabhPrakashan.
3. Foye,W.O.Lemke, T.L: William, D.A(1995), Principles of Medicinal Chemistry, B.I.WaverlyPvt.Ltd.
4. Devlin, T.M. (2010), Textbook of Biochemistry with Clinical Correlation, Wiley.
5. Berg, J.M.; Tymoczko, J.L,;Stryer, L(2002), Biochemistry, W.H.Freeman.
6. Pandey, N.;Dhami, K.(2014), Intellectual Property Rights, PHI Learning Pvt.
7. Ganguli, P. (2001), Intellectual Property Rights: Unleashing the knowledge, McGraw Hill.
8. Barel, A.O.; Paye, M.; Maibach, H.I.(2014). Handbook of Cosmetic Science and Technology, CRC Press.
9. Guptaa, P.K; Gupta, S.K.(2011), Pharmaceutics and Cosmetics, PragatiPrakashan.
10. Kumar,R.(2018).Chemistry of Cosmetics, Prestige Publisher.

Name of the Course Designer

- Dr. M. Karpagavalli