
**B. Pharmacy 4th
Semester
Question Paper
2017-2018**

Even Semester Examination 2017-18

B.PHARMA. (SEMESTER-IV)

PHARMACEUTICAL ANALYSIS-II

Time: 03:00 Hours

Max Marks : 100

Note: Attempt all five questions.

1. Attempt **any two** out of three. (2x10=20)
 - (a) What is principle of diazotization titration. Write the methods of preparation and standardization of 0.1 M sodium nitrite solution. Also, discuss the pharmaceutical application of diazotization titration.
 - (b) Discuss the theory of Nonaqueous titration in detail. Write in detail all the type of nonaqueous solvents with suitable examples.
 - (c) Write a detail note on Kjeldahl method of nitrogen estimation.
2. Write short notes on the following. (Attempt **any four**) (5x4=20)
 - (a) Write the preparation and standardisation of 0.1 M perchloric acid in nonaqueous titration technique.
 - (b) Discuss the oxygen flask combustion method with its apparatus. Also, write its numerous applications.
 - (c) What is Half wave potential in case of polarography. Discuss the factors affecting Diffusion current in case of polarographic methods of instrumental analysis.
 - (d) Discuss all the types of reference electrodes in detail in case of potentiometric titration mainly emphasizing on their apparatus too.
 - (e) Enumerate all the acid base titration (Strong acid Vs Strong base, Strong acid Vs Weak base, Weak acid Vs Strong base, Weak acid Vs Weak base, by the help of conductometric titration.

- (f) Narrate the introduction and principle of paper chromatography. Also, discuss the type of paper chromatography along with its applications.

3. Attempt **any two** out of the three. (2x10=20)

- (a) What is the principle of Column chromatography. Discuss the experimental details of column chromatography (Mainly emphasizing on its apparatus, Adsorbent, preparation of adsorption of columns and solvent used). What is column efficiency and discuss the different factors affecting the column efficiency.
- (b) Discuss the general principles of flame photometry. Discuss the instrumentation of flame photometry in detail. Also, write the applications of flame photometry in detail.
- (c) Write the principle of amperometric titration. Discuss the apparatus and all the types of amperometric titrations in detail. Also, enumerate the several applications of the amperometric titration.

4. Write short notes on the following. (Attempt **any four**) (4x5=20)

- (a) What is electrophoresis. Discuss the term cataphoresis as well as anaphoresis. Discuss the gel electrophoresis with its instrumentation. Also, give the applications of electrophoresis.
- (b) Write the definition of chromatography. Discuss all the theories of chromatography.
- (c) Discuss all the types of potentiometric titration. Write a detail application of potentiometric titration in pharmaceutical Analysis.
- (d) Write the principle of conductmetric titration. Discuss the Determination of cell constant. Write a note on measurement of the conductivity mainly discussing its circuit diagram.
- (e) Narrate the principle of atomic absorption spectroscopy. Discuss the instrumentation of atomic absorption spectroscopy.
- (f) Discuss Kjeldahl method of nitrogen estimation.

5. Attempt **any two** questions out of the three questions.

(10x2=20)

- (a) Write a detail note on Karl-Fischer titration method.
- (b) Enumerate the principle of polarography. What is the advantage of polarography. Explain the polarographic apparatus. Discuss in detail the different types of current in polarography. Give the applications of the polarography in detail.
- (c) Write the principle of thin layer chromatography (TLC). Discuss in detail about the TLC experimental procedure. Narrate the numerous applications of the TLC. Also, discuss the superiority of TLC over other chromatographic techniques.

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Even Semester Examination 2017-18

B.Pharma. (SEMESTER-IV)

**ANATOMY PHYSIOLOGY AND
PATHOPHYSIOLOGY-IV**

Time: 03:00 Hours

Max Marks : 100

Note : Attempt all the questions. Each carries equal marks.

Q1. Attempt any two : (10X2)

- (a) Discuss the mechanism and regulation of respiration.
- (b) Describe the pathophysiology of asthma and tuberculosis.
- (c) Discuss the Respiratory volume and capacity. What are the various functions of respiration?

Q2. Write short note on any four : (5X4)

- (a) Anatomy of heart
- (b) Electrocardiogram
- (c) Blood pressure
- (d) Cardiac cycle
- (e) Pathophysiology of Congestive Heart Failure

Q3. Answer any two : (10X2)

- (a) Describe the various causes of cell injury. Discuss the process of hypertrophy.
- (b) Discuss the morphological of cell injury. Describe the pathophysiology of neoplasm.

(c) What is free radical mediated cell injury. Discuss the process of hyperplasia.

Q4. Answer **any two** : (10X2)

(a) Discuss the various mediators of inflammation. Describe margination and rolling.

(b) Write brief outline of the process of repair.

(c) Discuss the morphologic patterns of inflammation.

Q5. Discuss the Pathophysiology of **any four** disease : (5X4)

(a) Iron Deficiency anemia.

(b) Parkinson

(c) Gout

(d) Epilepsy

(e) AIDS

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Even Semester Examination, 2017-18

B.PHARMA. (SEMESTER-IV)

PHARMACOGNOSY-II

Time: 03:00 Hours

Max Marks : 100

Note : Attempt **all** questions, each question carries equal marks.

1. Attempt **any four** question : (5X4=20)
 - (a) Give salient feature and chemical tests of cotton or silk
 - (b) Write difference between volatile oil and fixed oil? Give biological source and uses of castor oil.
 - (c) Write biological source, chemical constituents and uses of Cod liver oil.
 - (d) Give official source, chemical constituents and uses chaulmoogra oil.
 - (e) Give official source, chemical constituents and uses of olive oil.
2. Attempt **any four** question (5X4=20)
 - (a) Describe preparation of extract.
 - (b) Discuss different tests for detection of cardinolides and bufadienolides
 - (c) Explain tests for detection of alkaloids.
 - (d) Explain tests for detection of anthraquinones glycosides.
 - (e) Write chemical tests of tannins and poly phenols
3. Attempt **any four** question : (5X4=20)
 - (a) Give Biological source, chemical constituents and uses of podophyllum.
 - (b) What is cannabis? Give chemical constituents and uses of it.

- (c) Give difference between tolu and peru balsam.
- (d) Give Biological source, chemical constituents and uses of turmeric.
- (e) Give Biological source, chemical constituents and uses of Ginger.

4. Attempt **any two** question (10X2=20)

- (a) Give complete pharmacognosy of coriander **or** clove.
- (b) Define volatile oils and discuss biological source, macroscopic characteristic, chemical constituents and uses of fennel **or** eucalyptus.
- (c) Explain the utilization and role of aromatic plant in national economy.

5. Attempt **any two** question (10X2=20)

- (a) Define tannin and explain the pharmacognosy of pale catechu.
- (b) Give complete pharmacognosy of amla
- (c) Discuss in brief about ashoka bark.

Even Semester Examination, 2017-18

B.Pharma. (SEMESTER-IV)

CHEMISTRY OF NATURAL PRODUCTS

Time: 03:00 Hours

Max Marks : 100

Note: Attempt All Questions.

Q1. Attempt (any two):

(10x2=20)

- (a) What are glycosides? Classify them with suitable examples and establish the structure of Salicin.
- (b) Write short notes on cardiac glycosides.
- (c) Draw the structural formula and importance of following [(any five): (5x2=10)]
 - i. Quinine
 - ii. Camphor
 - iii. Amygdalin
 - iv. Morphine
 - v. Nicotine
 - vi. stropanthus

Q2. Attempt (any two):

(10x2=20)

- (a) What are Alkaloids? How will you establish nature of nitrogen in any alkaloid?
- (b) How will you establish nature of tropine nucleus of Atropine?
- (c) Differentiate between fat, oil and waxes. Write down the chemical properties of lipids.

Q3. Attempt (any two):

(10x2=20)

- (a) Define Terpenes and classify them.
- (b) Give the chemical steps for structural elucidation of Menthol and Citral.
- (c) What is the importance of phospholipids, lecithin and cephalins.

Q4. Attempt (any two): (10x2=20)

- (a) How are Proteins classified? Give examples.
- (b) Explain end group analysis of proteins.
- (c) Write down four important syntheses of alpha amino acids.

Q5. Attempt (any two): (10x2=20)

- (a) Write a short note on nomenclature and stereochemistry of Steroids with examples.
- (b) Give the structural elucidation of Cholesterol.
- (c) Write note on nucleic acid.

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Even Semester Examination, 2017-18**B.PHARMA. (SEMESTER-IV)****PHARMACEUTICAL JURISPRUDENCE AND ETHICS****Time: 03:00 Hours****Max Marks : 100****Note : Attempt all questions.**

1. Attempt **any four** of the following. (5x4)
 - (a) Write a note on Code of Ethics.
 - (b) Importance of Pharmaceutical Legislation in Pharmaceutical industry.
 - (c) Give the constitution and function of PCI.
 - (d) Current status of pharmaceutical industry in India
 - (e) What are education regulation and how they are implemented?
2. Attempt **any four** of the following. (5x4)
 - (a) Write a short note on Loan license.
 - (b) Give the constitution and function of Drugs Consultative committee.
 - (c) What is qualification for appointment as Drug Inspector? Also explain duties of Drug Inspector.
 - (d) Give the constitution and function of Drugs Technical Advisory board (DTAB).
 - (e) Write a note on Drug Price control order 1995.
3. Attempt **any two** of the following. (10x2)
 - (a) Explain the various offences and penalties under the Drugs and Magic remedies (objectionable advertisement) act 1954.

(b) Explain Narcotics and give the method of operation controlled by central government under Narcotic and Psychotropic substances act 1985.

(c) Discuss about "Prohibited Advertisement" and "Exempted advertisement".

4. Attempt **any two** of the following. (10x2)

(a) Discuss the composition and function of AICTE and its bodies.

(b) Describe the circumstances and condition for termination of pregnancy under medical termination of pregnancy act, 1970.

(c) Describe the procedure and provision for experimentation on animal as per prevention of cruelty to animals act.

5. Attempt **any two** of the following. (10x2)

(a) Describe the method for filling of patent as per patent act 1970.

(b) Explain the function and guidelines of WHO under US food and federal act.

(c) Write a note on 21 CFR, cGMP and orange book.