

VEER NARMAD SOUTH GUJARAT UNIVERSITY

Third Year B. Sc. Semester -VI Chemistry

Chemistry-Generic elective subject-Drugs

Proposed syllabus from July 2021

50 Marks (External)

Total: 30 Hrs

20 Marks (Internal)

Time: 2 Hrs. (Uni. Exam)

UNIT – I

Topic – 1: Sedatives, Hypnotics and Anticonvulsant drugs **5 Hrs.**

Definition; Introduction; Classification and Structural variations of Sedatives, Hypnotics and Anticonvulsant drugs; Synthesis and Therapeutic Uses of Luminal (Phenobarbital), Diazepam, Meprobamate, Imipramine, Veronal.

Topic – 2: Anaesthetics **5 Hrs.**

Definition; Introduction of General and Local Anaesthetics, Name and Structures of different General Anaesthetics, Classification and Structural Variation among Local Anaesthetics; Synthesis and Therapeutic Uses of Alpha-Eucaine, Benzocaine, Orthocaine, Lidocaine, Halothane.

UNIT-II

Topic – 1: Antihistamines (Anti-allergic drugs) **4 Hrs.**

Definition; Introduction; General account of Histamine and Anti-allergic drugs; Classification and Structural Variations among Antihistamines; Synthesis and Therapeutic Uses of Antergan, Benadryl (Diphenhydramine), Promethazine (Phenergan), Pyribenzamine, Chlorpheniramine.

Topic – 2: Antidiabetic Drugs (Hypoglycemic agents) **3 Hrs.**

Definition; Introduction; Hypoglycemia; Role of insulin in diabetes; Oral Hypoglycemic agents; Structural Variations among Biguanide and Sulfonylurea derivatives showing Hypoglycemic activity; Synthesis and Therapeutic Uses of Tolbutamide, Metformin.

Topic – 3: Antitubercular and Antileproticdrugs **3 Hrs.**

Definition; Introduction; General account of Tuberculosis and Leprosy; Structural Variations among Antitubercular and Antileprotic Drugs; Synthesis and Therapeutic Uses of Isoniazid, Ethambutol, Dapsone (DDS).



UNIT-III

Topic – 1: Antimalarial drugs

4 Hrs.

Definition; Introduction; Name and modes of transition of Plasmodium Parasites responsible for Malaria in Human; General Classification of Antimalarial Drugs; Synthesis and Therapeutic Uses of Chloroquine, Mafloquine, Amodiaquine (Camoquine), Primaquine.

Topic – 2: Antiseptics and Disinfectants

3 Hrs.

Definition; Introduction; Classification and Structural variations among Antiseptics and Disinfectants; Synthesis and Therapeutic Uses of Mercurochrome (Merbromin), *n*-Hexylresorcinol, Halazone, Dichloramine-T.

Topic – 3: Diuretics

3 Hrs.

Definition; Introduction; Classification and Structural Variations of Diuretics; Mercurial Diuretics and Non-Mercurial Diuretics; Synthesis and Therapeutic Uses of Sorbitol, Acetazolamide, Hydroflumethiazide.

Reference Books:

- (1) May's Chemistry of synthetic Drugs by Dyson.
- (2) Chemistry of drugs, Ener and Caldwell.
- (3) Synthetic drugs by Tyagi and Yadav.
- (4) Synthetic Drugs by G. R. Chatwal, Himalaya Publishers.
- (5) The Organic Chemistry of Drug Synthesis by Daniel Lednicer & L.A. Mitscher.
- (6) Medicinal Chemistry by V.K. Ahluwalia Pub. Ane Books Pvt. Ltd.
- (7) Medicinal Chemistry by Ashutosh Kar, New Age International Publisher.
- (8) Medicinal Chemistry by Balkishan Razdan, Pub. CBS Publishers.
- (9) Pharmaceutical Organic Chemistry by S.K. Dewan, Pub. Narosa.
- (10) Medicinal Chemistry - a Molecular and Biochemical Approach, by Thomas Nogrady & Donald F Weaver
- (11) Pharmaceutical Organic Chemistry by Shyam Singh Pub. Himalaya Publishers.
- (12) Medicinal Chemistry by G Patrick. Pub. Viva Books.
- (13) Burger's Medicinal Chemistry & Drug Discovery. Ed. by D. J. Abraham.



VEER NARMAD SOUTH GUJARAT UNIVERSITY

Third Year B. Sc. (SEM –VI)

Chemistry - Generic elective subject – DYES

Proposed syllabus from November/December - 2021

50 Marks (External)

Total: 30 Hrs

20 Marks (Internal)

Time: 2 Hrs (Uni. Exam)

UNIT – I

Topic –1: Fluorescent brightening agents:

7 Hrs

General account, classification of FBA base on chemical constitution with examples, Stillbene and Coumarin derivatives of FBA, synthesis of Tinopal BV, Blankophor-B, Blankophor-G, 3-Phenyl-7-methoxy coumarin, 4 Methyl –3 phenyl-7-amino coumarin, Brilliant Yellow, 3-Phenyl 7-Acetyl amino coumarin, 4-Acetyl amino-N-butyl Naphthalimide.

Topic –2: Sulphur dyes:

3 Hrs

General account of Sulphur dyes. (a) Sulphur Black (b) Sulphur Brown (c) Sulphur Red (d) Sulphur Blue.

UNIT – II

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Topic –1: Reactive dyes:

5 Hrs

Definition, general account of reactive dyes based on monochlorotriazinyl, dichlorotriazinyl and vinyl sulphone system. Application of reactive dyes, Synthesis of Procion Brilliant red H-3B, Procion Brilliant Yellow M-6G, Remazole Black B, Procion Brilliant – Blue M-R, Reactive Red-B.

Topic –2: Mordant dyes:

5 Hrs

(i) Definition, classification of mordant dyes with examples, application of mordant dyes synthesis of alizarin and Mordant yellow 2 G

(ii) Heterocyclic Dyes: Introduction Azine dyes, Thiazine dyes, and Cyanine dyes. Synthesis of Safranin – T, Methylene blue, Astrazone pink-FG.

UNIT – III

Topic –1: Azoic dyes:

4 Hrs

Definition, general account of azoic dyes, fast bases, fast salts, rapid fast colors, rapidogens and rapidazole, synthesis of naphthol AS, Fast blue B base (Dianisidine), Fast Orange GGD, Naphthol ASRL, Fast Orange LG- Base.

Topic –2: Non-textile application of dyes:

6 Hrs

Food colors, Cosmetic dyes, Dyes for paper and printing inks, Dyes for paints, Dyes for leather and polishes, synthesis of Amaranth, LitholRubine, Lithol Red, Crystal violet, Bismark brown G, Eosin, Orange-I, Prontosil, Pyridium, Neutral Red, Mercurochrome. General account of medicinal dyes.



Reference books:

- (1) Synthetic organic chemistry by O.P. Agrawal
- (2) The chemistry of synthetic dyes and pigments by H. A. Lubes
- (3) Chemistry of synthetic dyes VOL I to VII by K. Venkatraman
- (4) An introduction to synthetic dyes by D. W. Ranghekar & P. P. Singh
- (5) A hand book of synthetic dyes and their application by C. T. Bhastana & V. H. Raichura & others
- (6) Chemistry of dyes & Principles of dyeing Vol II by V. A. Shehai
- (7) Chemistry of synthetic dyes by I. G. Vashi
- (8) Chemistry of dyes and pigments by K. M. Shah
- (9) Synthetic dyes by G. R. Chatwal
- (10) Synthetic dyes and pigments by E. N. Abrahart.

