22CH4D4: ANTIBIOTICS, DRUGS, VITAMINS & STEROID HARMONES

Course Code	22CH4D5	I A Marks	30
No. of Lecture Hours / Week	4	End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Seminar	-	Exam Hours	03

S.No	COURSE OUTCOMES	PO`s
	The student will be able to	
1	Memorise the basic concepts of Antibiotics, drugs, vitamins, steroid harmones	2,7
2	Understand the role of Antibiotics, drugs, vitamins, harmones in human life.	1,2,7
3	Apply the knowledge gained about antibiotics, drugs, vitamins and steroids in their chosen fields..	1, 6
4	Analyse that how far antibiotics, drugs, vitamins, harmones are useful in enhancing the health of the humans.	1, 7.
5	Evaluate that how various compounds can function as antibiotics, drugs as anticancer agents	1, 7

CO-PO MATRIX								
COURSE CODE 22CH4D5	CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
	CO1		H					M
	CO2	M	M					L
	CO3	H					M	
	CO4	H						M
	CO5	H						M

UNIT-I

Antibiotics:

Cell wall biosynthesis, inhibitors, β-lactam rings, antibiotics inhibiting protein syntheis, structure elucidation of ampicillin, amoxicillin, chloramphenicol and gramidin.

UNIT-II

Drugs and Medicinal chemistry:

(I) Chemotherapy : Methodology for structure – activity relationship determination.

(II) Drugs: Structure synthesis & Activity of the following : Anticancer Agents: Taxol, Vinblastine, Vincristine, Campothecin.

UNIT-III

Chemotherapy of Brain: Introduction – neurotransmitters
CNS stimulants : Strychnine, Picrotoxin (CNS activity only) nikethemide caffeine
CNS depressants: General anesthetics, mode of action of Sedatives & Hypnotics.

UNIT-IV

(I) Antimalarials: Paludrin – quinacrin – chloroquin – camoquin – pamaquin – sontoquine.
(II) Antiamoebicagents : Chiniofon – Resotren – Iodochlorohydroxyquin.
(III) Sulpha drugs: Sulphanilamide – Dihydrocurprine – Prontosil
(IV)Antiseptics: Diphenyl – Chlorophene-2,4,4-trichloro-2'-hydroxydiphenyl ether – aminocerine hydrochloride.

UNIT-V

Fat Soluble Vitamins: Chemistry, Synthesis of vitamin A1, and vitamin K
Water soluble Vitamins: Chemistry, Synthesis of B1 and C
Steroid Hormones:
Chemistry & synthesis of progestrone, testosterone.

Non steroid hormones: Chemistry & synthesis of thyroxin, epinephrine.

TEXT BOOKS:

1. Introduction to Medicinal Chemistry – Wiley VCH
2. Text Book of Organic Medicinal and Pharmaceutical Chemistry, Wilson and Gisvild, (ed Robert F. Dorge)
3. An introduction to drug design by SS Pandeya
4. Buger's Medicinal Chemistry and drug discovery Vol.I by (Ed) ME Wolff – John – Wileyby A. Burger
5. The Organic Chemistry of drug design and drug action by RB Silverman, Academic press
6. Principles of Medicinal Chemistry by William O. Foye, Lea &Febiger, Philadelphia/London,1989.

M.Sc. DEGREE EXAMINATION
FOURTH SEMESTER
22CH4D5: SEPARATION TECHNIQUES AND ELECTRO ANALYTICAL TECHNIQUES

Time: 3 hours **Maximum Marks: 70**

Section-A

Answer ALL questions **5x4=20M**

1) (a)Explain the principle and techniques involved in solvent extraction. (CO-2,L-2)
(OR)
(b) Discuss about factors affecting solvent extraction. (CO-2, L-2)

2) (a)Explain paper chromatography in short. (CO-2,L-2)
(OR)
(b) Discuss Column Chromotography in short. (CO-2,L-2)

3) (a) Explain Polarisation in short. (CO-3,L-3)
(OR)
(b) Discuss about over voltage in brief. (CO-3,L-3)

4) (a) Explain Coulometry at controlled potential. (CO-3, L-3)
(OR)
(b) Discuss about separation of nickel by coulometry. (CO-3,L-3)

5) (a) Explain the principle of polarography in brief. (CO-3,L-3)
(OR)
(b) Discuss about dropping mercury electrode in short with a neat labeled. (CO-3,L-3)

Section –B **5X10=50M**

6) (a)Discuss about(i) Quantitative treatment of solvent extraction. (CO-3,L-3)
(ii) Equilibria-chelate systems
(OR)
(b) Explain separation of ion exchange resins and applications of ion exchange method in detail. (CO-3,L-3)

7) (a) Explain principle and technique involved in thin layer chromatography in detail. (CO-3,L-3)
(OR)
(b) Discuss principle and technique involved in Gas liquid chromatography with a neat labelled diagram. (CO-3,L-3)

8) (a) Discuss the principle and technique involved in electrogravimetric analysis in detail. (CO-2,L-2)
(OR)
(b) Explain in detail about (i) separation of metals by electrolysis
(ii) controlled potential electrolysis. (CO-2,L-2)

9) (a) Examinethe role of coulometric analysis and constant current coulometry in quantitative analysis. (CO-4,L-4)

(OR)

(b) Discuss coulometric titrations and separation of cobalt by coulometry in detail. (CO-4,L-4)

10) (a)(i) Write about factors effecting the limiting current and assess which factor effects more (ii)Compare residual current and migration Current. (CO-5,L-5)

(OR)

(b) Judge the importance of (i) diffusion current and kinetic current (b) Half wave potential in detail. (CO-5,L-5)

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