Shri G.S. Institute of Technology and Science Indore
Department of Applied Chemistry
Proposed Lecture Plan
Subject: CH 29204: CHEMISTRY OF DRUGS – I

Period No.	Description of topics to be taught
	Unit –I
1.	Introduction to drugs, its classifications , structure and activity relationship with suitable examples and discussion
2.	Drug metabolism, Mechanism of drug action with suitable examples and discussion
3.	Bioavailability of drugs and drug distribution among various parts of the body , its route and factors affecting its distributions and discussion
4.	Elimination of drug from body, its route, dose dependency, toxicity of drug, drug interactions with various parts of the body and discussion.
5.	Introduction of Organometallic Therapeutic Agents, Preparation, properties and uses of organometallic compounds of Bismuth (Bi) and discussion.
6.	Preparation, properties and uses of organometallic compounds of mercury (Hg) and discussion.
7.	Preparation, properties and uses of organometallic compounds of Arsenic (As) and discussion.
8.	Preparation, properties and uses of organometallic compounds of Antimony (Sb) and gold (Au) and discussion.
	Unit -II
9.	Introduction of drug intermediate, active ingredient, Introduction of sedative and hypnotics, pattern of sleep and discussion.
10.	EEG pattern of sleep, classification of Central Nervous System depressants, barbiturates and discussion.
11.	Preparation and properties of various drug intermediate; Acetanilide, p- amino phenol, Ethyl acetoacetate, Succinic acid anhydride, phenyl acetic acid and discussion.
12.	Preparation and properties of various drug intermediates, p amino benzoic acid , 2, amino phenol , Acetoxime, Hydroxyl amine hydrochloride, Carbazole, Benzanilide and discussion.
13.	Introduction of fine chemicals, Preparation, Properties and Synthetic applications of Salicylates (methyl, ethyl, phenyl, mercury and lithium) and discussion.
14.	Preparation, Properties and Synthetic applications of citrates, tartrates, (methyl, ethyl, phenyl, mercury and lithium) and discussion.
15.	Preparation, Properties and Synthetic applications of diethyl malonate, aluminium hydroxide gel and discussion.
16.	Preparation, Properties and Synthetic applications of glycerophosphates, menthol crystals, benzocaine and discussion.
	Unit -III
17.	Preparation, properties, mode of action (MOA), structure-activity relationship (SAR) and uses of antiseptics compounds; Alcohols, phenols and their derivatives, Povidone Iodine and discussion.
18.	Preparation, properties, MOA, SAR and uses of antiseptics compounds; Nitrofurazone, halazone, chloroazodin, and discussion.
19.	Preparation, properties, MOA, SAR & uses of medicinal dyes: Gentian violet, basic fuschin, acridine derivatives, methylene blue and discussion.

20.	Preparation, properties, MOA, SAR and uses of Antifungal Drugs; Propionic acid, salicylic acid & their derivatives and discussion.
21.	Preparation, properties, MOA, SAR and uses of Antifungal Drugs; tolnaftate, chlordantoin, and discussion.
22.	Preparation, properties, MOA, SAR & uses of Antifungal Drugs; miconazole, clotrimazole and discussion.
23.	Preparation, properties, MOA, SAR and uses of Antitubercular Drugs; Aminosalicylic acid & its derivatives and discussion.
24.	Preparation, properties, MOA, SAR & uses of Antitubercular Drugs; Isoniazid, Pyrazinamide, ethambutol, ethionamide & discussion.
	Unit -IV
25.	Introduction of sulpha drugs, classification, Preparation, properties, MOA, SAR and uses of Sulpha drugs; Sulphanilamide, sulphadiazine and discussion.
26.	Preparation, properties, MOA, SAR & uses of Sulpha drugs; sulphamerazine, sulphamethazine, sulphapyrazine, sulphapyridine and discussion.
27.	Preparation, properties, MOA, SAR & uses of Sulpha drugs; sulphaguanidine, sulphathiazoles, sulphapyrimidine, sulphacetamide and discussion.
28.	Introduction of Anthelmintics, classification, preparation, properties, MOA, SAR and uses of Anthelmintics; Piperazines, pyrantel pamoate and discussion.
29.	Preparation, properties, MOA, SAR and uses of Anthelmintics; mebendazole, thiabenzadole and discussion.
30.	Introduction of Antiprotozoals , classification, preparation, properties, MOA, structure-activity relationship & uses of Antiprotozoals; Metronidazole & discussion.
31.	Preparation, properties, MOA, SAR and uses of Antiprotozoals; Diethyl carbamazine, furazolidone and discussion.
32.	Preparation, properties, MOA, SAR and uses of Antiprotozoals; Quinoline derivatives and discussion.
	Unit -V
33.	Introduction of Heterocyclics, aromaticity , huckel rule ,its classification and discussion.
34.	Preparation, properties, SAR & pharmaceutical uses of heterocyclics; Thiazoles, pyrazoles and discussion.
35.	Preparation, properties, SAR and pharmaceutical uses of heterocyclics; Pyrimidines, pyrans and discussion.
36.	Preparation, properties, SAR and pharmaceutical uses of heterocyclic's; Indoles and discussion.
37.	Preparation, properties, SAR and pharmaceutical uses of heterocyclics; carbazoles, isoquinolines and discussion.
38.	Discussion and overview of various drug absorption theories and Organometallic Therapeutic Agents, and Drug Intermediates and fine chemicals.
39.	Discussion and overview of Antiseptics, antifungal, antitubercular and sulpha drugs.
40.	Discussion and overview of Antiprotozoals, Anthelmintics and Heterocyclics