



Mallige College of Pharmacy, #71, Silvepura,
Chikkabanavara Post, Bangalore-560090



Class: I Sem B.Pharm

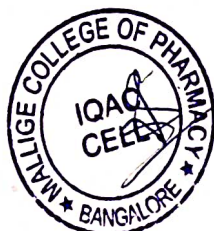
Subject Teacher: NAVEEN KUMAR S


Subject: PHARMACEUTICAL ANALYSIS-I

No. of Theory Hours: 45 Hrs

WEEKLY SCHEDULE FOR I SEMESTER B.Ph 2021-2022
PHARMACEUTICAL ANALYSIS-I

| Week no | Dates | | Unit number | Topics |
|-----------|----------|----------|-------------|--|
| | From | To | | |
| Week # 01 | 04-01-21 | 08-01-21 | Unit-I | Introduction to pharmaceutical analysis Definition and scope |
| Week # 02 | 10-01-21 | 16-01-21 | Unit-I | i) Different techniques of analysis ii) Methods of expressing concentration iii) Primary and secondary standards. |
| Week # 03 | 18-01-21 | 23-01-21 | Unit-I | Preparation and standardization of various molar and normal solutions Oxalic acid, sodium hydroxide, hydrochloric acid, sodium thiosulphate, |
| Week # 04 | 25-01-21 | 30-01-21 | Unit-I | Errors: Sources of errors, types of errors, methods of minimizing errors, accuracy, precision and significant figures |
| Week # 05 | 02-02-21 | 06-02-21 | Unit-II | Acid base titration: Theories of acid base indicators, classification of acid base titrations |
| Week # 06 | 08-02-21 | 13-02-21 | Unit-II | Non aqueous titration: Solvents, acidimetry and alkalimetry titration and estimation of Sodium benzoate and Ephedrine HCl . |
| Week # 07 | 15-02-21 | 20-02-21 | Unit-III | Precipitation titrations: Mohr's method, Volhard's, Modified Volhard's, Fajans method, estimation of sodium chloride |




PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090




Mallige College of Pharmacy, #71, Silvepura,
Chikkabanavara Post, Bangalore-560090



| | | | | |
|-----------|----------|----------|----------|--|
| Week # 08 | 22-02-21 | 27-02-21 | | Complexometric Titration: classification ,metal ion indicators, masking and De-masking reagents, estimation of magnesium sulphate and calcium gluconate |
| Week#09 | 1-3-21 | 06-03-21 | Unit-III | ----- I sessional examination----- ----- |
| Week#10 | 8-3-21 | 13-03-21 | | Gravimetry: Principle and steps involved in gravimetric analysis. Purity of the precipitate: co-precipitation and post precipitation, Estimation of barium sulphate. |
| Week#11 | 15-03-21 | 20-03-21 | Unit -IV | Redox titrations (a) Concepts of oxidation and reduction (b) Types of redox titrations (Principles and applications) |
| Week#12 | 22-03-21 | 27-03-21 | | Iodimetry, Iodometry, Bromatometry,, Titration with potassium iodate Cerlmetry & Dichrometry |
| Week # 13 | 29-03-21 | 3-4-21 | | -----II Sessional Examination ----- ----- |
| | 05-04-21 | 9-4-21 | Unit -V | Electrochemical methods of analysis Conductometry- Introduction, Conductivity cell, Conductometric titrations, applications. |
| Week # 14 | 12-04-21 | 16-04-21 | | Potentiometry - Electrochemical cell, construction and working of reference (Standard hydrogen, silver chloride electrode and calomel electrode) and indicator electrodes |
| Week #15 | 19-04-21 | 23-04-21 | | Polarography - Principle, Ilkovic equation, construction and working of dropping mercury electrode and rotating platinum electrode, applications. |
| Week # 16 | 26-04-21 | 30-04-21 | | II Sessional Examination |
| Week # 17 | 01-05-21 | 07-05-21 | | Revision of III & IV unit |
| Week # 18 | 10-05-21 | 15-05-21 | | Revision of V unit |
| Week # 19 | 17-05-21 | 21-07-21 | | Revision of I and II unit |
| Week # 20 | | | | Pre Final examination |
| Week # 21 | | | | Study holidays |




PRINCIPAL,
Mallige College of Pharmacy,
Bangalore-560 090



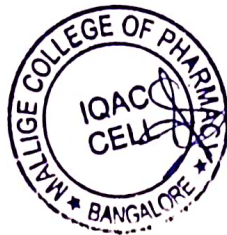
Mallige College of Pharmacy, #71, Silvepura,
Chikkabanavara Post, Bangalore-560090



| | | | | |
|-----------|--|--|--|--------------------|
| Week # 22 | | | | |
| Week # 23 | | | | Annual Examination |

NOTE: The schedule is subject to change depending on University notification

Staff signature



Principal

PRINCIPAL,

Mallige College of Pharmacy
Bangalore-560 090



MALLIGE COLLEGE OF PHARMACY
#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090
(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)
 Email id: mcpbangalore@gmail.com, Web: www.mallige.ac.in, Phone: 9353729763

2021-22

LESSON PLAN

Class: I SEM B PHARMS Subject: Pharmaceutics

Subject teacher: Mrs. Suma u s No. of theory hours: 45

| Sl. No | Date | Unit | unit | Enlarged as per schedule/ alternate | Remarks |
|--------|---------|--|--------|-------------------------------------|---------|
| 1 | 4/1/21 | UNIT – I: Historical background and development of profession of pharmacy: | 10 hrs | | |
| 2 | 6/1/21 | <ul style="list-style-type: none"> History Of profession of Pharmacy in India in relation to pharmacy education. | 1 | Completed | |
| 3 | 8/1/21 | History Of profession of Pharmacy in India in relation to industry and organization, Pharmacy as a career. | 1 | Completed | |
| 4 | 11/1/21 | Pharmacopoeias: Introduction | 1 | Completed | |
| 5 | 12/1/21 | Salient features Indian pharmacopoeia | 1 | Completed | |
| 6 | 16/1/21 | Introduction to BP & USP | 1 | Completed | |
| | | <ul style="list-style-type: none"> Dosage forms: Definition and classification | 1 | Completed | |
| 7 | 19/1/21 | Definition with examples | 1 | Completed | |
| 8 | 22/1/21 | <ul style="list-style-type: none"> Prescription: Definition and Parts of prescription | 1 | Completed | |
| 9 | 23/1/21 | Handling of prescription and errors of prescription | 1 | Completed | |
| 10 | 27/1/21 | <ul style="list-style-type: none"> Posology: Definition, Factors affecting posology. | 1 | Completed | |
| 11 | 28/1/21 | Pediatric dose calculations based on age, body weight and body surface area. | 1 | Completed | |
| 12 | 30/1/21 | UNIT – II: Pharmaceutical calculation | 10 hrs | | |
| 13 | | <ul style="list-style-type: none"> Weights and measures – Imperial & Metric system, Calculations involving percentage | 1 | Completed | |



PRINCIPAL,
 Mallige College of Pharmacy
 Bangalore-560 090

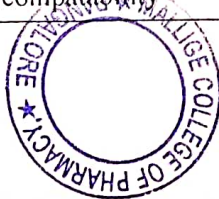
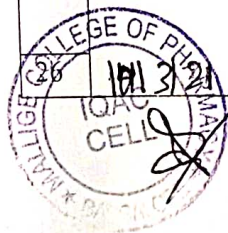
MALLIGE COLLEGE OF PHARMACY

#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090

(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)

Email id: mcpbangalore@gmail.com, Web: www.mallige.ac.in, Phone.: 9353729763

| | | | | | |
|----|---------|---|-------------|-----------|--|
| 15 | 2/2/21 | solutions. • Alligation, proof spirit and isotonic solutions based on freezing point and molecular weight. | 1 | completed | |
| 16 | 4/2/21 | Powders: Definition, classification, advantages and disadvantages, Simple & compound powders | 1 | completed | |
| 17 | 6/2/21 | Official preparations, dusting powders, effervescent, efflorescent and hygroscopic powders, | 1 | completed | |
| 18 | 8/2/21 | Eutectic mixtures. Geometric dilutions. | 1 | completed | |
| | | UNIT - III | 8hrs | | |
| 19 | 10/2/21 | • Monophasic liquids: Definitions and preparations of Gargles, Mouthwashes, Throat Paint, Eardrops, Nasal drops, Enemas, Syrups, Elixirs, Liniments and Lotions. | 1 | completed | |
| 20 | 11/2/21 | • Suspensions: Definition, advantages and disadvantages, classifications, | 1 | completed | |
| 21 | 13/2/21 | Preparation of suspensions; Flocculated and Deflocculated suspension & stability problems and methods to overcome. | 1 | completed | |
| 22 | 17/2/21 | • Emulsions: Definition, classification, emulsifying agent, test for the identification of type of Emulsion | 1 | completed | |
| 23 | 18/2/21 | Methods of preparation & stability problems and methods to overcome. | 1 | completed | |
| | | UNIT - IV | 8hrs | | |
| 24 | 8/3/21 | • Suppositories: Definition, types, advantages and disadvantages, types of bases, methods of preparations. | 1 | completed | |
| 25 | 9/3/21 | Displacement value & its calculations, evaluation of suppositories | 1 | completed | |
| | | Pharmaceutical incompatibilities: Definition, classification, physical incompatibility | 1 | Completed | |
| | | Chemical incompatibility | 1 | Completed | |




PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090

| | | | | | |
|----|---------|--|-------|-----------|--|
| 27 | 16/3/21 | Therapeutic incompatibility | 1 | completed | |
| 28 | | UNIV – V: Semisolid dosage forms: | 7 hrs | | |
| 29 | 23/3/21 | Definitions, classification, mechanisms | 1 | completed | |
| | | Factors influencing dermal penetration of drugs. | 1 | completed | |
| 30 | 28/3/21 | Preparation of ointments and pastes | 1 | completed | |
| 31 | 1/4/21 | Preparation of creams and gels | 1 | completed | |
| 32 | 9/4/21 | Excipients used in semi-solid dosage forms. | 1 | completed | |
| 33 | 19/4/21 | Evaluation of semi solid dosage form | 1 | completed | |


Subject Incharge

HOD


Principal
PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090

Reference Books:

1. H.C. Ansel et al., Pharmaceutical Dosage Form and Drug Delivery System, Lippincott Williams and Walkins, New Delhi.
2. Lachmann. Theory and Practice of Industrial Pharmacy, Lea & Fibiger Publisher, The University of Michigan.
3. Indian pharmacopoeia.
4. British pharmacopoeia.





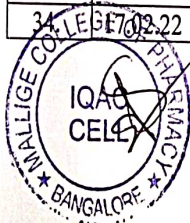
Class: I Sem B. Pharm Academic Year: 2021-2022

Subject: HAP - I

No. of Theory Hours: 45

Subject teachers:

| Sl.no | Date | Topic to be covered | Alternate Class | Remarks |
|-------|----------|---|-----------------|-----------|
| 1. | 16.11.21 | Introduction | | completed |
| 2. | 18.11.21 | Basic life process | | completed |
| 3. | 23.11.21 | Basic terminologies | | completed |
| 4. | 24.11.21 | Body planes, sections and cavities | | completed |
| 5. | 25.11.21 | Abdominal regions, movement at synovial joint | | completed |
| 6. | 29.11.21 | Cell, cell membrane structure and function | | completed |
| 7. | 30.11.21 | Cytoplasm, Nucleus, Ribosomes, ER, Golgi complex | | completed |
| 8. | 01.12.21 | Mitochondria, MF, MT, Centrioles, flagella, cilia, cell inclusions. | | completed |
| 9. | 02.12.21 | Movement of substances across cell membrane | | completed |
| 10. | 07.12.21 | Cell cycle, Mitosis | | completed |
| 11. | 08.12.21 | Meiosis, Cell- communication | | completed |
| 12. | 09.12.21 | Cell- Junction | | completed |
| 13. | 03.01.22 | Tissue, classification, ET | | completed |
| 14. | 04.01.22 | Simple ET, Stratified ET, Glandular ET | | completed |
| 15. | 05.10.22 | CT | | completed |
| 16. | 07.01.22 | Cartilage, blood, bone | | completed |
| 17. | 10.01.22 | MT | | completed |
| 18. | 12.01.22 | NT | | completed |
| 19. | 14.01.22 | Skeletal system | | completed |
| 20. | 17.01.22 | Joints and its disorder | | completed |
| 21. | 18.01.22 | Olfactory Sense | | completed |
| 22. | 19.01.22 | Gustatory Sense | | completed |
| 23. | 20.01.22 | Histology, Properties of Sk. Muscle, Sliding filament theory | | completed |
| 24. | 24.01.22 | Physiology of muscle contraction & NMJ | | completed |
| 25. | 25.01.22 | Anatomy of Ear | | completed |
| 26. | 27.01.22 | Physiology of hearing | | completed |
| 27. | 29.01.22 | Physiology of equilibrium | | completed |
| 28. | 31.01.22 | Accessory structure of Eye Structure of eye ball | | completed |
| 29. | 01.02.22 | Physiology of vision | | completed |
| 30. | 07.2.22 | Lymph, Structure of lymph node | | completed |
| 31. | 09.02.22 | Circulation, composition of lymph, lymph organs | | completed |
| 32. | 11.02.22 | Anatomy of ANS | | completed |
| 33. | 16.02.22 | Physiology of Sym. and Parasymp. NS | | completed |
| 34. | 17.02.22 | Spinal and cranial nerves | | completed |



PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090

| | | | | |
|-----|----------|--|--|-----------|
| 35. | 18.02.22 | Blood – Composition, functions, | | completed |
| 36. | 28.02.22 | Erythropoiesis | | completed |
| 37. | 02.03.22 | Factors affecting erythropoiesis, Fate of RBC, HB Estimation methods | | completed |
| 38. | 03.03.22 | Anemia, WBC's | | completed |
| 39. | 04.03.22 | Platelets, Mechanism of clotting | | completed |
| 40. | 07.03.22 | Blood groups, RES and disorders of blood | | completed |
| 41. | 09.03.22 | CVS: Anatomy of heart | | completed |
| 42. | 14.03.22 | Blood vessels, | | completed |
| 43. | 16.03.22 | Conduction system, AP | | completed |
| 44. | 21.03.22 | ECG, BP, Methods for measuring BP | | completed |
| 45. | 25.03.22 | Regulation of BP Neuronal mech. | | completed |
| 46. | 30.03.22 | Regulation of BP hormonal mech. | | completed |
| 47. | 31.03.22 | Cardiac cycle, | | completed |
| 48. | 04.04.22 | CVS disorders | | completed |




Principal

PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090



Lesson plan 2021 -2022

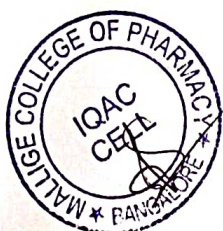
Class: II Sem B. Pharma

Subject Teacher:

Subject: Human Anatomy and Physiology II

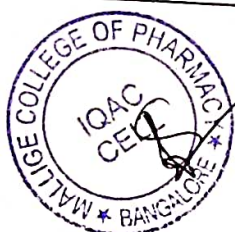
No. of Theory Hours: 45 Hours

| Sl. No | Date | Portion Covered | Unit | Engaged as per schedule / alternate | Remarks |
|--------|----------|---|------|-------------------------------------|---------|
| 1 | 01.08.22 | Nervous system: i) Classification of nervous system, Definitions, electrophysiology of nerve cell | 1 | Completed | |
| 2 | 02.08.22 | ii) Action potential, Synapse, Ganglion, Neurotransmitter | 1 | Completed | |
| 3 | 03.08.22 | iii) Spinal cord: Structure and gross anatomy and | 1 | Completed | |
| 4 | 03.08.22 | iv) Reflexes, Reflex Arc | 1 | Completed | |
| 5 | 04.08.22 | v) Anatomy and Functional areas of brain: Cerebrum | 1 | Completed | |
| 6 | 04.08.22 | vi) Anatomy and Physiology of Cerebellum | 1 | Completed | |
| 7 | 08.08.22 | vii) Anatomy and physiology of Mid -brain, Pons and Medulla, Thalamus, Hypothalamus | 1 | Completed | |
| 8 | 10.08.22 | viii) Anatomy and physiology of basal ganglia and limbic system, Meninges, Ventricles of brain & CSF | 1 | Completed | |
| 9 | 10.08.22 | ix) Disorders of CNS | 1 | Completed | |
| 10 | 11.08.22 | Respiratory system: i) Anatomy and functions of respiratory organs | 1 | Completed | |
| 11 | 16.08.22 | Anatomy and functions of respiratory organs | 1 | Completed | |
| 12 | 17.08.22 | ii) External and Internal respiration Transport of Gases | 1 | Completed | |
| 13 | 17.08.22 | iii) Mechanism and regulation of respiration | 1 | Completed | |



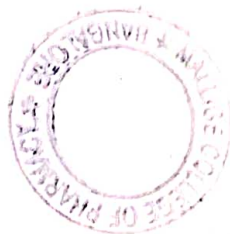

PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090

| Sl. No | Date | Portion Covered | Unit | Engaged as per schedule / alternate | Remarks |
|--------|----------|--|------|-------------------------------------|---------|
| 14 | 18.08.22 | iv) Definitions of lung volumes and capacities, resuscitation methods | 1 | Completed | |
| 15 | 22.08.22 | Urinary system: i) Parts of urinary system: Structure and functions of Kidney,. | 1 | Completed | |
| 16 | 23.08.22 | i) Structure of Nephron | | completed | |
| 17 | 24.08.22 | ii) Mechanism of urine formation of dilute and concentrated urine. | 1 | completed | |
| 18 | 25.08.22 | iii) Acid base balance. | 1 | completed | |
| 19 | 29.08.22 | iv) Micturition reflex and Renal function test | 1 | completed | |
| 20 | 01.09.22 | v) Definition of disorders: Renal calculi, Cystitis, Glomerulonephritis, Renal Fibrosis, & Urinary Incontinence | 1 | Completed | |
| 21 | 03.09.22 | Digestive system: i) Anatomy of GIT and functions of salivary gland | 1 | Completed | |
| 22 | 06.09.22 | ii) Anatomy and functions of stomach | 1 | Completed | |
| 23 | 07.09.22 | iii) Anatomy and functions of pancreas | 1 | Completed | |
| 24 | 08.09.22 | iv) Anatomy and functions of liver and gall bladder | | Completed | |
| 25 | 19.09.22 | v) Anatomy and functions of intestine | 1 | Completed | |
| 26 | 20.09.22 | vi) Digestion and absorption | | completed | |




PRINCIPAL,
 Mallige College of Pharmacy
 Bangalore-560 090

| Sl. No | Date | Portion Covered | Unit | Engaged as per schedule / alternate | Remarks |
|--------|----------|---|------|-------------------------------------|---------|
| 27 | 21.09.22 | vii) Anatomy and functions of large intestine disorders of GIT | 1 | completed | |
| 28 | 22.09.22 | vi) Energetics: Formation and role of ATP, Creatinine, Phosphate, and BMR | 1 | completed | |
| 29 | 23.09.22 | Endocrine System: Classification and Mechanism of hormones | 1 | completed | |
| 30 | 24.09.22 | Structure, Secretions & Functions of Hypothalamus & Pituitary Gland | 1 | completed | |
| 31 | 24.09.22 | Structure, Secretions & Functions of Thyroid & Parathyroid gland | 1 | completed | |
| 32 | 26.09.22 | Structure, Secretions & Functions of Adrenal gland | 1 | completed | |
| 33 | 27.09.22 | Structure, Secretions & Functions of Adrenal gland | 1 | completed | |
| 34 | 28.09.22 | Structure, Secretions & Functions of Pancreatic Islets | 1 | completed | |
| 35 | 29.09.22 | Thymus, Pineal gland and their disorders | 1 | completed | |
| 40 | 30.09.22 | Reproductive System: i) Structure, functions & hormones of male reproductive system | | completed | |




PRINCIPAL,
 Mallige College of Pharmacy
 Bangalore-560 090

| Sl. No | Date | Portion Covered | Unit | Engaged as per schedule / alternate | Remarks |
|--------|----------|---|------|-------------------------------------|---------|
| 41 | 01.10.22 | Structure, functions & hormones of female reproductive system | 1 | Completed | |
| 42 | 01.10.22 | Physiology of Menstruation | 1 | Completed | |
| 43 | 06.10.22 | Spermatogenesis & Oogenesis | 1 | Completed | |
| 44 | 07.10.22 | Pregnancy and Parturition | 1 | Completed | |
| 45 | 08.10.22 | Introduction to genetics Chromosomes, Genes and DNA | 1 | Completed | |
| 46 | 08.10.22 | Protein synthesis and genetic pattern of inheritance | 1 | Completed | |
| | | | | | |
| | | | | | |




Principal
PRINCIPAL,
 Mallige College of Pharmacy
 Bangalore-560 090



Class: III Sem B.Pharm

Subject Teacher: Sheeba FR


Subject: Physical Pharmaceutics-I

No. of Theory Hours: 45

WEEKLY SCHEDULE FOR III SEMESTER B.Ph 2021-2022

| Week no | Dates | | Unit number | Topics |
|-----------|----------|----------|-------------|--|
| | From | To | | |
| Week # 01 | 26/11/21 | 27/11/21 | Unit-I | Definition of solubility, Solubility expressions, Mechanisms of solute solvent interactions, Ideal solubility parameters, solvation and association, quantitative approach to the factors influencing solubility of drugs. |
| Week # 02 | 29/11/21 | 4/12/21 | Unit-I | Diffusion principles in biological systems. Solubility of gas in liquids, solubility of liquids in liquids. |
| Week # 03 | 6/12/21 | 11/12/21 | Unit-I | Binary solutions, ideal solutions, Raoul's law, real solutions, Partially miscible liquids, Critical solution temperature and applications. |
| Week # 04 | 13/12/21 | 18/12/21 | Unit-I | Distribution law, its limitations and applications |
| Week # 05 | 20/12/21 | 25/12/21 | Unit-II | State of matter - introduction, Changes in the state of matter, Latent heats and vapor pressure, Sublimation critical point and eutectic mixtures, |
| Week # 06 | 27/12/21 | 31/12/21 | Unit-II | Gases state- aerosols, inhalers and relative humidity, Liquid state - complexes, liquid crystals and glassy states, solid state- crystalline, amorphous and polymorphism |
| Week # 07 | 03/01/22 | 08/01/22 | Unit-II | Physicochemical properties of drug molecules- Refractive index, Optical rotation and dielectric constant, Dipole moment and dissociation constant - determinations and applications. |
| Week # 08 | 10/01/22 | 12/01/22 | Unit-III | Liquid interface, surface and interfacial tension, Measurement of surface and interfacial tensions. |




PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090



MALLIGE COLLEGE OF PHARMACY
, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090
 (Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)
 Email id: mcpbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

| Week no | Dates | | Unit number | Topics |
|-----------|----------|----------|------------------|---|
| | From | To | | |
| Week#09 | 24/01/22 | 29/01/22 | Unit-III | Adsorption at liquid interfaces, Surface active agents, HLB Scale- estimation, RHLB. |
| Week#10 | 24/01/22 | 29/01/22 | Unit-III | Solubilization and Surface free energy, detergency and spreading coefficient, Adsorption at solid interface. |
| Week#11 | 31/01/22 | 05/02/22 | Unit-IV | Classification of Complexation- metal ion complex |
| Week#12 | 07/02/22 | 12/02/22 | Unit-I, II & III | Organic molecular complex |
| Week # 13 | 14/02/22 | 19/02/22 | Unit-I, II & III | Revision of I sessional syllabus |
| Week # 14 | 22/02/22 | 04/03/22 | | Revision of I sessional syllabus |
| Week #15 | 07/03/22 | 12/03/22 | Unit-IV & V | I Sessional Exam (Preseasonal & Sessional) |
| Week # 16 | 14/03/22 | 19/03/22 | Unit -V | Inclusion complex, Methods of analysis of complex, Protein binding, Complexation and drug action, Crystalline structures of complexes and thermodynamic treatment of stability constants. |
| Week # 17 | 21/03/22 | 25/03/22 | Unit -V | pH, buffers and isotonic solution- introduction, Sorensen's pH scale, pH determination. |
| Week # 18 | 28/03/22 | 01/04/22 | | Buffer definition, examples and buffer capacity, Applications of buffers, Buffer equations, Buffers in pharmaceutical and biological systems, Buffered isotonic solutions. |
| Week # 19 | 04/04/22 | 09/04/22 | | Remedial and Preseasonal test |
| Week # 20 | 11/04/22 | 13/04/22 | | Talent week |
| Week # 21 | 18/04/22 | 27/04/22 | | II Sessional Preseasonal test Examination |
| Week # 22 | 04/05/22 | 07/05/22 | | II Sessional Examination |
| Week # 23 | 09/05/22 | 28/05/22 | | Additional sessional |
| | | | | Remedial and Pre-Final examination |

NOTE: The schedule is subject to change depending on University notification

Staff signature




Principal
PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090



LESSON PLAN FOR THE ACADEMIC YEAR 2021-22

Year: B.Pharm IV semester

Subject: Pharmacognosy & Phytochemistry

Faculty: Dr. Seema Gupta

| S.N | Date | Portion to be Covered in one hour | Engaged as per schedule | Remarks |
|-----|------------|---|-------------------------|---------------------------|
| 01 | 02/08/2022 | UNIT-I (10 Hours) INTRODUCTION TO PHARMACOGNOSY (a) Definition, history, scope and development of Pharmacognosy | Completed | Included for I sessional |
| 02 | 03/08/2022 | (b) Sources of Drugs – Plants, Animals, Marine & Tissue culture | Completed | |
| 03 | 04/08/2022 | (c) Organized drugs, unorganized drugs (dried latex, dried juices, dried extracts, gums and mucilages, oleoresins and oleo- gum -resins). | completed | |
| 04 | 09/08/2022 | Classification of drugs: Alphabetical, morphological, taxonomical, chemical, pharmacological, chemo and sero-taxonomical classification of drugs | completed | |
| 05 | 10/08/2022 | Classification of drugs: Alphabetical, morphological, taxonomical, chemical, pharmacological, chemo and sero-taxonomical classification of drugs | Completed | |
| 06 | 11/08/2022 | Quality control of Drugs of Natural Origin: Adulteration of drugs of natural origin. Evaluation by organoleptic, microscopic, physical, chemical and biological methods and properties. | completed | |
| 07 | 16/08/2022 | Quality control of Drugs of Natural Origin: Adulteration of drugs of natural origin. Evaluation by organoleptic, microscopic, physical, chemical and biological methods and properties. | completed | |
| 08 | 17/08/2022 | Quality control of Drugs of Natural Origin: Adulteration of drugs of natural origin. Evaluation by organoleptic, microscopic, physical, chemical and biological methods and properties. | Completed | Included for II sessional |
| 09 | 18/08/2022 | Quantitative microscopy of crude drugs including lycopodium spore method, leaf constants, camera lucida and diagrams of microscopic objects to scale with camera lucida. | completed | |
| 10 | 23/08/2022 | Quantitative microscopy of crude drugs including lycopodium spore method, leaf constants, camera lucida and diagrams of microscopic objects to scale with camera lucida. | completed | |
| 11 | 24/08/2022 | UNIT-II (10 Hours) CULTIVATION, COLLECTION, PROCESSING AND STORAGE OF DRUGS OF NATURAL ORIGIN Cultivation and Collection of drugs of natural origin | completed | |
| | 25/08/2022 | Cultivation and Collection of drugs of natural origin | completed | |



PRINCIPAL,
 Mallige College of Pharmacy
 Bangalore-560 090

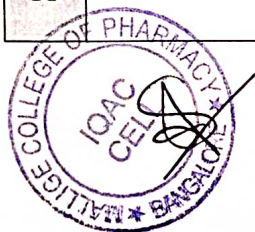


MALLIGE COLLEGE OF PHARMACY
#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090

(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)

Email id: mcpbangalore@gmail.com, Web: www.mallige.ac.in, Phone.: 9353729763

| | | | | |
|----|------------|--|-----------|-------------|
| 13 | 30/08/2022 | Cultivation and Collection of drugs of natural origin | completed | I sessional |
| 14 | 31/08/2022 | Factors influencing cultivation of medicinal plants. | completed | |
| 15 | 01/09/2022 | Factors influencing cultivation of medicinal plants. | completed | |
| 16 | 06/09/2022 | Plant hormones and their applications. | completed | |
| 17 | 07/08/2022 | Plant hormones and their applications. | completed | |
| 18 | 08/08/2022 | Polyploidy, mutation and hybridization with reference to medicinal plants | completed | |
| 19 | 09/08/2022 | Polyploidy, mutation and hybridization with reference to medicinal plants | completed | |
| 20 | 17/09/2022 | Conservation of medicinal plants | completed | |
| 21 | 20/09/2022 | UNIT-III (07 Hours) PLANT TISSUE CULTURE | completed | |
| | | Historical development of plant tissue culture, types of cultures, Nutritional requirements, growth and their maintenance. | | |
| 22 | 21/09/2022 | Historical development of plant tissue culture, types of cultures, Nutritional requirements, growth and their maintenance. | completed | |
| 23 | 22/09/2022 | Applications of plant tissue culture in pharmacognosy. | completed | |
| 24 | 23/09/2022 | Applications of plant tissue culture in pharmacognosy. | completed | |
| 25 | 27/09/2022 | Applications of plant tissue culture in pharmacognosy. | completed | |
| 26 | 28/09/2022 | Edible vaccines | completed | |
| 27 | 29/09/2022 | Edible vaccines | completed | |
| 28 | 30/09/2022 | UNIT IV (10 Hours) PHARMACOGNOSY IN VARIOUS SYSTEMS OF MEDICINE | completed | |
| | | Role of Pharmacognosy in allopathy and traditional systems of medicine namely, Ayurveda systems of medicine. | completed | |
| 29 | 01/10/2022 | Role of Pharmacognosy in allopathy and traditional systems of medicine namely, Siddha systems of medicine. | completed | |
| 30 | 04/10/2022 | Role of Pharmacognosy in allopathy and traditional systems of medicine namely, Unani, systems of medicine. | completed | |
| 31 | 05/10/2022 | Role of Pharmacognosy in allopathy and traditional systems of medicine namely, Homeopathy systems of medicine. | completed | |
| 32 | 06/10/2022 | Role of Pharmacognosy in allopathy and traditional systems of medicine namely, Chinese systems of medicine. | completed | |
| 33 | 07/10/2022 | Introduction to secondary metabolites: Definition, classification, properties and test for identification of Alkaloids. | completed | |
| 34 | 08/10/2022 | Introduction to secondary metabolites: Definition, classification, properties and test for identification of Glycosides. | completed | |
| 35 | 10/10/2022 | Introduction to secondary metabolites: Definition, classification, properties and test for identification of Flavonoids. | completed | |




PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090



| | | | | |
|----|------------|--|-----------|---------------------------|
| 36 | 11/10/2022 | Introduction to secondary metabolites: Definition, classification, properties and test for identification of Tannins. | Completed | Included for II sessional |
| 37 | 11/10/2022 | Introduction to secondary metabolites: Definition, classification, properties and test for identification of Volatile oil and Resins | Completed | |
| 38 | 19/10/2022 | UNIT V (08 Hours) STUDY OF BIOLOGICAL SOURCE, CHEMICAL NATURE AND USES OF DRUGS OF NATURAL ORIGIN CONTAINING FOLLOWING DRUGS General introduction, detailed study with respect to chemistry, sources, preparation, evaluation, preservation, storage, therapeutic used and commercial utility as Pharmaceutical Aids and/or Medicines for the following Primary metabolites: Carbohydrates: Acacia, Agar, Tragacanth, Honey | Completed | |
| | | | Completed | |
| 39 | 20/10/2022 | Proteins and Enzymes : Gelatin, casein, proteolytic enzymes (Papain, bromelain, serratiopeptidase, urokinase, streptokinase, pepsin). | Completed | III sessional |
| 40 | 02/11/2022 | Proteins and Enzymes : Gelatin, casein, proteolytic enzymes (Papain, bromelain, serratiopeptidase, urokinase, streptokinase, pepsin). | Completed | |
| 41 | 03/11/2022 | Proteins and Enzymes : Gelatin, casein, proteolytic enzymes (Papain, bromelain, serratiopeptidase, urokinase, streptokinase, pepsin). | Completed | |
| 42 | 04/11/2022 | Lipids(Waxes, fats, fixed oils) : Castor oil, Chaulmoogra oil, Wool Fat, Bees Wax | Completed | |
| 43 | 05/11/2022 | Lipids(Waxes, fats, fixed oils) : Castor oil, Chaulmoogra oil, Wool Fat, Bees Wax | Completed | |
| 44 | 09/11/2022 | Marine Drugs: Novel medicinal agents from marine sources | Completed | |
| 45 | 10/11/2022 | Marine Drugs: Novel medicinal agents from marine sources | Completed | |
| 46 | | | | |
| 48 | | | Completed | |
| 49 | | | Completed | |
| 50 | | | Completed | |
| | | | | |
| | | | | |
| | | | | |

(Teacher's Sign.)



PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090



MALLIGE COLLEGE OF PHARMACY

#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090

(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)

Email id: mcpbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

Format for lecture plan

2021-22

Class V sem B Pharm

Subject teacher Mrs. Mamatha M K

Subject Pharmacognosy and phytochemistry

No. of theory hours 45

| Sl. No | Date | Portion to be covered | Unit/hr | Enlarged as per schedule/ alternate | Remarks |
|--------|----------|---|---------|--|---------|
| 1 | 4/1/21 | Metabolic pathways in higher plants and their determination a) Brief study of basic metabolic pathways and formation of different secondary metabolite | 1 | Complete 2 | |
| 2 | 7/1/21 | Shikimic acid pathway | 1 | " | |
| 3 | 9/1/21 | Acetate pathways | 1 | " | |
| 4 | 11/1/21 | Amino acid pathway | 1 | " | |
| 5 | 14/1/21 | Study of utilization of radioactive isotopes in the investigation of Biogenetic studies. | 1 | " | |
| 6 | 16/1/21 | Unit test-1 | | | |
| 7 | 18/1/21 | General introduction, composition, chemistry & chemical classes, bio sources, therapeutic uses and commercial applications of following secondary metabolites | 1 | " | |
| 8 | 21/1/21 | Alkaloids introduction Vinca | 1 | | |
| 9 | 23/1/21 | Vinca Rauwolfia | 1 | | |
| 10 | 25/1/21 | Belladonna, Opium | 1 | Completed | |
| 11 | 28/1/21 | Phenylpropanoids and Flavonoids: Lignans | 1 | " | |
| 12 | 30/1/21 | Tea, Ruta | 1 | " | |
| 13 | 01/02/21 | Steroids, Cardiac Glycosides & | 1 | " | |
| 14 | 04/02/21 | Triterpenoids Liquorice | | " | |
| 15 | 06/02/21 | Dioscorea, Digitalis | 1 | " | |
| 16 | 08/02/21 | Unit test-2 | | | |
| 17 | 09/02/21 | Volatile oils Mentha, Clove, | 1 | " | |
| 18 | 11/02/21 | Cinnamon, Fennel, Coriander | 1 | " | |
| 19 | 12/02/21 | Tannins: Catechu, Pterocarpus | 1 | " | |
| 20 | 15/02/21 | Resins: Benzoin, Guggul | 1 | " | |
| 21 | 18/02/21 | Ginger, Asafoetida, | 1 | " | |
| 22 | 20/02/21 | Colophony, myrrh | | " | |
| 23 | 20/02/21 | Glycosides: Senna, Aloes, Bitter Almond | 1 | | |
| 24 | 01/03/21 | Iridoids, Other terpenoids & Naphthaquinones: Gentian, Artemisia taxus, carotenoids | 1 | Completed | |
| 25 | 04/03/21 | Unit test-3 | | | |
| 26 | 06/03/21 | Industrial production, estimation and utilization of the following phytoconstituents Forskolin, Sennoside, | 1 | " | |
| 27 | 08/03/21 | Diosgenin, Atropine, | 1 | " | |
| 28 | 11/3/21 | Artemisinin, Digoxin, | 1 | " | |
| 29 | 13/3/21 | Podophyllotoxin, Caffeine, | 1 | " | |
| 30 | 13/3/21 | Taxol, Vincristine and Vinblastine | 1 | " | |
| 31 | 15/3/21 | Unit test-4 | | | |
| 32 | 15/3/21 | Basics of Phytochemistry Modern methods of extraction | 1 | " | |
| 33 | | Infusion, Decoction, Digestion, Maceration | 1 | | |



PRINCIPAL,
Mallige College of Pharmacy,
Bangalore-560 090

MALLIGE COLLEGE OF PHARMACY

#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090

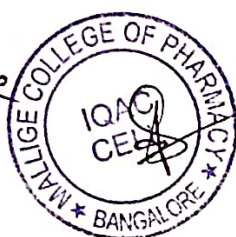
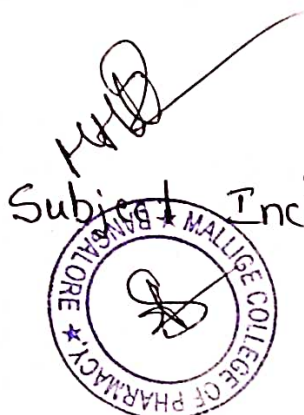
(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)

Email id: mepbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

| | | | | | |
|----|--------|---|---|-----------|---|
| 33 | 19/3/2 | Percolation, Continues hot extraction | 1 | " | " |
| 34 | 22/3/2 | Supercritical fluid extraction | 1 | " | " |
| 35 | 26/3/2 | Counter current extraction, Microwave assisted extraction | 1 | " | " |
| 36 | | | | | |
| 37 | 16/4/2 | Ultra sonication-Assisted Extraction: | 1 | | |
| 38 | 19/4/2 | Application of latest techniques like Spectroscopy - UV-Visible spectroscopy | 1 | " | " |
| 39 | 23/4/2 | Mass spectroscopy, NMR | 1 | | |
| 40 | 24/4/2 | IR Spectroscopy | 1 | | |
| 41 | 26/4/2 | Application of TLC, column chromatography | 1 | " | " |
| 42 | 26/4/2 | Application of HPTLC, HPLC | 1 | | |
| 43 | 29/4/2 | electrophoresis in the isolation | 1 | " | " |
| 44 | 29/4/2 | Purification of crude drugs Fractional crystallization, fractional distillation | 1 | Completed | |
| 45 | 07/5/2 | Sublimation, counter current distribution | 1 | Completed | |
| 46 | 10/5/2 | Unit test -5 | 1 | Completed | |
| 47 | | | | | |
| 48 | | | | | |

Recommended Books: (Latest Editions)

1. W.C.Evans, Trease and Evans Pharmacognosy, 16th edition, W.B. Saunders & Co., London, 2009.
2. Mohammad Ali. Pharmacognosy and Phytochemistry, CBS Publishers & Distribution, New Delhi.
3. Text book of Pharmacognosy by C.K. Kokate, Purohit, Gokhale (2007), 37th Edition, Nirali Prakashan, New Delhi.
4. Herbal drug industry by R.D. Choudhary (1996), 1st Edn, Eastern Publisher, New Delhi.
5. Essentials of Pharmacognosy, Dr.SH.Ansari, 11nd edition, Birla publications, New Delhi, 2007
6. Herbal Cosmetics by H.Pande, Asia Pacific Business press, Inc, New Delhi.
7. A.N. Kalia, Textbook of Industrial Pharmacognosy, CBS Publishers, New Delhi, 2005.
8. R Endress, Plant cell Biotechnology, Springer-Verlag, Berlin, 1994.
9. Pharmacognosy & Pharmacobiotechnology. James Bobbers, Marilyn KS, VE Tylor.
10. The formulation and preparation of cosmetic, fragrances and flavours.
11. Remington's Pharmaceuticals sciences.
12. Text Book of Biotechnology by Vyas and Dixit. 13. Text Book of Biotechnology by R.C. Dubey.



Principal
Mallige College of Pharmacy
Bangalore-560 090



MALLIGE COLLEGE OF PHARMACY

#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090

(Recognized by AICTE, PCI New Delhi, RGUIS Bangalore)

Email id: mcpbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

Format for lecture plan

2021-22

Class: VI sem B. Pharm

Subject teacher: Mrs. Mamatha M.K

Subject: Herbal drug technology

No. of theory hours: 45

| Sl. No | Date | Portion to be covered | Unit/hr | Enlarged as per schedule/ alternate | Remarks |
|--------|------------------|--|---------|--|---------|
| 1. | 20/4/21 | UNIT-I Herbs as raw materials Definition of herb, | 1 | Completed | |
| 2. | 23/4/21 | herbal medicine, | 1 | " " | |
| 3. | 26/4/21 | herbal medicinal product | 1 | " " | |
| 4. | 30/4/21 | herbal drug preparation Source of Herbs | 1 | " " | |
| 5. | 3/5/21 | Source of Herbs Selection, identification and authentication of herbal materials Processing of herbal raw material | 1 | " " | |
| 6. | 6/5/21 | Biodynamic Agriculture | 1 | " " | |
| 7. | 10/5/21 | Good agricultural practices in cultivation of medicinal plants including Organic farming. | 1 | " " | |
| 8. | 13/5/21 | Organic farming | 1 | " " | |
| 9. | 15/5/21 | Pest. Pest management in medicinal plants | 1 | " " | |
| 10. | 17/5/21 | Biopesticides/Bioinsecticides | 1 | " " | |
| 11. | 21/5/21 | Indian Systems of Medicine a) Basic principles involved in Ayurveda, Siddha, Unani and Homeopathy | 1 | " " | |
| 12. | 24/5/21 | Basic principles involved Unani and Homeopathy | 1 | " " | |
| 13. | 26/5/21 | Preparation and standardization of Ayurvedic formulations viz Aristas and Asawas, | 1 | Completed | |
| 14. | 31/5/21 | Ghutika, Churna, Lehya and Bhasma. | 1 | " " | |
| 15. | 3/6/21 4/6/21 | UNIT-II Nutraceuticals General aspects, Market, growth, scope and types of products available in the market. Health benefits and role of Nutraceuticals in ailments like Diabetes | 1 | " " | |
| 16. | 07/6/21 | CVS diseases, Cancer | 1 | " " | |
| 17. | 10/6/21 | Irritable bowel syndrome and various Gastro intestinal diseases. | 1 | " " | |
| 18. | 11/6/21 | Study of following herbs as health food: Alfaalfa, Chicory, Ginger, Fenugreek, Garlic | 1 | " " | |
| 19. | 13/6/21 | Honey, Amla, Ginseng, Ashwagandha, Spirulina | 1 | " " | |
| 20. | 14/6/21 | Herbal-Drug and Herb-Food Interactions | 1 | " " | |



PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090



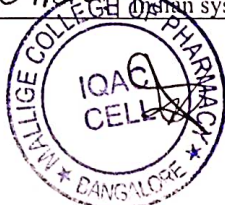
MALLIGE COLLEGE OF PHARMACY

#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090

(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)

Email id: mcpbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

| | | | | | |
|-----|---------|---|---|-----------|--|
| 21. | 18/6/21 | General introduction to interaction and classification. | 1 | " " | |
| 22. | 21/6/21 | Study of following drugs and their possible side effects and interactions: Hypercium, kava-kava, | 1 | | |
| 23. | 24/6/21 | Ginkobiloba, Ginseng | 1 | Completed | |
| 24. | 25/6/21 | Garlic, Pepper & Ephedra. | 1 | | |
| 25. | 28/6/21 | UNIT-III Herbal Cosmetics Sources and description of raw materials of herbal origin used via, fixed oils, waxes | 1 | " " | |
| 26. | 03/6/21 | Sources and description of raw materials of herbal origin used via, gums colours, perfumes, | 1 | " " | |
| 27. | 05/6/21 | Protective agents, bleaching agents | 1 | | |
| 28. | 08/6/21 | Antioxidants in products such as skin care, | 1 | | |
| 29. | 09/6/21 | hair care and oral hygiene products. | 1 | | |
| 30. | 12/6/21 | Herbal excipients: Herbal Excipients – Significance of substances of natural origin as excipients – colorants, sweeteners | 1 | " " | |
| 31. | 15/6/21 | binders, diluents, viscosity builders, | 1 | " " | |
| 32. | 16/6/21 | Disintegrants, flavors & perfumes. | 1 | | |
| 33. | 19/6/21 | Herbal formulations : Conventional herbal formulations like syrups, | 1 | " " | |
| 34. | 22/6/21 | Mixtures and tablets | 1 | " " | |
| 35. | | Novel dosage forms like phytosomes | 1 | | |
| 36. | 23/6/21 | UNIT- IV Evaluation of Drugs WHO guidelines for the assessment of herbal drugs Stability testing of herbal drugs. | 1 | " " | |
| 37. | 05/7/21 | ICH guidelines for the assessment of herbal drugs Stability testing of herbal drugs. | 1 | " " | |
| 38. | 09/7/21 | Patenting and Regulatory requirements of natural products: a) Definition of the terms: Patent, IPR, Farmers right, Breeder's right, Bioprospecting and Biopiracy | 1 | " " | |
| 39. | 02/8/21 | Regulatory Issues - Regulations in India (ASU DTAB, ASU DCC) | 1 | " " | |
| 40. | 05/8/21 | Regulation of manufacture of ASU drugs - Schedule Z of Drugs & Cosmetics Act for ASU drugs. | 1 | " " | |
| 41. | 06/8/21 | UNIT-V General Introduction to Herbal Industry Herbal drugs industry: Present scope and future prospects. | 1 | " " | |
| 42. | 09/8/21 | Schedule T – Good Manufacturing Practice of Herbal systems of medicine | 1 | " " | |




PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090



MALLIGE COLLEGE OF PHARMACY

#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090

(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)

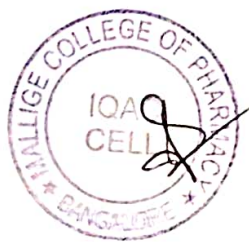
Email id: mcpbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

| | | | | | |
|-----|---------|--|---|-----------|--|
| | 16/8/21 | Components of GMP (Schedule – T) and its objectives | 1 | - | |
| 44. | 19/8/21 | Infrastructural requirements, working space, storage area, machinery and equipments. | 1 | .6 | |
| 45. | 20/8/21 | standard operating procedures, health and hygiene, documentation and records. | 1 | Completed | |
| 46. | 23/8/21 | Revision classes | 1 | | |
| 47. | | Revision classes | 1 | | |
| 48. | | Revision classes | 1 | | |
| 49. | | Revision classes | 1 | | |
| 50. | | Revision classes | 1 | | |

Recommended Books: (Latest Editions)

1. Textbook of Pharmacognosy by Trease & Evans.
2. Textbook of Pharmacognosy by Tyler, Brady & Robber.
3. Pharmacognosy by Kokate, Purohit and Gokhale
4. Essential of Pharmacognosy by Dr.S.H.Ansari
5. Pharmacognosy & Phytochemistry by V.D. Rangari
6. Pharmacopoeal standards for Ayurvedic Formulation (Council of Research in Indian Medicine & Homeopathy)
7. Mukherjee, P.W. Quality Control of Herbal Drugs: An Approach to Evaluation of Botanicals. Business Horizons Publishers, New Delhi, India, 2002.


Subject incharge




Principal

PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090



MALLIGE COLLEGE OF PHARMACY

#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090

(Recognized by AICTE, PCI New Delhi, RGUIS Bangalore)

Email id: mcpbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

Format for lecture plan

2021-22

Class: VI sem B. Pharm

Subject teacher: Mrs. Mamatha M.K

Subject: Biotechnology

No. of theory hours: 45

| Sl. No | Date | Portion to be covered | Unit/ hr | Enlarged as per schedule/ alternate | Remarks |
|--------|----------|--|----------|-------------------------------------|---------|
| 1. | 19/04/21 | Unit I | 1 | | |
| | 20/04/21 | a) Brief introduction to Biotechnology with reference to Pharmaceutical Sciences | | Completed | |
| 2. | 23/4/21 | b) Enzyme Biotechnology- Methods of enzyme immobilization and applications. | 1 | " " | |
| 3. | 26/4/21 | Biosensors- Working and applications of biosensors in Pharmaceutical Industries. | 1 | " " | |
| 4. | 30/4/21 | Brief introduction to Protein Engineering. | 1 | " " | |
| 5. | 3/5/21 | Use of microbes in industry. | 1 | " " | |
| 6. | 07/5/21 | Production of Enzymes- General consideration - Amylase, Catalase. | 1 | " " | |
| 7. | 10/5/21 | Production of Enzymes- General consideration -, Peroxidase, Lipase. | 1 | " " | |
| 8. | 13/5/21 | Production of Enzymes- General consideration - Protease, Penicillinase. | 1 | " " | |
| 9. | 15/5/21 | Basic principles of genetic engineering | 1 | | |
| 10. | 17/5/21 | Basic principles of genetic engineering | 1 | Completed | |
| 11. | 20/5/21 | Unit II | 1 | | |
| | | a) Study of cloning vectors | | " " | |
| 12. | 21/5/21 | Study of cloning vectors, restriction endonucleases. | 1 | " " | |
| 13. | 24/5/21 | Study of DNA ligase | 1 | | |
| 14. | 27/5/21 | Recombinant DNA technology | 1 | | |
| 15. | 28/5/21 | Application of genetic engineering in medicine. | 1 | " " | |
| 16. | 31/5/21 | Application of r DNA technolog | 1 | " " | |
| 17. | 3/6/21 | genetic engineering in the production of: i) Interferon | 1 | " " | |
| 18. | 4/6/21 | genetic engineering in the production of: Vaccines- hepatitis- B | 1 | " " | |
| 19. | 07/6/21 | genetic engineering in the production of: iii) Hormones-Insulin. | 1 | " " | |
| 20. | 10/6/21 | Brief introduction to PCR | 1 | " " | |



PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090



MALLIGE COLLEGE OF PHARMACY

#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090

(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)

Email id: mcpbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

| | | | | | |
|-----|----------|--|---|-----------|--|
| 21. | 11/6/21 | Types of immunity- humoral immunity, cellular immunity | 1 | " | |
| 22. | 14/6/21 | Structure of Immunoglobulins | 1 | " | |
| 23. | 17/6/21 | Structure and Function of MHC | 1 | | |
| 24. | 18/6/21 | Hypersensitivity reactions | | " | |
| 25. | 21/6/21 | Immune stimulation | 1 | " | |
| 26. | 24/6/21 | Immune suppressions | 1 | | |
| 27. | 25/6/21 | General method of the preparation of bacterial vaccines, toxoids | 1 | " | |
| 28. | 28/6/21 | General method of the preparation of viral vaccine, antitoxins | 1 | " | |
| 29. | 02/6/21 | General method of the preparation of serum-immune blood derivatives and other products relative to immunity. | 1 | " | |
| 30. | 05/6/21 | Storage conditions and stability of official vaccines | 1 | " | |
| 31. | 08/6/21 | Hybridoma technology- Production, Purification and Applications | 1 | " | |
| 32. | 09/6/21 | Blood products and Plasma Substitutes. | 1 | Completed | |
| 33. | 12/6/21 | Unit IV a) Immuno blotting techniques- ELISA | 1 | " | |
| 34. | 15/6/21 | Immuno blotting techniques- ELISA | 1 | " | |
| 35. | 16/6/21 | Immuno blotting techniques- Western blotting, Southern blotting. | 1 | " | |
| 36. | 19/6/21 | Genetic organization of Eukaryotes and Prokaryotes | 1 | | |
| 37. | 22/6/21 | Microbial genetics including transformation, transduction | 1 | " | |
| 38. | 23/6/21 | Microbial genetics including conjugation, plasmids and transposons. | 1 | " | |
| 39. | 05/7/21 | Microbial genetics including transposons. | 1 | | |
| 40. | 08/7/21 | Introduction to Microbial biotransformation and applications. | 1 | | |
| 41. | 09/7/21 | Mutation: Types of mutation/mutants. | 1 | Completed | |
| 42. | 02/8/21 | Unit V a) Fermentation methods and general requirements, study of media, equipments, sterilization methods, aeration process, stirring. | 1 | " | |
| 43. | 05/08/21 | Large scale production fermenter design and its various controls. | 1 | " | |
| 44. | 06/08/21 | Study of the production of - penicillins, citric acid, | 1 | | |
| 45. | 09/08/21 | Study of the production of -Vitamin B12, Glutamic acid, Griseofulvin, | 1 | " | |
| 46. | 16/08/21 | Study of the production of - Griseofulvin, | 1 | | |
| 47. | 19/08/21 | Blood Products: Collection, Processing and Storage of whole human blood | 1 | " | |
| 48. | 23/08/21 | Blood Products: dried human plasma, plasma Substitutes. | 1 | Completed | |
| 49. | 26/08/21 | Revision | | | |




PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090



MALLIGE COLLEGE OF PHARMACY


#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090

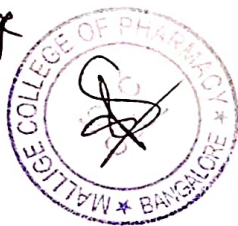
(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)

Email id: mcpbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

Recommended Books (Latest edition):

1. B.R. Glick and J.J. Pasternak: Molecular Biotechnology: Principles and Applications of Recombinant DNA: ASM Press Washington D.C.
2. RA Goldsby et. al., : Kuby Immunology.
3. J.W. Goding: Monoclonal Antibodies.
4. J.M. Walker and E.B. Gingold: Molecular Biology and Biotechnology by Royal Society of Chemistry.
5. Zaborsky: Immobilized Enzymes, CRC Press, Degrand, Ohio.
6. S.B. Primrose: Molecular Biotechnology (Second Edition) Blackwell Scientific Publication.
7. Stanbury F., P., Whitaker A., and Hall J., S., Principles of fermentation technology, 2nd edition, Aditya books Ltd., New Delhi


Subject Incharge




Principal.
PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090



Mallige College of Pharmacy,
#71, Silvepura, Chikkabanavara Post, Bangalore-560090



Class: VII SEM B. PHARM

Subject Teacher: MRS. JAMUNA T R

Subject: PHARMACY PRACTICE

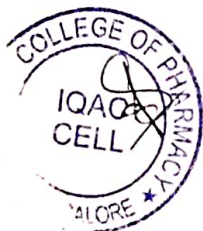
No. of Theory Hours: 45

WEEKLY SCHEDULE FOR SEMESTER B.Ph 2021-2022

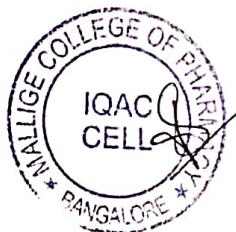
PHARMACY PRACTICE

□


PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090

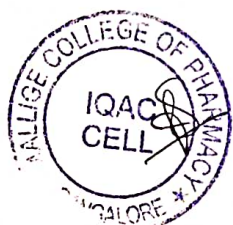



| Week no. | Date | | Unit no. | Topics |
|-----------|----------|----------|----------|--|
| | From | To | | |
| Week # 01 | 04-01-21 | 08-01-21 | UNIT 1 | a) Hospital and it's organization Definition, Classification of hospital- Primary, Secondary and Tertiary hospitals, Classification based on clinical and non- clinical basis Organization Structure of a Hospital, and Medical staffs involved in the hospital and their functions. |
| Week # 02 | 10-01-21 | 16-01-21 | UNIT 1 | b) Hospital pharmacy and its organization Definition, functions of hospital pharmacy, Organization structure, Location, Layout and staff requirements, and Responsibilities and functions of hospital pharmacists |
| Week # 03 | 18-01-21 | 23-01-21 | UNIT 2 | a) Drug distribution system in a hospital Dispensing of drugs to inpatients, types of drug distribution systems, charging policy and labelling, Dispensing of drugs to ambulatory patients, and Dispensing of controlled drugs. |
| Week # 04 | 25-01-21 | 30-01-21 | UNIT 2 | Hospital formulary Definition, contents of hospital formulary, Differentiation of hospital formulary and Drug list, preparation and revision, and addition and deletion of drug from hospital formulary. |
| Week # 05 | 02-02-21 | 06-02-21 | UNIT 3 | Pharmacy and therapeutic committee Organization, functions, Policies of the p armacy and therapeutic committee in including drugs into formulary, inpatient and outpatient prescription, automatic stop order, and emergency drug list preparation |
| Week # 06 | 08-02-21 | 13-02-21 | UNIT 2 | Medication adherence Causes of medication non-adherence, pharmacist role in the medication adherence, and monitoring of patient medication adherence. e) Patient medication history interview Need for the patient medication history interview, medication interview forms |
| Week # 07 | 15-02-21 | 20-02-21 | UNIT 2 | Therapeutic drug monitoring Need for Therapeutic Drug Monitoring, Factors to be considered during the Therapeutic Drug Monitoring, and Indian scenario for Therapeutic Drug Monitoring |
| Week # 08 | 22-02-21 | 27-02-21 | UNIT 4 | Budget preparation and implementation Budget preparation and implementation |
| Week#09 | 01-03-21 | 06-03-21 | | I SESSIONALS |




PRINCIPAL,
 Mallige College of Pharmacy,
 Bangalore-560 090

| | | | | |
|-----------|----------|----------|--------|---|
| Week#10 | 08-03-21 | 13-03-21 | UNIT 3 | Drug and Poison information centre, Sources of drug information, Computerised services, and storage and retrieval of information. c) Patient counseling Definition of patient counseling; steps involved in patient counseling, and Special cases that require the pharmacist |
| Week#11 | 15-03-21 | 20-03-21 | UNIT 4 | Over the counter (OTC) sales Introduction and sale of over the counter, and Rational use of common over the counter medications. |
| Week#12 | 22-03-21 | 27-03-21 | UNIT 1 | Community Pharmacy Organization and structure of retail and wholesale drug store, types and design, Legal requirements for establishment and maintenance of a drug store, Dispensing of proprietary products, maintenance of records of retail and wholesale drug store Community pharmacy management Financial, materials, staff, and infrastructure requirements |
| Week # 13 | 29-03-21 | 03-04-21 | UNIT 4 | Clinical Pharmacy Introduction to Clinical Pharmacy, Concept of clinical pharmacy, functions and responsibilities of clinical pharmacist, Drug therapy monitoring - medication chart review, clinical review, pharmacist intervention, Ward round participation, Medication history and Pharmaceutical care. Dosing pattern and drug therapy based on Pharmacokinetic & disease pattern |
| Week # 14 | 05-04-21 | 09-04-21 | UNIT 1 | c) Adverse drug reaction Classifications - Excessive pharmacological effects, secondary pharmacological effects, idiosyncrasy, allergic drug reactions, genetically determined toxicity, toxicity following sudden withdrawal of drugs |
| Week #15 | 12-04-21 | 16-04-21 | | -----II Sessional Examination ----- ----- |
| Week # 16 | 19-04-21 | 23-04-21 | UNIT 1 | , Drug interaction- beneficial interactions, adverse interactions, and pharmacokinetic drug interactions, Methods for detecting. |
| Week # 17 | 26-04-21 | 30-04-21 | UNIT 1 | drug interactions, spontaneous case reports and record linkage studies, and Adverse drug reaction reporting and management |
| Week # 18 | 01-05-21 | 07-05-21 | UNIT 5 | Investigational use of drugs: Description, principles involved, classification, control, identification, role of hospital pharmacist, advisory committee. |
| Week # 19 | 10-05-21 | 15-05-21 | UNIT 5 | Interpretation of Clinical Laboratory Tests Blood chemistry, hematology, and urinalysis |
| Week#20 | 17-05-21 | 21-05-21 | | -----III Sessional Examination----- |

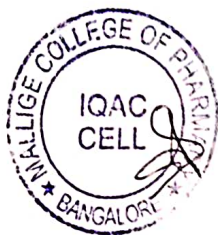



PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090

| | | | |
|---------|--|--|----------------------------------|
| Week#21 | | | Revision Prefinal Examination |
|---------|--|--|----------------------------------|

Lamuna
Staff signature

[Signature]
Principal
PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090





Mallige College of Pharmacy,
#71, Silvepura, Chikkabanavara Post, Bangalore-560090



Class: VII SEM B. PHARM

No. of Theory Hours: 45 Hours

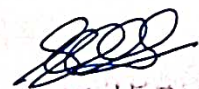
Subject Teacher: MRS. JAMUNA T R

Subject: BIOSTATISTICS AND RESEARCH METHODOLOGY

WEEKLY SCHEDULE FOR VIII SEMESTER B PHARM 2022


BIOSTATISTICS AND RESEARCH METHODOLOGY




PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090

| Week # | Date | | Unit no. | Topics |
|-----------|----------|----------|----------|---|
| | From | To | | |
| Week # 01 | 01-08-22 | 6-8-22 | UNIT 1 | Introduction: Statistics, Biostatistics, Frequency distribution Measures of central tendency: Mean, Median, Mode- Pharmaceutical examples |
| Week # 02 | 8-08-22 | 13-08-22 | UNIT 1 | Measures of dispersion: Dispersion, Range, standard deviation, Pharmaceutical problems Correlation: Definition, Karl Pearson's coefficient of correlation, Multiple correlation - Pharmaceuticals examples |
| Week # 03 | 16-08-22 | 20-08-22 | UNIT 2 | Regression: Curve fitting by the method of least squares, fitting the lines $y = a + bx$ and $x = a + by$, Multiple regression, standard error of regression- Pharmaceutical Examples |
| Week # 04 | 22-08-22 | 27-08-22 | UNIT 2 | Probability: Definition of probability, Binomial distribution, Normal distribution, Poisson's distribution, properties - problems Sample, Population, large sample, small sample, Null hypothesis, alternative hypothesis, sampling, essence of sampling, |
| Week # 05 | 29-08-22 | 03-09-22 | UNIT 2 | types of sampling, Error-I type, Error-II type, Standard error of mean (SEM) - Pharmaceutical examples |
| Week # 06 | 5-09-22 | 10-09-22 | UNIT 2 | Parametric test: t-test (Sample, Pooled or Unpaired and Paired), ANOVA, (One way and Two way), Least Significance difference |
| Week # 07 | 12-09-22 | 17-09-22 | UNIT 3 | Non Parametric tests: Wilcoxon Rank Sum Test, Mann-Whitney U test, Kruskal-Wallis test, Friedman Test |
| Week # 08 | 19-09-22 | 24-09-22 | | I SESSIONALS |
| Week#09 | 26-09-22 | 01-10-22 | UNIT 3 | Introduction to Research: Need for research, Need for design of Experiments, Experiential Design |
| Week#10 | 3-10-22 | 08-10-22 | UNIT 3 | Technique, plagiarism Graphs: Histogram, Pie Chart, Cubic Graph, response surface plot, Counter Plot graph |
| Week#11 | 10-10-22 | 15-10-22 | UNIT 3 | Designing the methodology: Sample size determination and Power of a study, Report writing and presentation of data, |
| Week#12 | 17-10-22 | 22-10-22 | UNIT 3 | Protocol, Cohorts studies, Observational studies, Experimental studies, Designing clinical trial, various phases |
| Week # 13 | 24-10-22 | 29-10-22 | UNIT 4 | Blocking and confounding system for Two-level factorials Regression modeling: Hypothesis testing in Simple and Multiple regression models |
| Week # 14 | 31-10-22 | 5-11-22 | | -----II Sessional Examination ----- |




 PRINCIPAL,
 Mallige College of Pharmacy
 Bangalore-560 090

| | | | | |
|-----------|----------|----------|---------------------|---|
| Week #15 | 5-11-22 | 12-11-22 | UNIT 4 | Introduction to Practical components of Industrial and Clinical Trials Problems: Statistical Analysis Using Excel, SPSS, MINITAB * |
| Week # 16 | 14-11-22 | 19-11-22 | UNIT 4 | DESIGN OF EXPERIMENTS, R - Online Statistical Software's to Industrial and Clinical trial approach |
| Week # 17 | 21-11-22 | 26-11-22 | UNIT 5 | Design and Analysis of experiments Factorial Design: Definition, 2, 23 design. Advantage of factorial design Response Surface methodology: Central composite design, Historical design, Optimization Techniques |
| Week # 18 | 28-11-22 | 3-11-22 | Expected university | |

Samund

Staff signature



Principal

Principal

Mallige College of Pharmacy
Bangalore-560 090



MALLIGE COLLEGE OF PHARMACY
#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090
(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)
 Email id: mcpbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

2021-22

LESSON PLAN

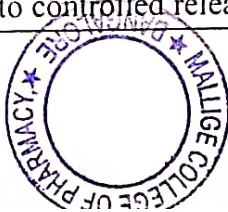
Class: VII SEM B PHARM

Subject teacher: Mrs. Suma u s

Subject: Novel drug delivery system (NDDS)

No. of theory hours: 45

| Sl. No | Date | Unit | unit | Enlarged as per schedule/ alternate | Remarks |
|--------|-------------------------------|--|--------|-------------------------------------|---------|
| 1 | | UNIT – I: Controlled drug delivery systems: | 10 hrs | | |
| 2 | 4/1/21 | ● Introduction, terminology/definitions and rationale, | 1 | Completed | |
| 3 | 6/1/21 | ● Advantages, disadvantages, selection of drug candidates. | 1 | Completed | |
| 4 | 08/1/21 11/1/21 | ● Approaches to design controlled release formulations based on diffusion, | 1 | Completed | |
| 5 | 12/1/21 16/1/21 | ● Approaches to design controlled release formulations based on dissolution & ion exchange principles. | 1 | Completed | |
| 6 | 19/1/21 22/1/21 23/1/21 | ● Physicochemical and properties of drugs relevant to controlled release formulations | 1 | Completed | |
| | 27/1/21 | ● Biological properties of drugs relevant to controlled release | 1 | Completed | |



PRINCIPAL,
 Mallige College of Pharmacy,
 Bangalore-560 090



MALLIGE COLLEGE OF PHARMACY

#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090

(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)

Email id: mcpbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

| | | | | | |
|----|---------|--|--------|-----------|--|
| | | formulations | | completed | |
| 7 | 22/1/21 | Polymers: Introduction, classification, | 1 | completed | |
| | 28/1/21 | • Advantages and application of polymers in formulation of controlled release drug delivery systems. | 1 | completed | |
| | 30/1/21 | QP solving | 1 | completed | |
| 8 | | Unit-II | 10 hrs | completed | |
| 9 | 1/2/21 | • Microencapsulation: Definition, advantages and disadvantages, | 1 | completed | |
| 10 | 2/2/21 | • Introduction to microspheres /microcapsules, | 1 | completed | |
| 11 | 4/2/21 | • Introduction to microparticles, methods of microencapsulation, applications | 1 | completed | |
| 12 | 6/2/21 | Mucosal Drug Delivery system: Introduction, Principles of bioadhesion / Mucoadhesion. | | completed | |
| 13 | 8/2/21 | • Concepts, advantages and disadvantages. | 1 | completed | |
| 15 | 10/2/21 | • Transmucosal permeability and formulation considerations of buccal delivery systems. | 1 | completed | |
| 16 | 11/2/21 | Implantable Drug Delivery Systems: Introduction, advantages and disadvantages, | 1 | completed | |
| 17 | 13/2/21 | • concept of implants and osmotic pump | 1 | completed | |



PRINCIPAL
Mallige College of Pharmacy
Bangalore-560 090



MALLIGE COLLEGE OF PHARMACY

#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090

(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)

Email id: mcpbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

| | | | | | |
|----|--------------------|---|-----------------|-----------|--|
| 18 | 17/2/21 | QP solving | 1 | completed | |
| | | Unit-III | 10 Hou rs | | |
| 19 | 8/3/21 | Transdermal Drug Delivery Systems: Introduction, Permeation through skin, | 1 | completed | |
| 20 | 9/3/21 | • Factors affecting permeation, | 1 | completed | |
| 21 | 10/3/21 | • Permeation enhancers, basic components of TDDS, | 1 | completed | |
| 22 | 12/3/21 | • Formulation approaches | 1 | completed | |
| 23 | 15/3/21 18/3/21 | Gastroretentive drug delivery systems: Introduction, advantages, disadvantages, approaches for GRDDS | 1 | completed | |
| | 20/3/21 | • Floating, high density systems, | 1 | completed | |
| 24 | 22/3/21 23/3/21 | Inflatable and gastroadhesive systems and their applications Nasopulmonary drug delivery system: Introduction to Nasal and Pulmonary routes of drug delivery. | 1 | completed | |
| 25 | 02/04/21 | • Formulation of Inhalers (dry powder and metered dose), | 1 | completed | |
| | 06/4/21 09/4/21 | • Nasal sprays and nebulizers | 1 | completed | |



[Signature]

Principal,
Mallige College of Pharmacy,
Bangalore-560 090

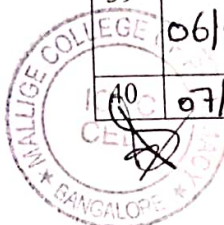


MALLIGE COLLEGE OF PHARMACY
#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090

(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)

Email id: mcpbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

| | | | | | |
|----|----------|---|--------|---------------------|--|
| 26 | 19/04/21 | QP soving | 1 | completed | |
| 27 | | Unit-IV | 08 Hrs | e | |
| 28 | . | Targeted drug Delivery: Intrduction | 1 | completed | |
| 29 | 22/04/21 | • Concepts and approaches | 1 | completed | |
| | | • Advantages and disadvantages, | 1 | completed | |
| 30 | 24/04/21 | • Introduction to liposomes&Application | 1 | completed | |
| 31 | 24/4/21 | • Introduction toniosomes&Application | 1 | completed | |
| 32 | 26/04/21 | • Introduction tonanoparticles&Application | 1 | Completed | |
| 33 | 27/04/21 | • Introduction to monoclonal antibodies &Application | 1 | Completed | |
| 34 | | Unit-V | 07 Hrs | e | |
| 35 | 29/04/21 | • Ocular Drug Delivery Systems: Introduction, | 1 | Completed | |
| 36 | 03/05/21 | • Introduction: intra ocular barriers | 1 | 03/5/21 (Abc inoon) | |
| 37 | 04/5/21 | • Methods to overcome ocular DDS | 1 | 04/5/21 (.....) | |
| 38 | 5/05/21 | • Preliminary study, ocular formulations and ocuserts | 1 | Completed | |
| 39 | 06/5/21 | Intrauterine Drug Delivery Systems: Introduction, advantages and disadvantages, | 1 | Completed | |
| 40 | 07/05/21 | • Development of intra uterine | 1 | Completed | |



PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090




MALLIGE COLLEGE OF PHARMACY
#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090
(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)
Email id: mcpbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

| | | | | | |
|----|---------|---------------------------------|---|-----------|--|
| | | devices (IUDs) and applications | | Completed | |
| 41 | 10/5/21 | QP solving | 1 | Completed | |

REFERENCES

1. YW.Chien, Novel Drug Delivery Systems, 2nd edition, revised and expanded, Marce IDekker, Inc., New York, 1992.
2. N.K.Jain, Controlled and Novel Drug Delivery, CBS Publishers & Distributors, New Delhi, First edition 1997 (reprint in 2001).
3. S.P. Vyas and R.K. Khar, Controlled Drug Delivery - concepts and advances, Vallabh Prakashan, New Delhi, First edition 2002.


Signature of the staff




Principal
PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090



Mallige College of Pharmacy,
#71, Silvepura, Chikkabanavara Post, Bangalore-560090



Class: VII SEM B. PHARM

Subject Teacher: MRS. JAMUNA T R

Subject: PHARMACY PRACTICE

No. of Theory Hours: 45

WEEKLY SCHEDULE FOR VII
SEMESTER B.Ph 2022

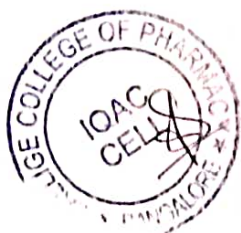
PHARMACY PRACTICE

□



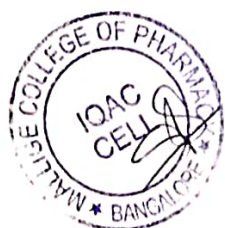

PRINCIPAL,
Mallige College of Pharmacy,
Bangalore-560 090

| | Date | | Unit no. | Topics |
|-----------|----------|----------|----------|--|
| | From | To | | |
| Week # 01 | 01-08-22 | 6-8-22 | UNIT 1 | a) Hospital and it's organization Definition, Classification of hospital- Primary, Secondary and Tertiary hospitals, Classification based on clinical and non- clinical basis Organization Structure of a Hospital, and Medical staffs involved in the hospital and their functions. |
| Week # 02 | 8-08-22 | 13-08-22 | UNIT 1 | b) Hospital pharmacy and its organization Definition, functions of hospital pharmacy, Organization structure, Location, Layout and staff requirements, and Responsibilities and functions of hospital pharmacists |
| Week # 03 | 16-08-22 | 20-08-22 | UNIT 2 | a) Drug distribution system in a hospital Dispensing of drugs to inpatients, types of drug distribution systems, charging policy and labelling, Dispensing of drugs to ambulatory patients, and Dispensing of controlled drugs. |
| Week # 04 | 22-08-22 | 27-08-22 | UNIT 2 | Hospital formulary Definition, contents of hospital formulary, Differentiation of hospital formulary and Drug list, preparation and revision, and addition and deletion of drug from hospital formulary. |
| Week # 05 | 29-08-22 | 03-09-22 | UNIT 3 | Pharmacy and therapeutic committee Organization, functions, Policies of the p harmacy and therapeutic committee in including drugs into formulary, inpatient and outpatient prescription, automatic stop order, and emergency drug list preparation |
| Week # 06 | 5-09-22 | 10-09-22 | UNIT 2 | Medication adherence Causes of medication non-adherence, pharmacist role in the medication adherence, and monitoring of patient medication adherence. c) Patient medication history interview Need for the patient medication history interview, medication interview forms |
| Week # 07 | 12-09-22 | 17-09-22 | UNIT 2 | Therapeutic drug monitoring Need for Therapeutic Drug Monitoring, Factors to be considered during the Therapeutic Drug Monitoring, and Indian scenario for Therapeutic Drug Monitoring |
| Week # 08 | 19-09-22 | 24-09-22 | UNIT 4 | Budget preparation and implementation Budget preparation and implementation |
| Week#09 | 26-09-22 | 01-10-22 | | I SESSIONALS |




PRINCIPAL,
 Mallige College of Pharmacy
 Bangalore-560 090

| | | | | |
|-----------|----------|----------|--------|---|
| Week#10 | 3-10-22 | 08-10-22 | UNIT 3 | Drug and Poison information centre, Sources of drug information, Computerised services, and storage and retrieval of information. c) Patient counseling Definition of patient counseling; steps involved in patient counseling, and Special cases that require the pharmacist |
| Week#11 | 10-10-22 | 15-10-22 | UNIT 4 | Over the counter (OTC) sales Introduction and sale of over the counter, and Rational use of common over the counter medications. |
| Week#12 | 17-10-22 | 22-10-22 | UNIT 1 | Community Pharmacy Organization and structure of retail and wholesale drug store, types and design, Legal requirements for establishment and maintenance of a drug store, Dispensing of proprietary products, maintenance of records of retail and wholesale drug store Community pharmacy management Financial, materials, staff, and infrastructure requirements |
| Week # 13 | 24-10-22 | 29-10-22 | UNIT 4 | Clinical Pharmacy Introduction to Clinical Pharmacy, Concept of clinical pharmacy, functions and responsibilities of clinical pharmacist, Drug therapy monitoring - medication chart review, clinical review, pharmacist intervention, Ward round participation, Medication history and Pharmaceutical care. Dosing pattern and drug therapy based on Pharmacokinetic & disease pattern |
| Week # 14 | 31-10-22 | 5-11-22 | UNIT 1 | c) Adverse drug reaction Classifications - Excessive pharmacological effects, secondary pharmacological effects, idiosyncrasy, allergic drug reactions, genetically determined toxicity, toxicity following sudden withdrawal of drugs |
| Week #15 | 5-11-22 | 12-11-22 | | -----II Sessional Examination ----- ----- |
| Week # 16 | 14-11-22 | 19-11-22 | UNIT 1 | , Drug interaction- beneficial interactions, adverse interactions, and pharmacokinetic drug interactions, Methods for detecting. |
| Week # 17 | 21-11-22 | 26-11-22 | UNIT 1 | drug interactions, spontaneous case reports and record linkage studies, and Adverse drug reaction reporting and management |
| Week # 18 | 28-11-22 | 3-12-22 | UNIT 5 | Investigational use of drugs: Description, principles involved, classification, control, identification, role of hospital pharmacist, advisory committee. |
| Week # 19 | 5-11-22 | 10-11-22 | UNIT 5 | Interpretation of Clinical Laboratory Tests Blood chemistry, hematology, and urinalysis |
| Week#20 | 12-11-22 | 17-11-22 | | -----III Sessional Examination----- |



[Signature]
PRINCIPAL,
 Mallige College of Pharmacy
 Bangalore-560 090

Damodar
Staff signature



[Signature]
Principal

PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090



Mallige College of Pharmacy,
#71, Silvepura, Chikkabanavara Post, Bangalore-560090



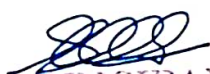
Class: VIII SEM B. PHARM

No. of Theory Hours: 45 Hours

Subject Teacher: MRS. JAMUNA T R Subject: BIOSTATISTICS AND RESEARCH METHODOLOGY

WEEKLY SCHEDULE FOR VIII SEMESTER B PHARM 2021 BSRM




PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090

| Week no. | Date | | Unit no. | Topics |
|-----------|----------|----------|----------|---|
| | From | To | | |
| Week # 01 | 26-04-21 | 2-05-21 | UNIT 1 | Introduction: Statistics, Biostatistics, Frequency distribution Measures of central tendency: Mean, Median, Mode- Pharmaceutical examples |
| Week # 02 | 3-05-21 | 9-05-21 | UNIT 1 | Measures of dispersion: Dispersion, Range, standard deviation, Pharmaceutical problems Correlation: Definition, Karl Pearson's coefficient of correlation, Multiple correlation - Pharmaceuticals examples |
| Week # 03 | 10-05-21 | 16-05-21 | UNIT 2 | Regression: Curve fitting by the method of least squares, fitting the lines $y = a + bx$ and $x = a + by$, Multiple regression, standard error of regression- Pharmaceutical Examples |
| Week # 04 | 17-05-21 | 23-05-21 | UNIT 2 | Probability: Definition of probability, Binomial distribution, Normal distribution, Poisson's distribution, properties - problems Sample, Population, large sample, small sample, Null hypothesis, alternative hypothesis, sampling, essence of sampling, |
| Week # 05 | 24-05-21 | 30-05-21 | UNIT 2 | types of sampling, Error-I type, Error-II type, Standard error of mean (SEM) - Pharmaceutical examples |
| Week # 06 | 31-05-21 | 06-06-21 | UNIT 2 | Parametric test: t-test(Sample, Pooled or Unpaired and Paired) , ANOVA, (One way and Two way), Least Significance difference |
| Week # 07 | 07-06-21 | 13-06-21 | UNIT 3 | Non Parametric tests: Wilcoxon Rank Sum Test, Mann-Whitney U test, Kruskal-Wallis test, Friedman Test |
| Week # 08 | 14-06-21 | 20-06-21 | | I SESSIONALS |
| Week#09 | 21-06-21 | 27-06-21 | UNIT 3 | Introduction to Research: Need for research, Need for design of Experiments, Experiential Design |
| Week#10 | 28-06-21 | 04-07-21 | UNIT 3 | Technique, plagiarism Graphs: Histogram, Pie Chart, Cubic Graph, response surface plot, Counter Plot graph |
| Week#11 | 05-07-21 | 11-07-21 | UNIT 3 | Designing the methodology: Sample size determination and Power of a study, Report writing and presentation of data, |
| Week#12 | 12-07-21 | 18-07-21 | UNIT 3 | Protocol, Cohorts studies, Observational studies, Experimental studies, Designing clinical trial, various phases |
| Week # 13 | 19-07-21 | 25-07-21 | UNIT 4 | Blocking and confounding system for Two-level factorials Regression modeling: Hypothesis testing in Simple and Multiple regression models |
| Week # 14 | 26-07-21 | 01-08-21 | | -----II Sessional Examination ----- |
| Week #15 | 02-08-21 | 08-08-21 | UNIT 4 | Introduction to Practical components of Industrial and Clinical Trials Problems: Statistical Analysis Using Excel, SPSS, MINITAB ® |




PRINCIPAL,
 Mallige College of Pharmacy
 Bangalore-560 090

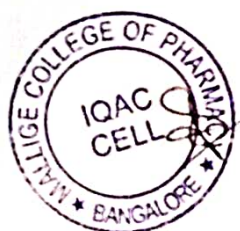
| | | | | |
|-----------|----------|----------|---------------------|---|
| Week # 16 | 09-08-21 | 15-08-21 | UNIT 4 | DESIGN OF EXPERIMENTS, R - Online Statistical Software's to Industrial and Clinical trial approach |
| Week # 17 | 16-08-21 | 22-08-21 | UNIT 5 | Design and Analysis of experiments: Factorial Design: Definition, 2, 23design. Advantage of factorial design Response Surface methodology: Central composite design, Historical design, Optimization Techniques |
| Week # 18 | 23-08-21 | 29-08-21 | III SESSIONALS | |
| | 30-08-21 | 05-09-21 | Expected university | |

[Handwritten Signature]

Staff signature

[Handwritten Signature]
Principal

PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090





MALLIGE COLLEGE OF PHARMACY
#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090
(Recognized by AICTE, PCI New Delhi, RGUIS Bangalore)
Email id: mcpbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

Class: I Sem M.Pharm (Pharmaceutics)

Subject Teacher: Sheeba FR


Subject: Drug Delivery System

No. of Theory Hours: 60

WEEKLY SCHEDULE FOR I SEMESTER M.Ph 2021-2022

| Week no | Dates | | Unit number | Topics |
|-----------|----------|----------|-------------|--|
| | From | To | | |
| Week # 01 | 26/11/21 | 27/11/21 | Unit-I | SR/CR formulation: Introduction & basic concepts, advantages/ disadvantages, Factors influencing SR/CR Formulation. |
| Week # 02 | 29/11/21 | 4/12/21 | Unit-I | Physicochemical approaches for SR/CR formulation, Biological approaches for SR/CR formulation. |
| Week # 03 | 6/12/21 | 11/12/21 | Unit-I | Mechanism of Drug Delivery from SR/CR formulation. Polymers classification, applications |
| Week # 04 | 13/12/21 | 18/12/21 | Unit-I | Dosage Forms for Personalized Medicine, Customized drug delivery systems, Bioelectronic Medicines, Telepharmacy and 3D printing of pharmaceuticals |
| Week # 05 | 20/12/21 | 25/12/21 | Unit-II | Rate Controlled Drug Delivery Systems: Principles & Fundamentals. Types of Activated dds, advantages and disadvantages. |
| Week # 06 | 27/12/21 | 31/12/21 | Unit-II | Modulated Drug Delivery Systems, mechanically activated dds, PH activated dds, Enzyme activated dds |
| Week # 07 | 03/01/22 | 08/01/22 | Unit-II | Osmotic activated Drug Delivery, Feedback regulated Drug Delivery Systems |
| Week # 08 | 10/01/22 | 12/01/22 | Unit-III | Gastro-Retentive Drug Delivery Systems: introduction, Principle of GRDDS, Concepts advantages and disadvantages of GRDDS, Modulation of GI transit time, Approaches to extend GI transit |




PRINCIPAL,
Mallige College of Pharmacy,
Bangalore-560 090



MALLIGE COLLEGE OF PHARMACY
#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090
(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)
Email id: mcpbangalore@ymail.com, Web: www.mallige.ac.in, Phone.: 9353729763

| Week no | Dates | | Unit number | Topics |
|-----------|----------|----------|-------------|--|
| | From | To | | |
| Week#09 | 24/01/22 | 29/01/22 | Unit-III | Buccal Drug Delivery Systems- introduction Buccal Drug Delivery Systems- approaches Principle of muco adhesion. Advantages and disadvantages of muco adhesion Mechanism of drug permeation |
| Week#10 | 24/01/22 | 29/01/22 | Unit-III | Methods of formulation of bdds, Methods of formulation of bdds, Evaluations of bdds |
| Week#11 | 31/01/22 | 05/02/22 | Unit-IV | Ocular Drug Delivery Systems – introduction, Barriers of drug permeation. |
| Week#12 | 07/02/22 | 12/02/22 | Unit-IV | Barriers of drug permeation, Methods to overcome sbarriers, Methods to overcome barriers. |
| Week # 13 | 14/02/22 | 19/02/22 | Unit- V | Trans Dermal Drug Delivery Systems- introduction Structure of skin, Barriers of skin & Penetration enhancers |
| Week # 14 | 22/02/22 | 04/03/22 | | I Sessional Exam |
| Week #15 | 07/03/22 | 12/03/22 | Unit-V | Transdermal Drug Delivery Systems – approaches Formulation of tdds & Evaluation of tdds |
| Week # 16 | 14/03/22 | 19/03/22 | Unit -VI | Protein & Peptide Delivery, Barriers for protein delivery. |
| Week # 17 | 21/03/22 | 25/03/22 | Unit -VI | Formulation of delivery systems of proteins and other macromolecules. |
| Week # 18 | 28/03/22 | 01/04/22 | Unit -VI | Evaluation of delivery systems of proteins and other macromolecules. |
| Week # 19 | 04/04/22 | 09/04/22 | | Seminar |
| Week # 20 | 11/04/22 | 13/04/22 | | Seminar |
| Week # 21 | 18/04/22 | 27/04/22 | | II Sessional Examination |
| Week # 22 | 04/05/22 | 07/05/22 | | Additional sessional |
| Week # 23 | 09/05/22 | 28/05/22 | | Remedial and Pre-Final examination |

NOTE: The schedule is subject to change depending on University notification

Staff signature




Principal
PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090



MALLIGE COLLEGE OF PHARMACY
#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090
(Recognized by AICTE, PCI New Delhi, RGUHS Bangalore)
Email id: mcpbangalore@vmail.com, Web: www.mallige.ac.in, Phone.: 9353729763

Academic Year: 2021-22

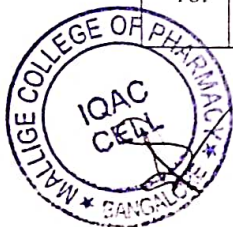
Class: II.Sem M.Pharm

Subject teacher: Sheeba FR

Subject: Cosmetics and cosmeceuticals

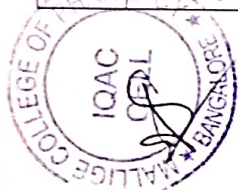
No. of Theory Hours: 60

| Sl.no | Date | Topic to be covered | Unit | Engaged as per schedule/ Alternative | Remarks |
|-------|----------|---|------|---|------------|
| 1. | 26.7.21 | Introduction class | 1 | Completed | |
| 2. | 27.07.21 | Cosmetics & cosmeceuticals explanation | 1 | Completed | |
| 3. | 27.07.21 | Definition for cosmetic products as per EU guidelines | 1 | Completed | |
| 4. | 29.7.21 | Skin structure -Dry skin, | 1 | Completed | |
| 5. | 31.07.21 | acne, pigmentation | 1 | Completed | |
| 6. | 31.07.21 | Prickly heat, wrinkles | 1 | Completed | |
| 7. | 2.8.21 | Body odour | 1 | Completed | |
| 8. | 3.8.21 | Structure of hair and hair growth cycle | 1 | Completed | |
| 9. | 3.8.21 | Common problem associated with oral cavity | 1 | Completed | |
| 10. | 5.8.21 | Common problem associated with oral cavity | 1 | Completed | |
| 11. | 6.8.21 | Cleansing and care need for face | 1 | Completed | |
| 12. | 7.8.21 | Cleansing and care need eye lids and lips | 1 | Completed | |
| 13. | 7.8.21 | Cleansing and care need Hands and feet | 1 | Completed | |
| 14. | 9.8.21 | Cleansing and care need for neck and under arms. | 1 | Completed | |
| 15. | 9.8.21 | Cleansing and care need for body. | 1 | Completed | |
| 16. | 11.8.21 | Formulation requirements for ethnic needs | 1 | Completed | assignment |
| 17. | 12.8.21 | Building blocks for different product formulations of cosmetics | 2 | Completed | |
| 18. | 12.8.21 | Surfactant –classification and application | 2 | Completed | seminar |



PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090

| | | | | | |
|-----|---------|--|---|-----------|------------|
| 19. | 17.8.21 | Emollients rheological additives classification and application | 2 | Completed | seminar |
| 20. | 17.8.21 | Preservatives –merits and demerits | 2 | Completed | seminar |
| 21. | 19.8.21 | Factories affecting microbial preservatives efficacy | 2 | Completed | seminar |
| 22. | 23.8.21 | Building blocks for cream | 2 | Completed | |
| 23. | 23.8.21 | Building blocks for shampoo | 2 | Completed | |
| 24. | 31.8.21 | Building blocks for tooth paste | 2 | Completed | |
| 25. | 31.8.21 | Perfumes | 2 | Completed | |
| 26. | 24.8.21 | Controversial ingredients | 2 | Completed | |
| 27. | 24.8.21 | Controversial ingredients | 2 | Completed | |
| 28. | 26.8.21 | Sun protection | 2 | Completed | |
| 29. | 28.8.21 | Sunscreen classification and regulatory aspects | 2 | Completed | |
| 30. | 28.8.21 | Addressing dry skin and acne | 3 | Completed | |
| 31. | 30.8.21 | Formulation for Pigmentation | 3 | Completed | |
| 32. | 31.8.21 | Formulation for prickly heat | 3 | Completed | |
| 33. | 31.8.21 | Wrinkles and body odour | 3 | Completed | |
| 34. | 2.9.21 | Dandruff | 3 | Completed | |
| 35. | 3.9.21 | Dental cavities | 3 | Completed | |
| 36. | 4.9.21 | Bleeding gums | 3 | Completed | |
| 37. | 4.9.21 | Mouth odor and sensitive teeth | 3 | Completed | |
| 38. | 6.9.21 | Herbal ingredients used in hair care | 4 | Completed | assignment |
| 39. | 7.9.21 | Herbal ingredients used in Skin care | 4 | Completed | seminar |
| 40. | 7.9.21 | Herbal ingredients used in Oral care | 4 | Completed | seminar |
| 41. | 9.9.21 | Cosmos- guidelines | 4 | Completed | |
| 42. | 11.9.21 | Preservatives | 4 | Completed | |
| 43. | 11.9.21 | Emollients | 4 | Completed | |
| 44. | 13.9.21 | Foaming agents | 4 | Completed | |
| 45. | 14.9.21 | Emulsifiers | 4 | Completed | |
| 46. | 14.9.21 | Rheology modifiers | 4 | Completed | |
| 47. | 16.9.21 | Challenges in formulating herbal cosmetics | 4 | Completed | |
| 48. | 17.9.21 | Challenges in formulating herbal cosmetics | | Completed | |
| 49. | 18.9.21 | Formulation of lip care products | 5 | Completed | |
| 50. | 18.9.21 | Chemistry and formulation of paraphylene diamine –hair colorants | 5 | Completed | |
| 51. | 20.9.21 | Soaps | 6 | Completed | |
| 52. | 21.9.21 | syndet bar | 6 | Completed | |



[Signature]
PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090

| | | | | | |
|-----|---------|--|---|-----------|---------|
| 53. | 21.9.21 | Labelling requirements for cosmetics | 6 | Completed | |
| 54. | 22.9.21 | Labelling requirements for cosmetics | 6 | Completed | seminar |
| 55. | 23.9.21 | Cosmetic safety data-private body | 6 | Completed | |
| 56. | 27.9.21 | INCI | 6 | Completed | |
| 57. | 28.9.21 | List of ingredients on the labels of cosmetics | 6 | Completed | seminar |
| 58. | 28.9.21 | Skin structure of baby and men | 7 | Completed | |
| 59. | 1.10.21 | Baby care products | 7 | Completed | |
| 60. | 1.10.21 | Men's products in markets | 7 | Completed | |

Subject in-charge



Principal
PRINCIPAL,
Mallige College of Pharmacy,
Bangalore-560 090



MALLIGE COLLEGE OF PHARMACY

#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090

(Recognized by AICTE, PCI New Delhi, RGHS Bangalore)

Email id: mcpbangalore@yahoo.com, Web: www.mallige.ac.in, Phone.: 9353729763

Class: First Sem M.Pharm (P.Col)

Subject teacher: Mrs. N.C.Nagalakshmi

Subject: Advanced Pharmacology – I Ac. Year: 2021-22 No. of Theory Hours: 60

| Sl.no | Date | Topic to be covered | Alternate Class | Remarks |
|-------|------------|---|-----------------|-----------|
| 1. | 02/02/2021 | Unit 1: Pharmacokinetics: Dynamics of drug absorption | | Completed |
| 2. | 03/02/2021 | Dynamics of drug absorption | | Completed |
| 3. | 05/02/2021 | Dynamics of drug absorption | | Completed |
| 4. | 05/02/2021 | Dynamics of drug distribution | | Completed |
| 5. | 05/02/2021 | Dynamics of drug distribution | | Completed |
| 6. | 05/02/2021 | Dynamics of drug metabolism | | Completed |
| 7. | 08/02/2021 | Dynamics of drug metabolism | | Completed |
| 8. | 09/02/2021 | Dynamics of drug excretion | | Completed |
| 9. | 10/02/2021 | Concepts of linear and non-linear compartment models | | Completed |
| 10. | 12/02/2021 | Significance of protein binding | | Completed |
| 11. | 12/02/2021 | Pharmacodynamics: Mechanism of drug action, relationship between drug concentration and effect. | | Completed |
| 12. | 16/02/2021 | Receptors, structural and functional families of receptors | | Completed |
| 13. | 17/02/2021 | Quantitation of drug receptor interaction and elicited effects. | | Completed |
| 14. | 19/02/2021 | Unit II: General aspects and steps involved in neurotransmission. | | Completed |
| 15. | 19/02/2021 | Neurohumoral transmission in ANS | | Completed |
| 16. | 23/02/2021 | Neurohumoral transmission in ANS | | Completed |
| 17. | 24/02/2021 | Neurohumoral transmission in CNS | | Completed |
| 18. | 26/02/2021 | Neurohumoral transmission in CNS | | Completed |
| 19. | 26/02/2021 | NANC | | Completed |
| 20. | 02/03/2021 | Autonomic Pharmacology: Parasympathomimetics | | Completed |
| 21. | 03/03/2021 | Parasympatholytics | | Completed |
| 22. | 05/03/2021 | Sympathomimetics | | Completed |
| 23. | 05/03/2021 | Sympatholytics | | Completed |
| 24. | 09/03/2021 | Agents affecting NMJ | | Completed |
| 25. | 10/03/2021 | Unit III: CNS Pharmacology: General anesthetics | | Completed |
| 26. | 12/03/2021 | General anesthetics | | Completed |
| 27. | 12/03/2021 | Local anesthetics | | Completed |
| 28. | 16/03/2021 | Sedatives and hypnotics | | Completed |

PRINCIPAL,

Mallige College of Pharmacy

Bangalore-560 090



MALLIGE COLLEGE OF PHARMACY

#71, SILVEPURA, CHIKKABANAVARA POST, BANGALORE: -560 090

(Recognized by AICTE, PCI New Delhi, RGUIS Bangalore)

Email id: nicepbangalore@gmail.com, Web: www.mallige.ac.in, Phone.: 9353729763

Class: II Sem M.Pharm

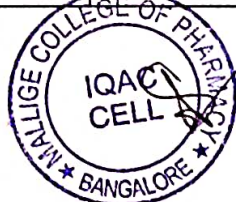
Ac. Year: 2021-22


Subject teacher: N.C.Nagalakshmi

Subject: Adv. P.Cology –II

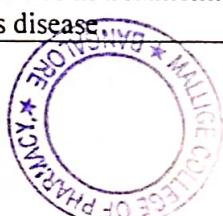
No. of Theory Hours: 60

| Sl.no | Date | Topic to be covered | Alternate Class | Remarks |
|-------|----------|--|-----------------|-----------|
| 1. | 26.07.21 | Endocrine Pharmacology: Molecular and mechanism of action of growth hormone, Prolactin, Insulin and sex hormones. | | Completed |
| 2. | 26.07.21 | Anti – thyroid drugs | | Completed |
| 3. | 27.07.21 | Seminar | | Completed |
| 4. | 27.07.21 | Oral hypoglycaemic agents | | Completed |
| 5. | 28.07.21 | Seminar | | Completed |
| 6. | 28.07.21 | Oral contraceptives | | Completed |
| 7. | 29.07.21 | Corticosteroids | | Completed |
| 8. | 30.07.21 | Seminar | | Completed |
| 9. | 30.07.21 | Drugs affecting calcium regulation | | Completed |
| 10. | 02.08.21 | Chemotherapy: Cellular and molecular action of resistance of antimicrobial agents: | | Completed |
| 11. | 02.08.21 | Seminar | | Completed |
| 12. | 03.08.21 | Cellular and molecular action of resistance of antimicrobial agents: beta-lactams | | Completed |
| 13. | 03.08.21 | Cellular and molecular action of resistance of antimicrobial agents: Aminoglycosides, Quinolones. | | Completed |
| 14. | 04.08.21 | Seminar | | Completed |
| 15. | 04.08.21 | Cellular and molecular action of resistance of antimicrobial agents: Macrolide antibiotics | | Completed |
| 16. | 05.08.21 | Seminar | | Completed |
| 17. | 05.08.21 | Cellular and molecular action of resistance of antimicrobial agents: Antifungal | | Completed |
| 18. | 06.08.21 | Seminar | | Completed |
| 19. | 06.08.21 | Cellular and molecular action of resistance of antimicrobial agents: Antiviral | | Completed |
| 20. | 09.08.21 | Cellular and molecular action of resistance of antimicrobial agents: Anti-TB | | Completed |
| 21. | 09.08.21 | Seminar | | Completed |
| 22. | 09.08.21 | Drugs used in Protozoal infection | | Completed |




PRINCIPAL,
Mallige College of Pharmacy
Bangalore-560 090

| | | | | |
|-----|----------|--|--|-----------|
| 23. | 10.08.21 | Seminar | | Completed |
| 24. | 10.08.21 | Drugs used in the treatment of Helminthiasis | | Completed |
| 25. | 11.08.21 | Seminar | | Completed |
| 26. | 11.08.21 | Chemotherapy of Cancer | | Completed |
| 27. | 12.08.21 | Immunopharmacology: Cellular and biochemical mediators of inflammation and immune response. | | Completed |
| 28. | 12.08.21 | Seminar | | Completed |
| 29. | 13.08.21 | Hypersensitivity Reactions | | Completed |
| 30. | 16.08.21 | Seminar | | Completed |
| 31. | 16.08.21 | Pharmacotherapy of Asthma | | Completed |
| 32. | 17.08.21 | Seminar | | Completed |
| 33. | 17.08.21 | Pharmacotherapy of COPD | | Completed |
| 34. | 18.08.21 | Seminar | | Completed |
| 35. | 18.08.21 | GIT Pharmacology: Antiulcer | | Completed |
| 36. | 19.08.21 | Prokinetics, anti -emetics | | Completed |
| 37. | 21.08.21 | Anti-diarrhoeals | | Completed |
| 38. | 21.08.21 | Drugs for constipation and Irritable bowel syndrome | | Completed |
| 39. | 23.08.21 | Seminar | | Completed |
| 40. | 23.08.21 | Chronopharmacology: Biological and circadian Rhythm | | Completed |
| 41. | 24.08.21 | Application of Chronotherapy in CVS | | Completed |
| 42. | 24.08.21 | Application of Chronotherapy in Diabetes Mellitus | | Completed |
| 43. | 25.08.21 | Seminar | | Completed |
| 44. | 25.08.21 | Application of Chronotherapy in Asthma | | Completed |
| 45. | 26.08.21 | Seminar | | Completed |
| 46. | 26.08.21 | Application of Chronotherapy in Peptic ulcer | | Completed |
| 47. | 27.08.21 | Free Radical Pharmacology: Generation of free radicals | | Completed |
| 48. | 27.08.21 | Seminar | | Completed |
| 49. | 30.08.21 | Role of free radical in etiology of various diseases : Diabetes | | Completed |
| 50. | 30.08.21 | Role of free radical in etiology of various diseases: Neurodegenerative diseases | | Completed |
| 51. | 13.08.21 | Seminar | | Completed |
| 52. | 14.08.21 | Role of free radical in etiology of various diseases: Cancer | | Completed |
| 53. | 15.09.21 | Protective activity of certain important antioxidant | | Completed |
| 54. | 16.09.21 | Seminar | | Completed |
| 55. | | Recent Advances in treatment: Alzheimer's disease | | Completed |




PRINCIPAL,
 Mallige College of Pharmacy
 Bangalore-560 090

| | | | | |
|-----|----------|---|--|-----------|
| 56. | 20.09.21 | Seminar | | Completed |
| 57. | 21.09.21 | Role of free radical in etiology of various diseases: Parkinson's | | Completed |
| 58. | 22.09.21 | Seminar | | Completed |
| 59. | 23.09.21 | Role of free radical in etiology of various diseases: Cancer | | Completed |
| 60. | 27.09.21 | Seminar | | Completed |
| 61. | 28.09.21 | Role of free radical in etiology of various diseases: Diabetes | | Completed |




 Principal
PRINCIPAL,
 Mallige College of Pharmacy
 Bangalore-560 090