

**Bachelor of Pharmacy**  
**Fourth Semester Main Examination, June-2021**  
**Pharmaceutical Organic Chemistry-III [BP401T]**

**Time: 3:00 Hrs****Max Marks 75**

**Note :** (i) All parts of the question paper are compulsory.  
(ii) All question of each part to be attempt at one place.

**Part-A**

**Q.1 Multiple choice questions-****[1x20 = 20 Marks]**

- (i) The colour of sky due to
- (a) Transmission of light
  - (b) Wavelength of scattered light
  - (c) Absorption of light by atmospheric
  - (d) All of the above
- (ii) The complexes  $[\text{Co}(\text{NH}_3)_6]$   $[\text{Cr}(\text{CN})_6]$  and  $[\text{Cr}(\text{NH}_3)_6]$   $[\text{Co}(\text{CN})_6]$  are the examples of which type of isomerism?
- (a) Geometrical isomerism
  - (b) Linkage isomerism
  - (c) Ionization isomerism
  - (d) Coordination isomerism
- (iii) The compound on dehydrogenation gives a ketone. The original compound is
- (a) Primary alcohol
  - (b) Secondary alcohol
  - (c) Tertiary alcohol
  - (d) Carboxylic acid
- (iv) Primary alcohol is gently heated to produce aldehyde in presence of acidified solution of which of the following compound?
- (a) Hydroxide
  - (b) Dichromate
  - (c) Ethanol
  - (d) Methanol
- (v) Epsom Salt is synonyms for?

- (a) Sodium Potassium Tartarate
- (b) Sodium Hydrochloride
- (c) Sodium Sulphate Magnisium Sulphate
- (d) Magnesium Sulphate

(vi) In limit test of sulphate which of following is used to prevent supersaturation ?

- (a) Alcohol
- (b) Citric acid
- (c) Barium sulphate
- (d) HCL

(vii) The usual limit for Heavy metal as I.P. is.....

- (a) 20ppm
- (b) 10ppm
- (c) 30ppm
- (d) 40ppm

(viii) Which reagent can separate nitric acid from nitrous oxide?

- (a) Sodium nitroprusside
- (b) FeSO<sub>4</sub> Solution
- (c) Nessler's reagent
- (d) Ammonical Silver Nitrate Solution

(ix) Which of the following is an alkane which can exhibit optical activity?

- (a) Neopentene
- (b) Isopentene
- (c) 3-methylpentene
- (d) 3-methylhexane

(x) What is the molecular formula for the alkane of smallest molecular weight which possesses a stereogenic center?

- (a) C
- (b) C<sub>4</sub>H<sub>10</sub>
- (c) C<sub>5</sub>H<sub>12</sub>
- (d) C<sub>6</sub>H<sub>14</sub>

- (xi) How many stereoisomers of 2,3-butanediol,  $\text{CH}_3\text{CH}(\text{OH})\text{CH}(\text{OH})\text{CH}_3$ , exist?
- (a) 3
  - (b) 4
  - (c) 1
  - (d) 2

(xii) The characteristic not related to alkali metal is

- (a) low melting point
- (b) low electronegativity
- (c) high ionisation energy
- (d) their ions are isoelectronic with noble gases

(xiii) How many number of stereoisomers possible for 2,3-pentanediol?

- (a) 3
- (b) 4
- (c) 5
- (d) 6.

(xiv) How many chiral stereoisomers can be drawn for  $\text{CH}_2\text{CHFCH}(\text{CH}_3)\text{CH}_2\text{CH}_2\text{CH}_3$ ?

- (a) 4
- (b) 5
- (c) 6
- (d) 7

(xv) Compounds which have different arrangements of atoms in space while having same atoms bonded to each other are said to have

- (a) Position isomerism
- (b) Functional group isomerism
- (c) Chain isomerism
- (d) Stereoisomerism

(xvi) Which of the following can make difference in optical isomers?

- (a) Heat
- (b) Temperature
- (c) Polarized light

(d) Pressure

(xvii) What is the total number of isomers stereoisomers included designated by the dichloropentane?

(a) 7

(b) 6

(c) 5

(d) 4

(xviii) Lugol's solution is?

(a) Aqueous iodine solution 10%

(b) Weak iodine solution

(c) Aluminium Acetate solution

(d) Chlorinated Lime

(xix) The compound on dehydrogenation gives a ketone. The original compound is

(a) Primary alcohol

(b) Secondary alcohol

(c) Tertiary alcohol

(d) Carboxylic acid

(xx) The chemical formula of potassium dichromate is –

(a)  $K_2 Cr_2 O_6$

(b)  $K_2 Cr_2 O_7$

(c)  $K_2 Cr_6 O_7$

(d)  $K_2 Cr_5 O_6$

### Part-B

**Q.2 Long answer questions.**

**[10×2 = 20 Marks]**

**Note : Attempt any two questions. Each question carries 10 marks.**

1. Define Optical and geometrical isomerism. Explain the nomenclature of geometrical isomers. Difference between optical and geometrical isomerism.

2. Write brief notes on the Synthesis, reactions and medicinal use of Quinoline and Imidazole.

3. Explain Pyrazole and Thiazole and its derivatives along with chemical structure, preparation and medicinal uses.

**Part-C**

**Q.3 Short answer questions.**

**[5×7 = 20 Marks]**

**Note : Attempt any Seven questions. Each question carries 5 marks.**

1. Define chiral and achiral molecules with suitable example.
2. Difference between stereospecific and stereo selective.
3. Write short note on Wolff Kishner reduction and Claisen –Schmidt Condensation
4. Write the preparation of Furan and pyrrole. Write the chemical properties and its medicinal uses.
5. What is Conformational isomerism? Discuss in detail about conformational isomerism in cyclohexane.
6. What is racemic modification? Explain in detail resolution of racemic modification.
7. Explain detail elements of symmetry.
8. Write a note on asymmetric synthesis and its types.

**Bachelor of Pharmacy**  
**Fourth Semester Main Examination, June-2021**  
**Medicinal Chemistry-I [BP402T]**

**Time: 3:00 Hrs****Max Marks 75**

- Note :** (i) All parts of the question paper are compulsory.  
(ii) All question of each part to be attempt at one place.

**Part-A****Q.1 Multiple choice questions-****[1×20 = 20 Marks]**

- (i) Medicinal chemistry is a science of which roots are interlinked with-  
A. Chemistry and Biology  
B. Chemistry and Physics  
C. Technology and Biology  
D. None of above
- (ii) Morphine was isolated from opium by-  
A. Sertuner  
B. Davy  
C. Knorr  
D. Emil Fischer
- (iii) Aspirin is introduced by \_\_\_\_\_ in 1889  
A. Dreser's  
B. Emil Fischer and Mering  
C. Barger and Dale  
D. None of above
- (iv) First hormone epinephrine was synthesized in Year  
A. 1903  
B. 1904  
C. 1909  
D. 1889
- (v) Who is founder of modern medicine?  
A. Hippocrates  
B. Clark  
C. Charak  
D. Henry's
- (vi) Identification of a new chemical entity as a potential therapeutic agent (From Hit to Lead) is known as  
A. Drug discovery  
B. Drug development  
C. Both  
D. None of above
- (vii) The process of bringing a new pharmaceutical drug to the market once the lead compound has been identified through the process of drug discovery. (From Lead to NDA) is known as  
A. Drug discovery  
B. Drug development  
C. Both of above  
D. None of above

- (viii) Natural products or derivatives or synthetic substances with good binding ability in Drug discovery is known as
- A. Hit
  - B. Lead
  - C. NDA
  - D. IND
- (ix) Compound with good activity and selectivity in screening during drug discovery is known as
- A. Hit
  - B. Lead
  - C. NDA
  - D. IND
- (x) The main goals of pre-clinical studies
- A. To determine the safe dose for first-in-man study
  - B. To assess a product's safety role
  - C. A and B both
  - D. None
- (xi) IND stands for
- A. Improved new drug
  - B. Investigational new drug
  - C. International new drug
  - D. International novel drug
- (xii) Human micro dosing studies conducted in which clinical phase ?
- A. Phase 0
  - B. Phase I
  - C. Phase II
  - D. Phase III
- (xiii) MTD is
- A. Maximum targeted dose
  - B. Minimum tolerated dose
  - C. Minimum targeted dose
  - D. Maximum tolerated dose
- (xiv) Single ascending dose studies are done in \_\_\_\_\_
- A. Phase Ib
  - B. Phase Ia
  - C. Phase II
  - D. Phase IIa
- (xv) NDA is
- A. New Drug Application
  - B. New Drug approval
  - C. New Drug Administration
  - D. New Drug agenda
- (xvi) Phase IV trial is also known-
- A. Base of clinical trial
  - B. Multiple ascending dose era
  - C. Post marketing Surveillance
  - D. Pre-clinical trial

- (xvii) How many people will be selected for phase I trial?  
A. The whole market will be under surveillance  
B. 300-3000 people  
C. 20-300 people  
D. 20-50 people
- (xviii) How many people will be selected for phase II trial?  
A. The whole market will be under surveillance  
B. 300-3000 people  
C. 20-300 people  
D. 20-50 people
- (xix) How many people will be selected for phase III trial?  
A. The whole market will be under surveillance  
B. 300-3000 people  
C. 20-300 people  
D. 20-50 people
- (xx) Which one of the following will be checked under phase IV surveillance?  
A. The whole market will be under surveillance  
B. 300-3000 people  
C. 20-300 people  
D. 20-50 people

### Part-B

**Long answer questions.**

**[10×2 = 20 Marks]**

**Note : Attempt any two questions. Each question carries 10 marks.**

- Q.1 Discuss about history and development of medicinal chemistry.  
Q.2 Discuss drug metabolism with phase I and phase II reactions.  
Q.3 Describe sedative and hypnotics in detail.

### Part-C

**Short answer questions.**

**[5×7 = 35 Marks]**

**Note : Attempt any 7 questions. Each question carries 5 marks.**

- (i) Give a short note on adrenergic neurotransmitters.  
(ii) Explain methyl dopa and clonidine.  
(iii) Short note on alpha adrenergic blockers.  
(iv) Short note on beta adrenergic blockers.  
(v) Short note on Para sympathomimetic agents.  
(vi) Short note on cholinergic blocking agents.  
(vii) Short note on drugs acting on central nervous system.  
(viii) Short note on antipsychotics.



**Bachelor of Pharmacy**  
**Fourth Semester Main Examination, June-2021**  
**Physical Pharmaceutics-II [BP403T]**

**Time: 3:00 Hrs**

**Max Marks 75**

**Note :** (i) All parts of the question paper are compulsory.  
(ii) All question of each part to be attempt at one place.

**Part-A**

**Q.1 Multiple choice questions-**

**[1×20 = 20 Marks]**

- (i) An example for colloidal systems is :
- (a) Clays and gels
  - (b) ointments and pastes
  - (c) solutions of soaps and proteins
  - (d) suspensions and emulsion
- (ii) Solutions of proteins and starch in water are the examples of the colloidal type:-
- (a) Hydrophilic
  - (b) Hydrophobic
  - (c) Lyophilic
  - (d) lyophobic
- (iii) Silica gel is an example for the type of gel;
- (a) Rigid
  - (b) dilatants
  - (c) elastic
  - (d) Thixotropic
- (iv) Sulphur sol is an example of colloidal type
- (a) Association
  - (b) Hydrophilic
  - (c) Lyophobic
  - (d) Lyophilic
- (v) Thixotropic type of behavior is shown by the gel
- (a) Pectin
  - (b) sedimentation
  - (c) Bentonite
  - (d) Silica

**(vi)** One micrometer is equal to

- (a)  $10^{-6}$  cm
- (b)  $10^{-3}$  cm
- (c)  $10^{-6}$  m
- (d)  $10^{-3}$  m

**(vii)** Brook field viscometer is an example of type-

- (a) Cone & Plate
- (b) Extrusion
- (c) Rotating Sphere
- (d) Rotating Spindle

**(viii)** Dispersion of acacia in water gives the colloid of type-

- (a) Association
- (b) Negative
- (c) Neutral
- (d) Positive

**(ix)** In Foam, the dispersion phase and the dispersion medium , respectively are-

- (a) Gas & Liquid
- (b) Gas & Solid
- (c) Liquid & gas
- (d) Solid & Gas

**(x)** Hausner Ratio is

- (a) TD/BD
- (b) BD/TD
- (c) BV/VV
- (d) VV/BV

**(xi)** Coulter – Counter is used to determine-

- (a) Surface Area
- (b) Size of Particle
- (c) Density
- (d) Flow Property

**(xii)** Choose incorrect statement about emulsion.

- (a) Thermodynamically unstable
- (b) Stable Preparation
- (c) Biphasic system
- (d) All

**(xiii)** The Scattering of light by coarse & colloidal dispersion systems is known as-

- (a) Contrast matching
- (b) DLVO Theory
- (c) Creaming
- (d) Tyndell effect

**(xiv)** Which type of suspension has relatively greater bioavailability?

- (a) Flocculated
- (b) Deflocculated
- (c) Sediment
- (d) All

**(xv)** Rate of sedimentation of particles in suspension is expressed by –

- (a) Stocks low
- (b) DLVO Theory
- (c) both
- (d) none of these

**(xvi)** The term Micromeritics was given by

- (a) J.M. Dalla Valle
- (b) James Kelvin
- (c) William Procter
- (d) Mahadeva Lai Schroff

**(xvii)** Which one of the following statement is true?

- (a) In an o/w/o emulsion, water is the external phase
- (b) In an o/w emulsion water is the internal phase
- (c) In an o/w/o emulsion oil is the external phase
- (d) In w/o emulsion oil is the internal phase

**(xviii)** An emulsion is a system of two..... liquid phases.

- (a) miscible
- (b) Immiscible
- (c) both

(d) none

**(xix)** Emulsion is prepared by which method?

- (a) Wet gum method
- (b) Dry gum method
- (c) Bottle Method
- (d) All

**(xx)** Which type of suspension shows high rate of suspending property?

- (a) Flocculated
- (b) Deflocculated
- (c) both
- (d) none

**(xxi)** Stocks low is related to-

- (a) syrup
- (b) Suspension
- (c) Solution
- (d) None

#### **Part-B**

**Long answer questions.**

**[10×2 = 20 Marks]**

**Note : Attempt any two questions. Each question carries 10 marks.**

- Q.1 Write the principle and method involved in the determination of particle size in a powder using Andreasen apparatus.
- Q.2 Explain non –Newtonian type of flow with Rheograms, mechanisms and suitable examples.
- Q.3 What is meant by controlled flocculation? Discuss the various means by which controlled flocculation can be achieved?

#### **Part-C**

**Short answer questions.**

**[5×7 = 35 Marks]**

**Note : Attempt any Seven questions. Each question carries 5 marks.**

- Q.1 What do you mean by colloids ? Discuss different types of colloidal system.

- Q.2 What is deformation of solid. Explain plastic and elastic deformation in detail.
- Q.3 Explain Heckel equation in detail.
- Q.4 Define and Differentiate between Nerst and Zeta potential.
- Q.5 Discuss the different types of identification test for type of emulsion.
- Q.6 Differentiate between Shear thickening and shear thickening systems.
- Q.7 Difference between flocculated and deflocculated suspension.
- Q.8 What is Electrophoresis? State its application

**Bachelor of Pharmacy**  
**Fourth Semester Main Examination, June-2021**  
**Pharmacology-I [BP404T]**

**Time: 3:00 Hrs**

**Max Marks 75**

- Note :** (i) All parts of the question paper are compulsory.  
(ii) All question of each part to be attempt at one place.

**Part-A**

**Q.1 Multiple choice questions-**

**[1×20 = 20 Marks]**

1. Essential drugs' are:
  - (a) Life saving drugs
  - (b) Drugs that meet the priority health care needs of the population
  - (c) Drugs that must be present in the emergency bag of a doctor
  - (d) Drugs that are listed in the pharmacopoeia of a country
  
2. Drug administered through the following route is most likely to be subjected to first-pass metabolism:
  - (a) Oral
  - (b) Sublingual
  - (c) Subcutaneous
  - (d) Rectal
  
3. Compared to subcutaneous injection, the intramuscular injection of drugs:
  - (a) Is more painful
  - (b) Produces faster response
  - (c) Is unsuitable for depot preparations
  - (d) Carries greater risk of anaphylactic reaction
  
4. Bioavailability of drug refers to:
  - (a) Percentage of administered dose that reaches systemic circulation in the unchanged form
  - (b) Ratio of oral to parenteral dose
  - (c) Ratio of orally administered drug to that excreted in the faeces
  - (d) Ratio of drug excreted unchanged in urine to that excreted as metabolites
  
5. The therapeutic index of a drug is a measure of its:
  - (a) Safety
  - (b) Potency
  - (c) Efficacy
  - (d) Dose variability

6. The antagonism between adrenaline and histamine is called 'physiological antagonism' because:
- (a) Both are physiologically present in the body
  - (b) They act on physiological receptors
  - (c) Both affect many physiological processes
  - (d) They have opposite physiological effects
7. The sympathetic and parasympathetic systems exert functionally opposite influences on the following parameters except:
- (a) Heart rate
  - (b) Atrial refractory period
  - (c) Pupil diameter
  - (d) Intestinal motility
8. The minimal alveolar concentration of an inhalational anaesthetic is a measure of its:
- (a) Potency
  - (b) Therapeutic index
  - (c) Diffusibility
  - (d) Oil: water partition coefficient
9. General anaesthetics produce immobility in response to painful surgical stimuli by acting primarily at the:
- (a) Motor cortex
  - (b) Basal ganglia
  - (c) Thalamus
  - (d) Spinal cord
10. At the muscle end-plate, d-tubocurarine reduces the:
- (a) Number of Na<sup>+</sup> channels
  - (b) Duration for which the Na<sup>+</sup> channels remain open
  - (c) Ion conductance of the open Na<sup>+</sup> channel
  - (d) Frequency of Na<sup>+</sup> channel opening
11. Neuromuscular blocking drugs do not produce central actions because:
- (a) They do not cross the blood-brain barrier
  - (b) Nicotinic receptors are not present in the brain
  - (c) They are sequestered in the periphery by tight binding to the skeletal muscles
  - (d) They do not ionise at the brain pH
12. Indications of centrally acting muscle relaxants include all of the following except:
- (a) Balanced anaesthesia
  - (b) Traumatic muscle spasms
  - (c) Torticollis

(d) Electroconvulsive therapy

13. The following is not true of local anaesthetics:

- (a) The local anaesthetic is required in the unionized form for penetrating the neuronal membrane
- (b) The local anaesthetic approaches its receptor only from the intraneuronal face of the Na<sup>+</sup> channel
- (c) The local anaesthetic binds to its receptor mainly when the Na<sup>+</sup> channel is in the resting state
- (d) The local anaesthetic combines with its receptor in the ionized cationic form

14. In hyperthyroidism,  $\beta$  adrenergic blockers are used:

- (a) To induce euthyroid state
- (b) As definitive therapy
- (c) For rapid control of certain symptoms while awaiting response to carbimazole
- (d) To reduce basal metabolic rate

15. Tachyphylaxis to many actions on repeated injection is a feature of the following autacoid:

- (a) Histamine
- (b) 5-Hydroxytryptamine
- (c) Bradykinin
- (d) Prostaglandin E<sub>2</sub>

16. If the effect of combination of two drugs is equal to the sum of their individual effects, the two drugs are exhibiting:

- (a) Potentiation
- (b) Synergism
- (c) Cross tolerance
- (d) Antagonism

17. Which of the following is a type B (unpredictable) adverse drug reaction:

- (a) Side effect
- (b) Toxic effect
- (c) Idiosyncrasy
- (d) Physical dependence

18. An immunologically mediated reaction to a drug producing stereotyped symptoms unrelated to its pharmacodynamic actions is:

- (a) Hypersensitivity
- (b) Supersensitivity
- (c) Intolerance
- (d) Idiosyncrasy



19. The following is true in the treatment of epilepsy except:
- (a) The choice of drug depends on the cause of epilepsy and not on the seizure type
  - (b) Treatment should be instituted as early as possible
  - (c) Treatment is generally started with a single drug and the other drug is added or substituted according to response
  - (d) Withdrawal of drug can be attempted if no seizures have occurred for 3-5 years
20. In parkinsonian patients levodopa exerts the following effects except:
- (a) Reduces skeletal muscle contractility
  - (b) Decreases muscle tone
  - (c) Increases locomotor activity
  - (d) Inhibits muscle tremor

### **Part-B**

#### **Short answer questions**

**[5×7 = 35 Marks]**

**Note : Attempt any Seven questions. Each question carries 5 marks.**

- Q.1 Various Factor Affecting Drug Absorption.
- Q.2 Write brief note about Selective  $\beta_2$  agonists and its uses.
- Q.3 Explain the various stages of anaesthesia.
- Q.4 Various factors modifying drug action
- Q.5 Write a note on parenteral route of drug administration
- Q.6 Explain the effects of pH and diseases state in drug absorption.
- Q.7 Write on the transduction mechanism in G-Protein coupled receptors.
- Q.8 Pharmacokinetic & Pharmacodynamic. Explain in brief?

### **Part-C**

#### **Long answer questions**

**[2×10 = 20 Marks]**

**Note : Attempt any two questions. Each question carries 10 marks.**

- Q.1 Write the pharmacological action of alpha and beta adrenergic blockers on heart and blood pressure.
- Q.2 Explain different types of Epilepsy & write the classification of Antiepileptic drugs.
- Q.3 Explain various routes of administration with their advantages and disadvantages. Add a note on novel drug delivery system.

**Bachelor of Pharmacy**  
**Fourth Semester Examination, June-2021**  
**Pharmacognosy and Phytochemistry-I [BP405T]**

**Time: 3:00 Hrs****Max Marks 75**

- Note :** (i) All parts of the question paper are compulsory.  
(ii) All question of each part to be attempt at one place.

**Part-A**

**Q.1 Multiple choice questions-****[1×20 = 20 Marks]**

- (i) Drug not belonging to volatile oil class:  
(a) Peppermint                      (b) Clove  
(c) Castor oil                        (d) Garlic
- (ii) Select that does not belong to the tannin class:  
(a) Colophony                        (b) Guar gum  
(c) Acacia                              (d) Agar
- (iii) Select the drug, which is not showing carminative property?  
(a) Dil                                  (b) Mentha  
(c) Senna                                (d) Cardamom
- (iv) \_\_\_\_\_ is not used as expectorant.  
(a) Ipecacuanha                      (b) Vasaka  
(c) Liquorice                         (d) Atropine
- (v) \_\_\_\_\_ is not used as cardio tonics.  
(a) Digitalis                          (b) Cinchona  
(c) Squill                               (d) Stropanthus
- (vi) Drugs is used as Antihypertensive:  
(a) Rauwolfia                        (b) Digitalis  
(c) Squill                               (d) Stropanthus
- (vii) \_\_\_\_\_ is used as adrenergic drug.  
(a) Ephedra                          (b) Physostigma  
(c) Pilocarpine                       (d) Belladonna
- (viii) Drug do not used as anticancer :  
(a) Podophyllum                      (b) Curare

(c) Camptotheca                      (d) Taxus

(ix) Drug is used as emetic:

- (a) Agar                                      (b) Isabghul  
(c) Ipecas                                    (d) Banana

(x) Drug is used as antimalarial :

- (a) Ashwagandha                          (b) Tulsi  
(c) Ginseng                                    (d) Artemesia

(xi) Is known as father of medicine?

- (a) Aristotle                                    (b) Dioscoride  
(c) Hippocrates                                (d) Galen

(xii) Drug is not under the class of organized drug:

- (a) Leaves                                      (b) Flower  
(c) Fruits                                        (d) Gums

(xiii) Drug is not under seed class:

- (a) Nux vomica                                (b) Digitalis  
(c) Stropantus                                 (d) Ispgol

(xiv) Drug does not belonging to the leaves class:

- (a) Senna                                        (b) Digitalis  
(c) Eucaliptus                                 (d) Turmeric

(xv) Drug which does not belonging to the fruit class:

- (a) Artemesia                                 (b) Fennel  
(c) Coriander                                 (d) Colocynth

(xvi) Dried latex of the drug is used, except:

- (a) Opium                                        (b) Gatta parcha  
(c) Papain                                        (d) Balsam

(xvii) The roots of the following drugs are effective, except:

- (a) Rauwolfia                                    (b) Ipecacuanha  
(c) Turmeric                                    (d) Aconite

(xviii) Drug is not an example of organized crude drug:

- (a) Digitalis                                      (b) Cinchona  
(c) Aloe    (d) Clove

- (xix) Tannin give colour with iron compound:  
(a) Pale yellow                      (b) Blue black  
(c) Light pink                        (d) Orange
- (xx) Flower bud of drug showing medicinal importance:  
(a) Saffrom                            (b) Clove  
(c) Fig                                    (d) Caraway

### **Part-B**

**Short answer questions.**

**[7×5 = 35 Marks]**

**Note : Attempt any seven questions. Each question carries 5 marks.**

- Q.1 How organized drug differ from unorganized drugs?
- Q.2 Briefly describe the scope of Pharmacognosy.
- Q.3 Write the Pharmacognostic scheme.
- Q.4 Write about the sources of drugs.
- Q.5 Write about system of classification of drugs.
- Q.6 What do you mean by evaluation of drugs?
- Q.7 Describe various methods of evaluation.
- Q.8 Explain what is adulteration, and it's type .

### **Part-C**

**Long answer questions.**

**[10×2 = 20 Marks]**

**Note : Attempt any two questions. Each question carries 10 marks.**

- Q.1 Write about application of plant tissue culture in pharmacognosy.
- Q.2 Describe briefly the composition and preparation of different nutrient media.
- Q.3 What is plant growth regulators? Describe the role of plant growth regulators in the growth of plants.