

03 - 06 - 19

Printing Pages : 3

Paper Code : BPH-401

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B.PHARM

(2nd YEAR, IV SEM.) EXAMINATION

PHARMACEUTICS-IV (UNIT OPERATIONS-II)

Time : 3 Hours]

[Max. Marks : 70

Note: *Attempt all question as per Instructions. Draw well labeled Diagram wherever necessary.*

1. Attempt All questions :

[1×14=14

- (i) Find the Azeotropic mixture
 - (a) Air – water
 - (b) Acetic acid –water
 - (c) Acetic acid –alcohol
 - (d) Air – alcohol
- (ii) By adding entrainer or solvent one of the component's gets reduced
 - (a) Boiling point
 - (b) Bubble point
 - (c) Dew point
 - (d) All of the mentioned
- (iii) CAD/CAM is the relationship between
 - (a) Science and engineering
 - (b) Manufacturing and marketing
 - (c) Design and manufacturing
 - (d) Design and marketing
- (iv) The process optimization chain is as follows:
 - (a) Measuring –Controlling – optimizing
 - (b) Controlling –Measuring- optimizing
 - (c) Optimizing – Measuring – Controlling
 - (d) All
- (v) Inlet air velocity in fluidized bed dryer is
 - (a) 1.5-7.5 m/sec
 - (b) 1.5-7.5 m/min
 - (c) 2.5-7.5 m/min
 - (d) None

- (vi) Charles's law is
 (a) $P \times V = \text{Constant}$ (b) $V/T = \text{Constant}$
 (c) $P/T = \text{Constant}$ (d) $P/V = \text{Constant}$
- (vii) Which dryer is used for batch as well as continuous drying
 (a) Tray dryer
 (b) Drum dryer
 (c) FBD
 (d) Spray dryer
- (viii) Particle size of spray dried product is
 (a) 2-400 μm (b) 2-500mm
 (c) 500-800 mm (d) None
- (ix) In which dryer attrition phenomenon not takes place
 (a) Drum dryer (b) FBD
 (c) Roller dryer (d) Spray dryer
- (x) Which one of the following is not a fundamental unit?
 (a) Length (b) Mass
 (c) Density (d) Temperature
- (xi) What are the factors influencing the rate of evaporation
 (a) Temperature (b) Surface area
 (c) Films and deposits (d) All
- (xii) Changing of a liquid into vapours from surface of liquid without heating it is called
 (a) Expansion (b) Contraction
 (c) Evaporation (d) Fusion
- (xiii) Rate of evaporation decreases as
 (a) Temperature increases (b) Humidity of surrounding air increases
 (c) Movement of air above surface of liquid increases (d) Atmospheric pressure decreases

- (xiv) In Azeotropic distillation..... remains low
 (a) Heat (b) Volatility
 (c) Relative volatility (d) None of the mentioned
2. Write short note on any four of the following: [3.5×4=14]
 (i) Define tie substances with the help of an example.
 (ii) Describe Raoult's law. What is its significance?
 (iii) Distinguished between drying and evaporation.
 (iv) Classify dryers giving suitable examples.
 (v) Write in detail about gas laws.
3. Attempt any two questions of the following. [7×2=14]
 (i) What are the different types of graphical representations?
 (ii) Write about principle, working and construction, users, advantages and disadvantages of FDB.
 (iii) Describe mechanism of drying with suitable diagrams.
4. Attempt any two questions of the following. [7×2=14]
 (i) Classify evaporator. Describe construction and working of a horizontal evaporator.
 (ii) Explain the principle and procedure of azeotropic and extractive distillation.
 (iii) Describe, with examples, the application of automated processes control system in pharmaceutical industries.
5. Attempt any One of the following: [14×1=14]
 (i) Explain the principle, working, advantages, disadvantages and use of spray dryer with suitable diagram.
 (ii) Write in detail about principle of rectification. Explain its application in pharmacy.

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B.PHARM.

(2nd YEAR, 4th SEM.) EXAMINATION

Pharmaceutical Organic Chemistry- III

Time : 3 Hours]

[Max. Marks : 75

Note: Attempt all question.**1. Attempt all questions.****[1×20=20]**

- (i) Furan has
- (a) One oxygen atom (b) Two Oxygen atom
- (c) Three Oxygen atom (d) None
- (ii) Electrophile is
- (a) Electron rich (b) Electron Poor
- (c) Both (d) None
- (iii) Butane reacts with sulphur at high temperature to forms
- (a) Thiophene (b) Benzene
- (c) Furan (d) All
- (iv) Heterocyclic compound has at least one
- (a) Homoatom (b) Heteroatom
- (c) Neutral Atom (d) None of these
- (v) Pyridine on reduction given
- (a) Piperidine (b) Benzene
- (c) Benzoic acid (d) None
- (vi) Which one of the following contains one sulphur atom in the ring
- (a) Pyrrole (b) Pyrazole
- (c) Imidazole (d) All
- (vii) Aromaticity is shown by:-
- (a) Pyrrole (b) Pyrazole
- (c) Imidazole (d) All
- (viii) Oxazole ring contains
- (a) 2Heteroatom (b) 3 Hetroatom
- (c) 4 Heterotom (d) 5 Heteroatom
- (ix) Thiazole is present in
- (a) Vitamin A (b) Vitamin B

- (c) Vitamin C (d) All
- (x) Thiazole gives ring opening reaction in the presences of
 (a) Nucleophile (b) Electrophile
 (c) Both (d) All
- (xi) Birch reduction takes place in the presence of
 (a) Liq NH_3/Na (b) Liq NH_3
 (c) KOH (d) None of these
- (xii) Chiral carbon is attached to
 (a) Two different groups (b) Three different groups
 (c) Four different groups (d) None
- (xiii) Optical isomerism is shown by
 (a) Formic acid (b) Acetic acid
 (c) Lactic acid (d) None of these
- (xiv) Racemic mixture is
 (a) Optically active (b) Optically inactive
 (c) Both (d) None of these
- (xv) Trans isomer is
 (a) Less stable than cis (b) More stable than cis
 (c) Equal stable as cis (d) None
- (xvi) Six membered benzene ring fused to a five membered pyrrole ring is called
 (a) Pyrrole (b) Furan
 (c) Pyrazolidine (d) Indole
- (xvii) Isoquinoline is a
 (a) Hydrocarbon (b) Heterocyclic
 (c) Polyhydrocarbon (d) Terpene
- (xviii) Which one is nitrating reagent?
 (a) SO_4 (b) H_2SO_3
 (c) Con H_2SO_4 and con HNO_3 (d) None of these

- (xix) Which one is important part of hemoglobin?
 (a) Pyrrole (b) Pyrazole
 (c) Thizaole (d) Thiadiazole
- (xx) Purine consists of a
 (a) Pyrimidine ring imidazole ring (b) Pyrimidine ring and oxazole ring
 (c) Pyrimidine ring and Thiazole ring (d) None of these

2 Attempt any two questions of the following.

[10×2=20]

- (i) Gives preparations, reactions & medicinal uses of pyridine.
 (ii) Give reactions & medicinal uses of imidazole.
 (iii) Discuss reactions of quinoline and isoquinoline.

3 Attempt any seven questions of the following.

[5×7=35]

- (i) Discuss optical isomerism with suitable examples.
 (ii) Give reactions of chiral molecules.
 (iii) Write preparation and reactions of oxazole.
 (iv) Discuss oppenauer- oxidation.
 (v) Discuss stereospecific stereoselective reactions.
 (vi) Explain Asymmetric synthesis.
 (vii) Explain conformational isomerism in alkane.
 (viii) Give synthetic application of metal hydride reduction.
 (ix) Write about purine.

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B.PHARM.

(2nd YEAR, 4th SEM.) EXAMINATION

Medicinal Chemistry- I

Time : 3 Hours]

[Max. Marks : 75

Note: Attempt all question.

1. Attempt all questions.

[1×20=20

- (i) Which of the following is an antipsychotic drug?
 - (a) Promazine
 - (b) Ketamine
 - (c) Methotrexate
 - (d) None
- (ii) Which of the following is a non selective β - blocker?
 - (a) Timolol
 - (b) Atenolol
 - (c) Propranolol
 - (d) All
- (iii) Which of the following is a narcotic antagonist?
 - (a) Naloxone
 - (b) Nalorphine
 - (c) Naltrexone
 - (d) All
- (iv) Which of the following is a starting material for synthesis of aspirin?
 - (a) Salicylic acid
 - (b) Pyridine
 - (c) Benzoyl chloride?
 - (d) None
- (v) Which of the following is a starting material for synthesis of paracetamol?
 - (a) P- nitro phenol
 - (b) Benzyl chloride
 - (c) Aniline
 - (d) None
- (vi) Which of the following is a NSAIDS?
 - (a) Imipramine
 - (b) Morphine
 - (c) Mefenamic acid
 - (d) Pentazocine
- (vii) Side effects of NSAIDS includes except.
 - (a) Peptic ulcer
 - (b) Seizers
 - (c) Reduced kidney functions
 - (d) GIT bleeding
- (viii) Acetaminophen is used in
 - (a) Pyrexia
 - (b) Inflammation
 - (c) Antiplatelet
 - (d) Cancer chemotherapy

- (ix) Which of the following is a starting material for synthesis of phenytoin?
 (a) Benzil (b) 2,6- xyldine
 (c) Aniline (d) None
- (xi) Which of the following is an anti- convulsant drug?
 (a) Phenytoin (b) Levodopa
 (c) Phenylephrine (d) None
- (xii) Flumazenil blocks the actions of:
 (a) Morphine (b) Phenobarbital
 (c) Diazepam (d) Thiopental
- (xiii) Which of the following agents is preferred in the treatment of insomnia?
 (a) Phenothiazide (b) Benzodiazepines
 (c) Opioids (d) Barbiturates
- (xiv) Barbiturates are being replaced by hypnotic benzodiazepines because of
 (a) Low therapeutic index (b) More hang over
 (c) High potential of physical dependence (d) All of the above
- (xv) The ideal hypnotic agent must has:
 (a) Rapid onset and sufficient duration of action (b) Minor effects on sleep patterns
 (c) Minimal "hangover" effects (d) All of the above
- (xvi) Hypnotic agents induce:
 (a) Increase the duration of REM sleep (b) Decrease the duration of REM sleep
 (c) Decrease the duration of Non- REM sleep (d) Increase the duration of slow wave sleep
- (xvii) NSAID_s used to inhibits
 (a) COX (b) LOX
 (c) A & b Both (d) None
- (xviii) Which of the following is a general anaesthetic?
 (a) Diethyl ether (b) Benzyl chloride
 (c) Aniline (d) None

- (xix) Which of the following is a sedative?
 (a) Phenobarbitone (b) Benzyl chloride
 (c) Benzophenone (d) None
- (xx) The Competitive antagonist of BZD receptors is
 (a) Flumazenil (b) Picrotoxin
 (c) Zaleplon (d) Zolpidem

2 Attempt any two questions of the following.

[10×2=20]

- (i) Discuss SAR, synthesis, mode of action and uses of Phenobarbitone
 (ii) Explain Physicochemical aspects of drug. Discuss medicinal importance optical isomers.
 (iii) Give the SAR, synthesis and M.O.A of Diazepam.

3 Attempt any Seven questions of the following.

[5×7=35]

- (i) Give the synthesis of Ketamine.
 (ii) Give synthesis, and mechanism of Ibuprofen.
 (iii) Give the synthesis and mechanism of thiopental.
 (iv) What are the antipsychotic agents.
 (v) Give synthesis, mode of action and use of propranolol.
 (vi) What are the general anesthetics agents and give its ideal properties.
 (vii) Discuss concept of prodrug.
 (viii) Enlist physicochemical properties of drug.
 (ix) Give the synthesis and uses of Mefenamic acid.

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B.PHARM.
(2nd YEAR, IV SEM.) EXAMINATION
PHARMACUTICAL MICROBIOLOGY

Time : 3 Hours]

[Max. Marks : 70

*Note: Attempt all question as per Instructions.***1. Attempt All questions :****[1×14=14]**

- (i) Autoclaving is carried at
 - (a) 145⁰C
 - (b) 18⁰C
 - (c) 121⁰C
 - (d) All of these
- (ii) Temperature in pasteurization is
 - (a) 62.8⁰C
 - (b) 35.7⁰C
 - (c) 68.2⁰C
 - (d) All
- (iii) Size of HEPA filter is
 - (a) 100 mm
 - (b) 1000mm
 - (c) 10 micrometer
 - (d) None
- (iv) Vapour phase disinfectant
 - (a) Iodine
 - (b) Phenol
 - (c) Formaldehyde
 - (d) All
- (v) Dosimeter is used
 - (a) Radio sterilization
 - (b) Hot air over
 - (c) Both
 - (d) None
- (vi) The test used for detection of typhoid fever
 - (a) WIDAL test
 - (b) ELISA
 - Rosewaller test
 - (d) Westernblotting

(vii) Cell-Wall is

- (a) Thick in Gram positive then Gram negative
- (b) Thick in Gram negative Than Gram positive
- (c) Equal in both
- (d) In Gram negative cell-wall is absent

(viii) Temperature required for pasteurization is

- (a) Above 150°C
- (b) Below 100°C
- (c) 110°C
- (d) None of these

(ix) Which of the following is ionizing radiation.

- (a) U.V.rays
- (b) IR
- (c) γ -rays
- (d) None of these

(x) Discontinuous heating is called

- (a) Pasteurization
- (b) Sterilization
- (c) Fermentation
- (d) Tindalisation

(xi) Glassware are sterilized by

- (a) Autoclaving
- (b) Hot air oven
- (c) Incineration
- (d) None of these

(xii) Phenol co-efficient indicates

- (a) Efficiency of disinfectant
- (b) Dilution of a disinfectant
- (c) Purity of disinfectant
- (d) Quantity of disinfectant

(xiii) In autoclave, the principle involved is

- (a) Dry heat
- (b) Moist heat
- (c) Steam under pressur
- (d) Both b and c

(xiv) pH required for the growth of bacteria is

- (a) 6.8-7.2
- (b) 5.6-8.2
- (c) 3.0-6.0
- (d) 8.0-14.0

2. Attempt any four questions. Write note on [3.5×4=14 following:

- (i) Explain phenol coefficient method in detail.
- (ii) Explain factor affecting disinfectant
- (iii) Write note on sporulation
- (iv) Non ionizing radiation
- (v) Reproduction of bacteria

3. Attempt any two questions of the following.

[7×2=14

- (i) Explain validation of sterilization
- (ii) Write note on sterility test
- (iii) Different sterilization technique

4. Attempt any two questions of the following.

[7×2=14

- (a) Write note on different media used in microbiology
- (b) Explain differential staining and acid fact staining
- (c) Write note on scope of microbiology

5. Attempt any one question

[14×1=14

- (i) Explain in detail assay of antibiotic
- (ii) Write in detail theory of origin of life.

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B.PHARM.

(2nd YEAR, 4th SEM.) EXAMINATION

Physical Pharmaceutics – II

Time : 3 Hours]

[Max. Marks : 75

Note: Attempt all question.

1. Attempt all questions.

[1×20=20

- (i) An example for colloidal system is:
- (a) Clay & gel (b) Ointment & paste
(c) Suspension & emulsion (d) Solution of soap & protein
- (ii) Sulphur sol is an example of colloidal type:
- (a) Association (b) Hydrophilic
(c) Lyophilic (d) Lyophobic
- (iii) Dispersion of acacia in water gives colloid of type
- (a) Association (b) Negative
(c) Neutral (d) Positive
- (iv) Aerosol is the reverse of
- (a) Emulsion (b) Liquid form
(c) Smoke (d) Solid foam
- (v) The stability of acacia in water is due to
- (a) Formation of micelles (b) Hydration of solids
(c) Lowering interfacial tension (d) Presence of electrical charge
- (vi) Viscosity is define as:
- (a) F/G (b) G/F
(c) F/A (d) All of the above
- (vii) Fluidity is:
- (a) Equal to viscosity (b) Reciprocal of viscosity
(c) None (d) Both

- (viii) If flow property of a powder is good, angle of repose will be:
 (a) 15 (b) 25
 (c) 32 (d) 40
- (ix) Kinematic viscosity unit is:
 (a) Poise (b) Newton/ meter
 (c) Stokes (d) None of them
- (x) Centipoise is an unit of:
 (a) Viscosity (b) Kinematic viscosity
 (c) Fluidity (d) None
- (xi) Andreason apparatus consists of:
 (a) Pipette (b) Electrode
 (c) Beaker (d) All of them
- (xii) Stokes law is applied of:
 (a) Microscope method (b) Sedimentation method
 (c) Sieving method (d) None
- (xiii) Air permeability method is used for determination of:
 (a) Bulk Density (b) Porosity
 (c) Specific surface (d) Compressibility
- (xiv) Which of following can be a molecularity of a reaction.
 (a) Half (b) One
 (c) One and half (d) Zero
- (xv) The biological half life of a drug in first order kinetics is represented by
 (a) $1/K$ (b) $\log K$
 (c) $0.693/K$ (d) $2.303/K$
- (xvi) Change of a state from a solid directly to gas is known as
 (a) Fusion (b) Sublimation
 (c) Vapourization (d) Distillation

- (xvii) Which of the following reaction is observed in the degradation of ampicillin.
 (a) Hydrolysis (b) Oxidation
 (c) Decarboxylation (d) Isomerization
- (xviii) The distribution of globules is not uniform in an emulsion. This stage is termed as
 (a) Breaking (b) Caking
 (c) Creaming (d) Coalescence
- (xix) For an ideal suspension the sedimentation volume should be
 (a) Equal to one (b) Less than one
 (c) More than one (d) Zero
- (xx) Which of the following properties is applicable to suspensions?
 (a) Brownian movement (b) Laminar flow
 (c) Rapid of rate of sedimentation (d) Stoke's law

2 Attempt any Two questions of the following.

[10×2=20]

- Write principle and method involved in determination of particle size by using andreasen pipette method.
- Explain non Newtonian type of flow with diagrams, mechanisms and suitable examples.
- Discuss the methodology of Accelerated stability studies in detail.

3 Attempt any Seven questions of the following.

[5×7=35]

- Discuss different types of colloidal dispersion on the basis of various properties.
- Write about various methods for purification of colloidal dispersion.
- Write principle and working of Ostwald's viscometer.
- Define physical stability in suspension and describe any one method used in evaluation of physical stability in suspension.
- Define following term-a) kinematic viscosity b) Fluidity
- Explain different types of densities in detail.
- Describe various methods to determine flow of powder.
- Explain physical factors influencing chemical degradation of pharmaceutical product.
- Explain first order kinetics in detail.

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B.PHARM.

(2nd YEAR, 4th SEM.) EXAMINATION
Pharmacognosy – II (Old Syllabus)

Time : 3 Hours]

[Max. Marks : 70

Note: Attempt all question as per Instructions. Draw well labeled Diagram wherever necessary.

1. Attempt All questions :

[1×14=14

(i) Condensed tannins react with FeCl_3 produces.

(a) Green color

(b) Red color

(c) Blue color

(d) Yellow color

(ii) Which of the following drug is obtained as Plant exudates?

(a) Saffron

(b) Asafoetida

(c) Cardamon

(d) Cotton

(iii) 'Citral' is found in-

(a) Lemongrass oil

(b) Clove oil

(c) Sandalwood oil

(d) Nutmeg

(iv) Which of the following is animal fibre- ?

(a) Cotton

(b) Wool

(c) Nylon

(d) Asbestos

(v) Which of the following is hydrolysable tannin?

(a) Ashoka

(b) Arjuna

(c) Cinnamon

(d) Acacia

(vi) The biological source of Indian podophyllum is

(a) Podophyllum palladium

(b) Podophyllum hexandrum

(c) Both a and b

(d) None of above

(vii) Which pharmaceutical aid is used as lubricant?

(a) Diatomit

(b) Talc

(c) Gelatin

(d) Bentonite

- (viii) Goldbeater's skin test generally used in identification of-
- | | |
|-------------------|------------|
| (a) Volatile oils | (b) Resins |
| (c) Tannins | (d) Fibres |
- (ix) Which of the following resin is used as counter irritant?
- | | |
|----------------|--------------------|
| (a) Asafoetida | (b) Balsam of tolu |
| (c) Capsicum | (d) Podophyllum |
- (x) Volatile oils containing phenol is found in-
- | | |
|--------------|-------------|
| Caraway | (b) Clove |
| (c) Cardamom | (d) Camphor |
- (xi) Which drug containing volatile oils act as local anesthetic?
- | | |
|----------------|------------------|
| (a) Eucalyptus | (b) Cinnamon |
| (c) Clove | (d) Black pepper |
- (xii) Terpenoids hydrocarbons have general formula (isoprene rule)-
- | | |
|---------------------|---------------------|
| (a) $(C_2H_4)_n$ | (b) $(C_5H_{10})_n$ |
| (c) $(C_2H_{10})_n$ | (d) $(C_5H_{10})_n$ |
- (xiii) Unsaturated Butyrolactone ring is found in -
- | | |
|------------------|--------------------|
| (a) Cardenolides | (b) Bufadienolides |
| (c) Triterpenes | (d) None of above |
- (xiv) Shinoda test is used in detection of -
- | | |
|-----------------------------|----------------|
| (a) Cardenolides | (b) Alkaloids |
| (c) Cyanogenetic glycosides | (d) Flavonoids |

2 Attempt any four questions of the following.

[3.5×4=14]

- Define and classify saponins with suitable examples.
- Differentiate between cardenolides and bufadienolides.
- Give the biological source, microscopy and uses of cinnamon.
- Give biological source and chemical tests of cotton.
- Define pharmaceuticals aids with suitable examples.

3. Attempt any two questions of the following.

[7×2=14]

- Define and classify Terpenoids with suitable examples. Give biological source, cultivation and collection, morphology and uses of menthe.
- Give the complete pharmacognosy of cotton Or silk.
- What is the role of aromatic plants in national economy? Give the utilization of lemongrass oil.

4. Attempt any two questions of the following

[7×2=14]

- Define and classify resins with suitable examples. Give systemic biological source, morphology, chemical constituents, chemical test and uses of cannabis.
- Define hydrolysable and condensed tannins along with suitable chemical test. Give systemic biological source, morphology, cultivation and collection, common varieties and uses of Arjuna bark.
- Define cardiac glycosides. Give photochemical screening of cardenolides and bufadienolides.

5. Attempt any One questions of the following

[14×1=14]

- Give occurrence, distribution, classification and phytochemical screening of alkaloids and saponins.
- Give systemic biological source, cultivation, collection, diagnostic macroscopic and microscopic characters, chemical constituents, chemical test, uses and marketed formulation of any two drugs-
(a) Coriander (b) Turmeric (c) Clove (d) Sandalwood

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B.PHARM.

(2nd YEAR, 4th SEM.) EXAMINATION

Pharmacology- 1

[Max. Marks : 75]

Time : 3 Hours]

Note: Attempt all question.

[1×20=20]

1. Attempt all questions.

- (i) Alzheimer's is the most common form of which of these
- (a) Malnutrition (b) Dementia
- (c) Fatigue (d) Psychosis
- (ii) The ability of a drug to trigger the pharmacological response after making drug receptor complex is called
- (a) Ligand (b) Affinity
- (c) Intrinsic activity (d) Receptor complex
- (iii) The most common form of glaucoma is called open angle glaucoma, what does open angle refer to?
- (a) The area of the eye that focus images
- (b) The area of the eye where ocular fluid drains
- (c) The area of the eye that controls peripheral vision
- (d) None of above
- (iv) Prescribed or preferred drugs are called
- (a) OTC drugs (b) ED
- (c) P- drugs (d) Prototype drugs
- (v) Inhalation comes under ----- route of drug administration .
- (a) Enteral (b) Parenteral
- (c) Topical (d) Both a & c
- (vi) Indicate the CNS stimulant which is a piperidine derivative.
- (a) Meridil (b) Amphetamine
- (c) Caffeine (d) Sydnophen
- (vii) Amitriptyline and sertraline are used for the treatment of?
- (a) Depression (b) Diabetes
- (c) Epilepsy (d) Migraine

- (viii) Physiologically what happen to brain as Alzheimer's progress
 (a) Brain cells atrophies (b) Many cells swells
 (c) Tissues swells (d) Fluid collects
- (ix) Lysergic acid diethylamide starts to take effect around 30-90 mins after taking it and physical effect includes.
 (a) Raised body temperature (b) Sleeplessness
 (c) Increased BP and heart rate (d) All of above
- (x) Who is the father of Indian pharmacology?
 (a) Oswald schmiedberg (b) R.N. Chopra
 (c) Robert brown (d) Rudolf buchheim
- (xi) Regarding pharmacokinetics of antidepressants
 (a) Most drugs are protein bound (b) Tricyclics are predominately excreted unchanged in urine
 (c) Fluoxetine is poorly absorbed (d) The half life of the older MAO is helpful in governing doses.
- (xii) Patient taking Levodopa- Carbidopa may experiences urine discoloration?
 (a) True (b) False
- (xiii) What phenomenon can occur in case of using a combination of drugs?
 (a) Tolerance (b) Tachyphylaxis
 (c) Accunulation (d) Synergism
- (xiv) What body does to drug is called
 (a) Pharmacodynamics (b) Pharmacokinetics
 (c) Bioavailability (d) Metabolism
- (xv) Which of the following is derived from the hemp plant "Cannabis sativa"
 (a) Opium (b) Marijuana
 (c) MDMA (d) Crack
- (xvi) Pharmacological activity of Glycosides is due to
 (a) Glycon (b) Aglycon
 (c) Both of above (d) None of above
- (xvii) Orphan drugs are used for the treatment of rare diseases.
 (a) True (b) False

- (xviii) A competitive antagonist is a substance that?
 (a) Interacts with receptors and produces submaximal effect
 (b) Binds to the same receptor site and progressively inhibits the agonist response
 (c) Binds to the nonspecific sites of tissue
 (d) Binds to one receptor subtype as an agonist and to another as an antagonist
- (xix) Which of the following drug (s) are dopa decarboxylase inhibitor
 (a) Carbidopa (b) Benserazide
 (c) Rotigotin (d) Both a & b
- (xx) Absorption relies on
 (a) Passage through membranes to reach the blood (b) Diffusion of lipid soluble species
 (c) Both a & b (d) None of above

2 Attempt any two questions of the following.

[10×2=20]

- (i) Explain kinetics of drug elimination
 (ii) Elaborate acetylcholine receptors.
 (iii) Explain essential medicines and its importance.

3 Attempt any seven questions of the following.

[5×7=35]

- (i) Define the following
 (a) Tachyphylaxis (b) Idiosyncrasy (c) Drug
 (d) Pharmacodynamics (e) Pharmacokinetics
- (ii) Explain factors affecting absorption of drug.
 (iii) Write a note on Drug tolerance
 (iv) Write a note on Myasthenia gravis, enlist the drugs for its treatment
 (v) Explain combined effect of drugs.
 (vi) Classify centrally acting muscle relaxant.
 (vii) Explain why levodopa is combined with carbidopa.
 (viii) Define bioavailability and absolute bioavailability.
 (ix) Classify general anaesthetics.

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B.PHARM.

(2nd YEAR, 4th SEM.) EXAMINATION
Pharmaceutical Analysis -II Old Syllabus

Time : 3 Hours]

[Max. Marks : 70

Note: Attempt all question as per Instructions. Draw well labeled Diagram wherever necessary.

1. Attempt All questions :

[1×14=14

- (i) EDTA has binding sites and therefore it is also called as muldidentate ligand.

(a) Six	(b) Five
(c) Four	(d) Seven
- (ii) Agent forms the complex with the metal ions that are not required in the estimation.

(a) Masking	(b) Damasking
(c) Both	(d) None
- (iii) The endpoint for an EDTA titration is usually found by using a indicator

(a) Metallochromic	(b) Redox
(c) Acid Base	(d) All
- (iv) Titrations based on the use of silver nitrate are called titration.

(a) Argenotometric	(b) Complexometric
(c) Amperometric	(d) Conductometric
- (v) Non aqueous titration is carried out for

(a) Water insoluble drugs	(b) Weakly acidic drugs
(c) Weakly basic drugs	(d) All
- (vi) Which one is aprotic solvent?

(a) Chloroform	(b) Benzene
(c) Both	(d) None
- (vii) Protogenic solvent is

(a) Sulphuric acid	(b) Hydrochloric acid
(c) Nitric acid	(d) All

- (viii) Protophilic solvent is
 (a) Sodium hydroxid (b) Lithum methoxide
 (c) Sodium methoxide (d) All
- (ix) Which one is useful in non aqueous titration?
 (a) Leveling solvent (b) Differentiating solvent
 (c) Both (d) None
- (x) Chromatography is a physical method that is used to separate and analyse-
 Simple mixtures (b) Complex mixtures
 (c) Viscous mixtures (d) Metals
- (xi) In Chromatography, the stationary phase can be _____ Supported on solid.
 (a) Solid or liquid (b) Liquid or gas
 (c) Solid only (d) Liquid only
- (xii) In chromatography, which of the following can the mobile phase be made of?
 (a) Solid or liquid (b) Liquid or gas
 (c) Gas only (d) Liquid only
- (xiii) Which of the following cannot be used as adsorbent in column adsorption chromatography?
 (a) Magnesium oxide (b) Silica gel
 (c) Activated alumina (d) Potassium Permanganate
- (xiv) Which of the following types of chromatography involves the separation of substances in a mixture over a 0.2 mm thick layer of an adsorbent?
 (a) Gas liquid (b) Column
 (c) Thin layer (d) Paper

2 Attempt any four questions of the following.

[3.5×4=14]

- Write a brief note on masking and demasking agents.
- How much types of detector used in HPLC?
- What is the application of Thin layer chromatography?
- Write a short note on ethylene di amine tetra acetate.
- Explain the indicators used in complexometric titration.

3. Attempt any two questions of the following.

[7×2=14]

- Write a brief note on GLC Or HPLC.
- Briefly describe Diazotization titration.
- Give the principle of complexometric titration and their types.

4. Attempt any two questions of the following

[7×2=14]

- Write short note on – Karl- Fisher titration. (Or) Kjeldahl method of nitrogen estimation.
- Write down basic concept of non aqueous titration and give the assay of chlorpromazine.
- What are the principle, instrumentation and pharmaceutical application of paper chromatography Or Thin layer chromatography?

5. Attempt any One questions of the following

[14×1=14]

- Define complexometric titration. Write in detail about the indicator used in complexometric titration. also give the application of complexometric titration.
- Explain the methods to determine end point of potentiometric titration and their applications.

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B.PHARM.

(IInd YEAR, IV SEM.) EXAMINATION

PHARMACEUTICAL JURISPRUDENCE & ETHICS

Time : 3 Hours]

[Max. Marks : 70

Note: *Attempt all question as per Instructions. Draw labeled diagram wherever required.*

1. Attempt All questions :

[1×14=14

- (i) First chemist ship in India was opened in :
 - (a) 1821
 - (b) 1911
 - (c) 1811
 - (d) 1921
- (ii) First Pharmaceutical company in India.
 - (a) Alembic chemical works
 - (b) Bengal chemicals and pharmaceutical works
 - (c) Sun Pharma
 - (d) GlaxoSmithKline
- (iii) The drug enquiry committee was appointed by
 - (a) Pharmacy enquiry committee
 - (b) AICTE
 - (c) PCI
 - (d) Government of India
- (iv) Pharmacy Act was passed in the year of
 - (a) 1848
 - (b) 1948
 - (c) 1855
 - (d) 1955
- (v) Drugs and Cosmetics Rules was passed in
 - (a) 1940
 - (b) 1945
 - (c) 1950
 - (d) 1955
- (vi) The patent Act was passed in the year
 - (a) 1968
 - (b) 1970
 - (c) 1971
 - (d) none

- (vii) Drug price control order was passed in:
 (a) 1966 (b) 1955
 (c) 1979 (d) 1987
- (viii) Number of elected members of Pharmacy Council of India is
 (a) Four (b) Six
 (c) Five (d) Three
- (ix) Central register of pharmacist is maintained by
 (a) State Pharmacy Council (b) Pharmacy Council of India
 (c) Both (d) Drug Controller of India
- (x) PCI is reconstituted at every..... Year.
 (a) Two (b) Three
 (c) Four (d) Five
- (xi) The Narcotic and Psychotropic substance Act was came in force in the year :
 (a) 1970 (b) 1848
 (c) 1985 (d) 1962
- (xii) Prescription drugs regulations comes under schedule:
 (a) Schedule P (b) Schedule H
 (c) Schedule A (d) Schedule K
- (xiii) Requirements and guidelines on clinical trials for import and manufacture of new drugs comes under
 (a) Schedule J (b) Schedule S
 (c) Schedule A (d) Schedule Y
- (xiv) Schedule for standards for cosmetics is:
 (a) Schedule L (b) Schedule J
 (c) Schedule S (d) Schedule N

2. Write a short note on (any four) [3.5×4=14]
 (i) What is the objective of Pharmacy Act? When was it passed?
 (ii) What are the main provisions of the Poisons Act 1919?
 (iii) Write a note on Drug Price Control Order 1995.
 (iv) Define 'Jurisprudence'. Trace out the history of drug legislations in India.
 (v) Explain the scope and purpose of Code of Ethics.
3. Attempt any Two of the following. [7×2=14]
 (i) Discuss Schedule M and labeling of drugs under the Drugs and Cosmetic Act.
 (ii) Write down the purpose of Pharmaceutical legislation. Discuss in brief about recommendations of Drug Enquiry Committee.
 (iii) Which advertisements are prohibited under Drugs and Magic Remedies (Objectionable Advertisements) Act and Rules? Write down the penalties under the act.
4. Attempt any Two of the following. [7×2=14]
 (i) Describe the Constitution and functions of Pharmacy Council in India.
 (ii) Write in detail about Pharmaceutical Education in India.
 (iii) Write a brief note on provisions relating to the cultivation of opium poppy.
5. Attempt any One. [14×1=14]
 (i) What are the penalties under the Poison Act? Who can make the rules under the Poison Act?
 (ii) Define Invention and describe the procedure for obtaining a patent.

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B.PHARM.

(2nd YEAR, 4th SEM.) EXAMINATION

Pharmacognosy and Photochemistry- I

Time : 3 Hours]

[Max. Marks : 75

Note: Attempt all question. As per instruction . Draw well labeled diagram wherever necessary.

1. Multiple choice questions. (Attempt all choose the correct option) [1×20=20

- (i) Who is coined the term 'Pharmacognosy'?
 - (a) Aristotle
 - (b) Galen
 - (c) C.A. Syedler
 - (d) Hippocrates
- (ii) Which of the following is an organized drug?
 - (a) Opium
 - (b) Clove
 - (c) Aloe
 - (d) Kaolin
- (iii) Which of the following drug obtained as animal source?
 - (a) Turmeric
 - (b) Kaolin
 - (c) Cotton
 - (d) Bees wax
- (iv) In marine source, Acanthellin- I is an example of-
 - (a) Antibacterial agent
 - (b) Antiviral agent
 - (c) Antifungal agent
 - (d) None of above
- (v) Which of the following is a leaf constant?
 - (a) Lycopodium spore
 - (b) Length of Vessel
 - (c) Vein islet number
 - (d) Length of trichomes
- (vi) Which of the following is a physical evaluation of an adulterant?
 - (a) Lycopodium spore analysis
 - (b) Ash value
 - (c) Stomatal index
 - (d) Chromatography
- (vii) 'Careless collection' is type of-
 - (a) Unintentional adulteration
 - (b) Intentional adulteration
 - (c) Both a and b
 - (d) None of above

- (viii) 'Cell differentiation' is generally caused by-
- | | |
|------------------|-------------------|
| (a) Auxins | (b) Cytokinnins |
| (c) Both a and b | (d) None of above |
- (ix) Which of the following is natural Auxin?
- | | |
|---------|---------|
| (a) IBA | (b) IAA |
| (c) NOA | (d) NAA |
- (x) Particle size less than 0.002 mm in soil is known as-
- | | |
|-----------------|---------------|
| (a) Silt | (b) Fine clay |
| (c) Coarse sand | (d) Fine sand |
- (xi) Which of the method is vegetative propagation in cultivation of plants?
- | | |
|--------------|--------------|
| (a) Layering | (b) Grafting |
| (c) Dibbling | (d) Cuttings |
- (xii) Shodhana means-
- | | |
|------------------|--------------------------|
| (a) Cleansing | (b) Rejuvenation therapy |
| (c) Both a and b | (d) None of above |
- (xiii) In Unani system of medicine, humour 'blood' is classified as?
- | | |
|----------------|----------------|
| (a) Hot - Dry | (b) Hot- Wet |
| (c) Cold - Dry | (d) Cold - Wet |
- (xiv) Which of the following is not a secondary metabolite?
- | | |
|----------------|--------------|
| (a) Alkaloids | (b) Proteins |
| (c) Glycosides | (d) Tannins |
- (xv) 'Shinoda test' is used in detection of-
- | | |
|---------------|----------------|
| (a) Tannins | (b) Flavonoids |
| (c) Alkaloids | (d) Resins |
- (xvi) 'Goldbeater' s skin test' is used in detection of -
- | | |
|----------------|-------------------|
| (a) Glucosides | (b) Volatile oils |
| (c) Alkaloids | (d) Tannins |
- (xvii) Which of the following is a fibre-?
- | | |
|-----------|-------------|
| (a) Honey | (b) Beeswax |
| (c) Wool | (d) Papain |

- (xviii) Papain is obtained from-
- | | |
|------------|------------|
| (a) Guava | (b) Banana |
| (c) Papaya | (d) Cotton |
- (xix) Agarose is found in -
- | | |
|-------------|------------|
| (a) Agar | (b) Starch |
| (c) Isabgol | (d) Acacia |
- (xx) Which of the following is a enzyme used as anticlotting agent?
- | | |
|-------------------|-------------------|
| (a) Papain | (b) Urokinase |
| (c) Streptokinase | (d) Penicillinase |

2 Attempt any two questions of the following.

[10×2=20]

- Discuss different factors affecting cultivation of medicinal plants with suitable examples.
- Give definition, historical development and of pharmacognosy
- Give the classification of drugs with suitable examples.

3 Attempt any seven questions of the following.

[5×7=35]

- Give complete pharmacognosy of any one drug-
(a) Castor oil (b) Cotton (c) Agar
- Discuss microscopical evaluation of adulterants.
- Discuss different plant hormones along with their applications.
- Discuss briefly marine sources of drugs.
- Give different types of plant tissue culture with suitable applications.
- Discuss different types of adulteration.
- Discuss Homeopathic system of medicine.
- Give extraction process for isolation of volatile oils .
- Give identification test of Alkaloids.