**Curriculum Plan (Odd Semester 2022-23)**

Teacher Name: **Dr. Renu Bala**

Course: **B.Sc. Life Sciences, II year, Sem III**

Paper Name: **Pharmaceutical Chemistry** **(SEC)**

UPC: **32173909**

Month: **August’22 to December’22**

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| **Contents** | **Allocation of Lectures** | **Month wise schedule to be followed** | **Assignments/ Presentations/ Preparation in Lab etc.** |
| **Unit 1**   * Introduction * Drug discovery, design and development * Sources of drugs: biological, marine, minerals and plant tissue culture * physio-chemical aspects (optical, geometric and bioisosterism) of drug molecules and biological action, * drug receptor interaction, basic retro-synthetic approach for development of drug. * Cause of side effect of drugs like ibuprofen, cetirizine, thalidomide. * Difference between drug and poison. | Hands on Exercise: 60 lectures | Fourth week of August to September | Syllabus Overview  Class discussion Presentations |
| **Unit 2:**   * Drugs and Pharmaceuticals * Study of pharmaceutical aids like talc, diatomite, kaolin, bentomite, gelatin and natural colours * Synthesis of the representative drugs of the following classes:   + analgesics agents,   + antipyretic agents,   + anti-inflammatory agents (Aspirin);   + antibacterial and antifungal agents (Sulphonamides; Sulphanethoxazol, Sulphacetamide, Trimethoprim) | First week of October to Second week of October | Assignments allotment Presentations |
| **Unit 2 (Continued):**   * Synthesis of the representative drugs of the following classes:   + antiviral agents (Acyclovir),   + central nervous system agents (Phenobarbital Diazepam),   + Cardiovascular (Glyceryl trinitrate),   + antilaprosy (Dapsone),   + HIV-AIDS related drugs (AZT- Zidovudine). | Third week of October to fourth week of October | Presentation and discussion |
| **Unit 3:**   * Fermentation Aerobic and anaerobic fermentation. * Production of (i) Ethyl alcohol and citric acid, (ii)Antibiotics; Penicillin, Cephalosporin, Chloromycetin and Streptomycin, | First week of November to third week of November | Class test |
| **Unit 3 (Continued)**   * Production of   (iii) Lysine, Glutamic acid,  (iv) Vitamin B2, Vitamin B12 and Vitamin C. | Fourth week of November to first week of December | Previous year question paper and discussion |

**Dr. Renu Bala, Department of Chemistry**