Code No: E-12169/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II Semester (NON-CBCS) (Backlog) Examination,
March / April 2023
Subject: Pharmaceutical Chemistry (Chemistry of Natural Products)

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. **(5 x 14 = 70 Marks)**

1. (a) Differentiate Oils, Fats and Waxes. Classify lipids with examples.

   (b) Write briefly about:

   (i) Mutarotation (ii) Inversion of sucrose

   (iii) Acid value and iodine value (iv) Rancidity and Drying

2. (a) Discuss isomerism in carbohydrates.

   (b) Write a note on the physical and chemical properties of oils and fats.

3. (a) Write chemistry and biological significance of Insulin.

   (b) Classify amino acids. Write any three important reactions of amino acids.

4. (a) Classify proteins. Discuss in detail about each class.

   (b) Write a note on polypeptides and formation of peptide bond.

5. (a) Write about Isoprene and special Isoprene rule for terpenes.

   (b) Write general methods and structural determination of quercetin.

6. (a) Write about chemistry of menthol.

   (b) Write structures and uses of citral and camphor.

7. (a) Classify alkaloids. Write in detail their method of extraction and pharmaceutical importance.

   (b) Write structure, reactions to determine the functional nature of Oxygen atom in structure elucidation of alkaloids.

8. (a) Write source, structure elucidation and uses of ephedrine and atrophine.

   (b) Write a note on reactions of papaverine.

9. Write about (a) Chemistry of bile acids (b) Progestational agents.

10. (a) Discuss SAR of cardiac glycosides. Draw structure and write sources of any two glycosides.

    (b) Write a note on steroidal contraceptives.

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Code No: E-12170/ NON-CBCS

FACULTY OF PHARMACY

B.Pharmacy 3/4 II Semester (NON-CBCS) (Backlog) Examination, March-2023

Subject: Pharmacology-II

Time: 3 Hours **Max.Marks:70**

Note: Answer any five questions. **(5 x 14 = 70 Marks)**

1. Write note on: (i) Aminoglycoside Antibiotics
   (ii) fluroquinolones

2. Write the mechanism, adverse effects and therapeutic uses of following drugs.
   (i) Reverse transcriptase inhibitors (ii) Cisplatin (iii) Albendazole

3. (i) Write a note on thrombolytics
   (ii) Write the pharmacology of ergot alkaloids.

4. Write short notes on:
   (i) Coagulants and anticoagulants
   (ii) Pharmacology of 5-Hydroxytryptamine

5. Write short notes on:
   (i) Anterior pituitary Hormones
   (ii) Oxytocin

6. Write the pharmacology of Insulin and glucagon

7. (i) Write about the principles of Bioassays.
   (ii) Write about the bioethics of animals used in bioassay studies

8. (i) Write the bioassay of Heparin sodium?
   (ii) Write the bioassay of tetanus anti-toxin

9. (i) Write a note on phase-II and III clinical trials.
   (ii) Write the general principles for treatment of poisoning.

10. (i) Write the symptoms and treatment for digitals and arsenic poison.
    (ii) Write a note on organophosphorus toxicity

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Code No: E-12171/NON-CBCS

FACULTY OF PHARMACY

B.Pharmacy 3/4 II-Semester (NON-CBCS) (Backlog) Examination, March 2023

Subject: Physical Pharmacy-II

Time: 3 Hours **Max.Marks:70**

Note: Answer any five questions. All questions carry equal marks.

1. (a) Explain Solvent-solute interactions.
   (b) Describe the solubility of Gases in liquids.

2. (a) Describe complete and partial miscibility. Add a note on three component systems with example.
   (b) Write a note on Dielectric constant and solubility.

3. (a) Describe specific and general acid-base catalysis.
   (b) Write a note on kinetics in solid state.

4. (a) Describe Accelerated Stability studies.
   (b) Explain decomposition by hydrolysis and how do you prevent it.

5. (a) Discuss adsorption at solid liquid interface.
   (b) Explain Spreading co-efficient.

6. (a) Discuss adsorption at liquid interfaces.
   (b) Write a note on applications of amphiphiles.

7. (a) Classify colloids and compare properties of colloidal sols.
   (b) Write a note on Association colloids.

8. (a) Explain Optical properties of colloids.
   (b) Describe any one method for determination of particle size.

9. (a) Define viscosity. Describe Newtonian and non-newtonian systems.
   (b) Write a note on Thixotropy.

10. (a) Describe the principle and working of Capillary Viscometer.
    (b) Write a note on Pharmaceutical application of polymers.

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Code No: E-12172/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Semester (Non –CBCS)(Backlog) Examination, /March 2023

Subject: Forensic Pharmacy (Pharmaceutical Jurisprudence)

Time: 3 Hours **Max.Marks:70**

Note: Answer any five questions. All questions carry equal marks.

1. Define Narcotic drugs as per the Narcotic psychotropic substances act 1985. Write about the official procedures for cultivation and production of opium and opium products.
2. (a) What are the objectives of consumer protection act 1986 and write the powers and functions of central council.
   (b) Explain about the educational regulations as per the Pharmacy Act 1948.
3. (a) Write about the qualification and duties of Drug Inspector.
   (b) Write the constitution and function of DCC.
4. (a) What are different administrative bodies under Drugs and cosmetics act 1940 and explain about the constitution and functions of DTAB.
   (b) What are the conditions required for obtaining license for the manufacture of schedule X drugs.
5. (a) Explain about the manufacture of medicinal and toilet preparations containing alcoholin a bonded laboratory.
   (b) Write short notes on schedule U
6. Discuss the labeling and packing requirement of various categories of dosage forms along with specimen labels for schedule G, schedule X drug and shampoo.
7. Define "factory" according to factories act 1948 and describe the objectives of factories act. Discuss about the provisions provided for the Welfare of workers in a factory.
8. (a) Describe the objectives and advertisements prohibited according to Drugs and Magi Remedies Act 1954.
   (b) What are the qualifications, duties and functions of food inspector?
9. (a) What is a Patent? What are inventions according to Patent Act? Write about the procedure of obtaining patent.
   (b) Explain briefly objectives of Pharmaceutical Policy 2002.
10. (a) What are the objectives of DPCO 2013? And explain the formula used for the calculation of ceiling price and retail price of a formulation as per Drug Price Control 2013.
    (b) Define IPR and write about various types of Intellectual Property Rights.

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Code No: E-12173/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Semester (NON-CBCS) (Backlog) Examination, April 2023

Subject: Bio-Statistics (Pharmacostatistics)

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. **(5 x 14 = 70 Marks)**

1. (a) Explain the following **i)** Mean **ii)** Median **iii)** Mode **iv)** Standard deviation
   (b) What is Correlation and Regression?

2. Calculate mean, median and standard deviation of the following distribution

Class Interval	20-25	25-30	30-35	35-40	40-45	45-50
Frequency	170	110	80	45	40	35

3. (a) Explain the following **i)** Poisson Distribution **ii)** Addition theorem of Probability **iii)** Multiplication theorem of Probability
   (b) Find the Probability of getting at least one head in tossing of three coins.

4. (a) Explain Normal distribution and its properties.
   (b) What is presentation of data? Explain the different methods of diagrammatic representation of data.

5. Explain Simple, Random, Stratified, Systematic and Cluster Sampling Procedures.

6. (a) Write a note on Data Collection, Data Organization and Data Representation.
   (b) Explain Sampling and Non-Sampling Errors.

7. Discuss
   (i) F-test and its applications **(ii)** t-test for difference of Means

8. (a) What is the Chi-Square test of goodness of fit.
   (b) State the Advantages of Nonparametric tests.

9. (a) Explain about Analysis of variance one-way classification.
   (b) Explain basic principles of Design of experiments.

10. Describe about CRD, RBD and Latin Square Design.

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Code No: D-8341/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II Semester (NON-CBCS) (Backlog) Examination,

August / September 2022

Subject: PHARMACOLOGY II

Time: 3 Hours **Max.Marks:70**

Note: Answer any five questions. **(5 x 14 = 70)**

1. Write a note on:

   (i) Anti-malarial drugs

   (ii) Protease inhibitors

2. Classify anti-cancer agents. Write a note on Cyclophosphamide and Cisplatin.

3. Classify anti-coagulants. Write the pharmacology of heparin and warfarin.

4. Write a note on:

   (i) The biosynthesis and pharmacology of serotonin

   (ii) Nitric oxide

5. i) Classify anti-thyroid drugs. Write the pharmacology of any one drug.

   ii) Classify oral hypoglycaemic agent. Write the pharmacology of metformin

6. Write a note on oral contraceptives and oxytocin

7. i) Describe in detail bioethics and bioassay.

   ii) Write the bioassay of anti-rabies vaccine

8. Explain the bio-assay of insulin and oxy tocin

9. Describe in detail the phases of clinical trails

10. i) Describe the general principles of treatment of poison.

    ii) Write the symptoms and treatment for paracetamol poisoning.

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Code No: D 8340/ NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Semester (NON-CBCS) (Backlog) Examination, August- 2022

Subject: Pharmaceutical Chemistry (Chemistry of Natural Products)

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. **(5 x 14 = 70)**

1. (a) Differentiate Oils, Fats and Waxes. Classify lipids with examples.
   (b) Write briefly about:
   (i) Mutarotation (ii) Inversion of sucrose
   (iii) Acid value and iodine value (iv) Rancidity and Drying

2. (a) Discuss isomerism in carbohydrates.
   (b) Write a note on the physical and chemical properties of oils and fats.

3. (a) Write chemistry and biological significance of Insulin.
   (b) Classify amino acids. Write any three important reactions of amino acids.

4. (a) Classify proteins. Discuss in detail about each class.
   (b) Write a note on polypeptides and formation of peptide bond.

5. (a) Write about Isoprene and special Isoprene rule for terpenes.
   (b) Write general methods and structural determination of quercetin.

6. (a) Write about chemistry of menthol.
   (b) Write structures and uses of citral and camphor.

7. (a) Classify alkaloids. Write in detail their method of extraction and pharmaceutical importance.
   (b) Write structure, reactions to determine the functional nature of Oxygen atom in structure elucidation of alkaloids.

8. (a) Write source, structure elucidation and uses of ephedrine and atrophine.
   (b) Write a note on reactions of papaverine.

9. Write about (a) Chemistry of bile acids (b) Progestational agents.

10. (a) Discuss SAR of cardiac glycosides. Draw structure and write sources of any two glycosides.
    (b) Write a note on steroidal contraceptives.

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CODE NO: D-8344/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Semester (Backlog) Examination, September 2022
Subject: Bio-Statistics (Pharmacostatistics)

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. **(5 x 14 = 70 Marks)**

1. Explain the following **i)** Mean **ii)** Median **iii)** Mode **iv)** Standard deviation **v)** Regression

2. Calculate the standard deviation and coefficient of variation from the following data

Age	20-30	30-40	40-50	50-60	60-70	70-80	80-90
No. of members	3	61	132	153	140	51	2

3. a) Explain Binomial distribution with examples.
   b) What is presentation of data? Explain the different methods of diagrammatic representation of data.

4. a) Explain about Normal Distribution and its properties.
   b) Write a note on Stem and Leaf Plots.

5. a) Explain Simple, Random, Stratified, Systematic and Cluster Sampling Procedures.
   b) Write a note on Data Collection and Data Organization.

6. a) Write a note on Sampling and Non-Sampling Errors.
   b) Write a note on Bar diagrams and Pie diagrams.

7. Write a note on
   i) Null hypothesis **ii)** Alternative hypothesis
   iii) Type I and Type II Errors **iv)** Level of significance

8. Write a note on **i)** t-test for difference of Means **ii)** Parametric and Non-Parametric Tests.

9. a) Explain about assignable and chance causes.
   b) Explain about Chi-Square test of Independence of Attributes.

10. a) Explain basic principles of Design of experiments.
    b) Describe about CRD and Latin Square Design.

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10. A dose of 100 mg of drug is administered by rapid IV injection. Blood samples were taken periodically after administration of drug and plasma fraction is assayed. Data is as follows:

Time Hrs	0.25	0.5	1.0	1.5	2.0	4.0	8	12	16
Plasma Concentration (mg/ml)	43	32	20	14	11	6.5	2.8	1.2	0.52

Assume that the drug follows two compartment kinetics and calculate the following.

a) A b) C_{max} c) α d) β e) k12 f) k 21

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Code No. D-8349/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 4/4 I Semester (NON-CBCS) (Backlog) Examination, September 2022

Subject: Pharmaceutical Business Management

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. **(5 x 14 = 70 Marks)**

1. (a) Discuss goals and objectives of general management of production and Control of a Pharmaceutical Industry.
   (b) Write salient features of ISO19000.

2. (a) Write notes on Management Information System (MIS)
   (b) What are the problems of production and mention the remedies for them

3. (a) Discuss the lay out for sterile or aseptic area.
   (b) Write notes on process flow and work study details for production of tablets.

4. (a) Write notes on compartmentalized facilities.
   (b) Write notes on dust collection systems in Pharmaceutical Industry.

5. (a) Describe store organization and mention the factors to be considered for layout of stores.7M
   (b) Write notes on control of store and store stocks.

6. (a) Discuss the stock accounting procedure of materials in store management.
   (b) Explain the importance of economic order quantity in stores management.

7. (a) Write the policies related to promotion and demotion of an employee in Pharma industry.
   (b) Explain various theories of motivation applied in a Pharma Industry.

8. (a) Give different job evaluation and merit rating procedures in a Pharma industry.
   (b) Explain Hawthrone experiments with regard to Industrial Psychology.

9. (a) Write brief notes on marketing mix of Pharmaceutical business.
   (b) Explain different concepts of pricing policy.

10. (a) Explain product life cycle and its role in marketing.
    (b) Brief out media planning and publicity for sales promotion.

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Code No: D-8342/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy III year II Semester (NON-CBCS) (Backlog) Examination,

September 2022

Subject: Physical Pharmacy-II

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. All questions carry equal marks

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1. (a) Explain solvation and association in solutions.
   (b) Describe the solubility of liquids in liquids.
2. (a) Define partition coefficient. Add a note on its determination and applications.
   (b) Write a note on Phase rule.
3. (a) Describe the effect of solvents, Dielectric constant and ionic strength on degradation reaction rates.
   (b) How do you determine order of a reaction?
4. (a) Describe Accelerated Stability studies.
   (b) Explain decomposition by hydrolysis and how do you prevent it.
5. (a) Discuss adsorption at solid interfaces.
   (b) Explain HLB classification and its applications.
6. (a) Describe electric properties of interfaces.
   (b) Write a note on applications of amphiphiles.
7. (a) Explain methods for determination of Surface area.
   (b) Write a note on Association colloids.
8. (a) Explain Kinetic properties of colloids.
   (b) Describe any one method for determination of particle size.
9. (a) Describe Plastic, Pseudoplastic and Dilatant flow.
   (b) Write a note on water soluble and water insoluble polymers.
10. (a) Describe the principle and working of Capillary Viscometer.
    (b) Write a note on Pharmaceutical application of polymers.

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Code No. D8138/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II Semester (Non-CBCS) (Backlog) Examination, February 2022

Subject: Pharmaceutical Chemistry (Chemistry of Natural Products)

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. **(5 x 14 = 70 Marks)**

1 (a) Define, classify and give color reactions of carbohydrates.
(b) Explain the mutarotation.

2 (a) Write the structure and chemical reactions of glucose.
(b) Write a note on the physical and chemical properties of oils and fats.

3 (a) Discuss the chemistry and important structural features of insulin.
(b) Discuss the general method of synthesis of a protein or polypeptides.

4 (a) What are essential amino acids? Write any five structures.
(b) Write a note on (i) Solid phase peptide synthesis
(ii) Secondary & tertiary structure of proteins.

5 (a) Write the chemical properties and therapeutic benefits of flavonoids.
(b) Write about chemistry of citral.

6 (a) Discuss the constitution of Querectin.
(b) Outline the synthesis of (i) Camphor (ii) Arbutin.

7 Discuss the classification and general methods of extraction and chemical tests of identification for alkaloids.

8 (a) Explain Hoffmann's exhaustive methylation.
(b) Elucidate the structure of caffeine.

9 (a) Write a note on steroidal contraceptives.
(b) What are cardiotonics and classify and discuss the chemistry of cardiac glycosides.

10 (a) Write the chemistry and biological significance of bile acids.
(b) Define, classify and give the color reaction of steroids.

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Code No. D-8140/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy III Year II –Semester (NON- CBCS) (Backlog) Examination, February / March 2022

Subject: Forensic Pharmacy (Pharmaceutical Jurisprudence)

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. **(5 x 14 = 70 Marks)**

1. Define Narcotic drugs as per the Narcotic psychotropic substances act 1985. Write about the official procedures for cultivation of opium and write a note on different offences and penalties according to NDPS act 1985.

2. (a) What are the objectives of consumer protection act 1986 and narrate the powers and functions of central council.
   (b) Explain about the educational regulations as per the Pharmacy Act 1948.

3. (a) Write about the qualification and duties of government analyst.
   (b) Write the constitution and functions of DCC.

4. (a) Write about the conditions required for manufacture of Schedule X drugs.
   (b) Explain about the prohibitions of import of drugs.

5. Discuss the labeling and packing requirement of various categories of dosage forms along with specimen labels for schedule H, schedule X drug and shampoo.

6. Explain about the manufacture of medicinal and toilet preparations containing alcohol in a bonded laboratory.

7. (a) Discuss about the salient features of prevention of food adulteration Act 1954.
   (b) What are the qualifications, duties and functions of food inspector?

8. Describe the objectives of Drugs and Magic remedies Act and explain about the advertisements prohibited according to Drugs and Magic Remedies Act 1954.

9. What are inventions and non-inventions according to Patent Act? Write about the procedure for obtaining a patent.

10. What are the objectives of DPCO 2013? And explain the formula used for the calculation of ceiling price and retail price of a formulation as per Drug Price Control 2013.

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Code No. D 8139/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy III Year II –Semester (NON-CBCS) (Backlog) Examination, February / March 2022

Subject: Physical Pharmacy-II

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. **(5 x 14 = 70 Marks)**

1. (a) Explain Solubility of gases in liquids.
   (b) Describe the influence of foreign substances and dielectric constant on solubility of liquids in liquids.

2. (a) Describe the solubility of solids in liquids.
   (b) Write a note on preservative action of weak acids in emulsions.

3. (a) Derive and explain second order kinetic equation with an example.
   (b) Explain apparent zero order kinetics with an example.

4. (a) Explain the effect of temperature on reaction rates.
   (b) Explain kinetics in solid state.

5. (a) Describe Capillary rise method for measurement of surface and interfacial tension.
   (b) Write a note on Spreading Co-efficient.

6. (a) Write a note on adsorption at liquid interfaces.
   (b) Write a note on zeta potential.

7. (a) Classify dispersed systems. Add a note on particle shape and size of colloidal particles.
   (b) Compare the properties of colloid sols.

8. (a) Describe derived properties of powders.
   (b) Write a note particle size distribution.

9. (a) Define viscosity. Describe Newtonian and non-newtonian systems.
   (b) Classify viscometers. Add a note on rotational viscometers.

10. (a) Explain Thixotropy in formulations.
    (b) Describe different types of polymers.

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Code No. D8138/A/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II Semester (Non-CBCS) (Backlog) Examination, February 2022

Subject: Pharmacology - II

Time: 3 Hours **Max. Marks: 70**

Note: Answer any five questions. **(5 x 14 = 70 Marks)**

1 Write short notes on:
(a) Antifungal agents
(b) Antiprotozoal agents.

2 (a) Explain in detail about the chemotherapy of tuberculosis.
(b) Write about the treatment for cerebral malaria.

3 Write in detail about:
(a) Folic acid and vitamin B12.
(b) Biosynthesis of prostaglandins.

4 Write short note on:
(a) What are autocoids? Explain the pharmacology of 5-Hydroxy triptamine.
(b) Write a note on oxytocin and tocolytics.

5 Classify oral hypoglycemic agent. Write the pharmacology of metformin and glimipramide.

6 (a) Explain about the oral contraceptives.
(b) Write about the pharmacology of pituitary hormones.

7 (a) Define bioassay and write the advantages and disadvantages of bioassay.
(b) Write the bioassay of heparin sodium.

8 (a) Describe in detail about principles of bioethics and bioassay.
(b) Explain the bioassay of insulin.

9 Explain the phases of clinical trials.

10 (a) Describe the general principles of treatment of poison.
(b) Write the symptoms and treatment for barbiturate poisoning.

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Code No.12214/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4-II-Semester (NON-CBCS) (Backlog) Examination, March 2021

Subject: Pharmaceutical Chemistry (Chemistry of Natural Products)

Time: 2 Hours **Max. Marks: 70**

Note: Answer any four questions. **(4 x 17 ½ = 70 Marks)**

1. (a) Write the structure and chemical reactions of glucose.
   (b) Write a note on the physical and chemical properties of oils and fats.

2. (a) Write a brief note on Polysaccharides. Write chemistry of starch.
   (b) Write a note on physical constants used in analysis of fats.

3. (a) Classify amino acids. Write any three important reactions of amino acids.
   (b) Write chemistry and biological significance of thyroxin.

4. Write about
   (a) Ninhydrin reaction
   (b) Electrophoresis
   (c) Oxytocin

5. (a) Classify flavonoids. Write source, structure and uses of any two flavonoids.
   (b) Write a note on the use of physical techniques in structure elucidation of terpenoids.

6. Write about
   (a) Isoprene and special isoprene rule
   (b) Isomerism in citral
   (c) Chemistry of quercitin

7. (a) Write structure, isolation and uses of atropine and quinine.
   (b) Write a note on reactions used for determination of the functional nature of oxygen.

8. (a) Define and classify alkaloids giving examples. Write a note on the general method of extraction and isolation of alkaloids.
   (b) Write a note on reactions of papaverine.

9. Write about (a) Chemistry of bile acids (b) Progestational agents.

10. Write about (a) Steroidal saponins (b) Estrogens.

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Code No.12218/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Semester (NON-CBCS) (Backlog) Examination, March 2021

Subject: Bio-Statistics (Pharmacostatistics)

Time: 2 Hours **Max. Marks: 70**

Note: Answer any four questions. **(4 x 17 ½ = 70 Marks)**

1. (a) What is the significance Central tendency measures.
   (b) What is Correlation and Regression?

2. (a) Explain about HISTOGRAM and OGIVE curves.
   (b) Write short notes about the principles of least squares.

3. (a) Explain about Stem and leaf Plots.
   (b) State Addition and multiplication theorems of probability.

4. (a) Write short notes about Sub divided Bar and Pie diagrams.
   (b) What are the Random Sampling methods and explain them.

5. Write about
   (a) 2D and 3D diagrams.
   (b) Non-Sampling Errors.

6. (a) What is Cluster Sampling.
   (b) Write short notes about Non-Random Sampling Methods.

7. Discuss
   (a) F-test and its applications
   (b) t-test for difference of Means

8. (a) What is the Chi-Square test of goodness of fit.
   (b) State the Advantages of Nonparametric tests.

9. (a) Explain about assignable and chance causes.
   (b) Explain about Chi-Square test of Independence of Attributes.

10. (a) Discuss about the basic principles of Design of Experiments.
    (b) Describe about Latin Square Design.

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Code No. 12217/Non-CBCS

FACULTY OF PHARMACY

B.Pharmacy 3/4 II Semester (Non-CBCS) (Backlog) Examination, March 2021

Subject: Forensic Pharmacy (Pharmaceutical Jurisprudence)

Time: 2 Hours **Max. Marks: 70**

Note: Answer any four questions. **(4 x 17 ½ = 70 Marks)**

1 a) What are ethics to be followed by pharmacist.
b) Write a note on drug legislation in India.

2 a) Give a brief account of educational regulations as per the pharmacy Act 1948.
b) Explain the importance of consumer protection Act 1986.

3 Discuss the organization and functions of Central and State level drug control authorities.

4 Discuss the requirements as per the drugs and cosmetics Act for the manufacture of schedule C and C_1 drugs.

5 Write about the good manufacturing practice as per the drugs and cosmetics Act and packing requirements.

6 a) Explain about the manufacture of medicinal and toilet preparations containing alcohol in a bonded laboratory and non-bonded laboratory.
b) Explain about loan licenses.

7 a) Discuss about the salient features of prevention of food adulteration Act 1954.
b) Explain the salient features of factories Act.

8 Write a brief note on drugs and magic remedies Act.

9 a) What is a patent? What are various intellectual property rights?
b) Write in brief how to obtain a patent?

10 a) State the salient features of DPCO.
b) Add a note on pharmaceutical policy 2002.

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Code No: 12216 /Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Semester (Non-CBCS)(Backlog) Examination, March 2021

Subject: Physical Pharmacy – II

Time: 2 Hours **Max. Marks: 70**

Note: Answer any four questions. **(4x17½=70 Marks)**

1 a) Define solubility. Write the applications and importance of solubility studies in formulation development.
b) Discuss the effect of pH and co-solvents on solubility of drugs.

2 a) Discuss about the preservative action of weak acids in emulsions.
b) Write a note on distribution of solutes between immiscible solvents.

3 a) Derive the equation to compute rate and half life of first, order reactions.
b) Explain the general acid-base catalysis.

4 a) Discuss the principles and methods of Accelerated stability testing.
b) Explain drug degradative pathway of oxidation and hydrolysis and suggest the methods of prevention.

5 a) Define surface tension. Explain capillary rise method for the determination of surface tension.
b) What are surfactants? Write the applications of surface active agents.

6 a) Write briefly on Electric double layer, Nernst and Zeta potentials.
b) Explain the concept of spreading coefficient along with applications.

7 a) Describe Electro-Kinetic properties of colloids.
b) Explain lyophilic, lyophobic and association colloids.

8 a) Explain the various methods for determining particle size.
b) Explain the effect of porosity, packing arrangements, densities, bulkiness and flow properties on powder.

9 a) What is Thixotropy? Write the Measurement of thixotropy and its application in Formulation.
b) Describe the measurement of viscosity with Capillary Viscometer.

10 a) Define viscosity and explain various types of flows with the help of flow diagrams.
b) Write the types and applications of polymers in pharmacy.

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Code No. 12215 / Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Semester (Non-CBCS)(Backlog) Examination, March 2021

Subject : Pharmacology – II

Time: 2 Hours **Max. Marks: 70**

Note: Answer any four questions. **(4x17½= 70 Marks)**

1 (a) Write the pharmacology of macrolide antibotics.

(b) Write a note on albendazole.

2 Classify anticancer agents. Write the pharmacology of doxorubicin.

3 Write a note on haematinics and serotonin.

4 Describe the pharmacology of warfarin and metaformin.

5 Write a note on sex hormones.

6 Explain about the oral contraceptives.

7 Describe the bioassay of vasopressin and corticotrophin.

8 Explain the bioassay of insulin and tuberculin vaccine.

9 Explain the general principles of treatment of poisoning.

10 Write a note on opium poisoning and lead poisoning.

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Code No.6429/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy ¾ II-Semester (Non-CBCS) (Backlog) Examination, November 2020

Subject: Pharmaceutical Chemistry (Chemistry of Natural Products)

Time: 2 Hours **Max. Marks: 70**

Note: Answer any Four questions. **($4x17^{1/2}$ = 70 Marks)**

1. Write about (a) Mutarotation (b) Inversion of sucrose
   (c) Acid value and iodine value (d) Rancidity and Drying

2. (a) Discuss isomerism in carbohydrates.
   (b) Write a note on fats. Elaborate the biological and pharmaceutical uses of lipids.

3. (a) Classify proteins. Discuss in detail about each class.
   (b) Discuss methods employed for separation of amino acids form protein hydrolysate.

4. (a) Write a note on polypeptides and formation of peptide bond.
   (b) Write a detailed note on anti thyroid drugs.

5. (a) Write source, structure and uses of camphor, quercitin and amygdalin.
   (b) Classify terpenoids. Write chemistry of menthol.

6. (a) Write a note on the reactions employed for structure determination of flavonoids.
   (b) Write chemistry of citral.

7. (a) Write the structure, method of isolation and uses of ephedrine and papaverine.
   (b) Write about various reactions used in the determination of functional nature of nitrogen in alkaloids.

8. (a) Write the chemistry of caffeine.
   (b) Write about Hofmann exhaustive methylation.

9. Write about
   (a) Colour reactions of sterols
   (b) Chemistry of corticosteroids
   (c) Diosgenin

10. (a) Write in detail the chemistry of cardiac glycosides.
    (b) Write a note on steroidal contraceptives.

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Code No.6433/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Semester (NON-CBCS) (Backlog) Examination,
October 2020

Subject: Bio-Statistics (Pharmacostatistics)

Time: 2 Hours **Max. Marks: 70**

Note: Answer any four questions. **(4X17 ½ = 70Marks)**

1. (a) What is significance of Measures of dispersion?
   (b) Explain about Histogram and OGIVE curve.

2. Find Mean, Median and Mode to the following data.

Class Interval	0-20	20-40	40-60	60-80	80-100
Frequency	18	27	45	25	15

3. (a) Define Normal distribution and state its properties.
   (b) Explain Addition and Multiplication theorems of probability.

4. (a) Discuss about Binomial and Poisson Distributions.
   (b) 4 coins are tossed simultaneously then find the probability of getting atleast one head.

5. Write short notes about
   (a) Stratified Random Sampling.
   (b) Sampling errors.

6. Explain about
   (a) Cluster Sampling
   (b) 2D and 3D diagrams.

7. (a) What is Point estimation and interval estimation?
   (b) Describe the steps which are involved in testing of Hypothesis.

8. (a) Discuss about Parametric and Non-parametric tests.
   (b) Explain Bayesian estimation.

9. (a) What are the basic principles of Design of Experiments and explain.
   (b) Explain Chi-Square test of goodness of fit.

10. (a) Describe Randomized Block Design with ANOVA Table.
    (b) Explain Chi-square test of Independence of Attributes.

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Code No.6432/NON-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 – II Semester (Non-CBCS) (Backlog) Examination,
Oct/Nov. 2020
Subject: Forensic Pharmacy (Pharmaceutical Jurisprudence)

Time: 2 Hours **Max. Marks: 70**

Note: Answer any four questions. **(4X17 ½ =70Marks)**

1. (a) What is the role of Pharmacist in relation to his trade as per code of Ethics.
   (b) Write about salient features of Pharmacy Act 1948.

2. (a) Give a note on Registration of Pharmacist.
   (b) Write about the constitution and functions of pharmacy council of India.

3. (a) Explain the functions of central drug control authorities.
   (b) Write the note on sale and distribution of schedule C and X drugs.
4. (a) Write about the qualification and duties of Government Analyst.
   (b) Explain the various functions and process of central and state licencing authorities.

5. Write in detail about schedule M (or) Y as per Drugs and Cosmetics Act 1940.

6. (a) Write a note on export of Cofolic preparations.
   (b) Discuss about the procedures for manufacture in bond and outside bond laboratories.

7. (a) Explain the salient features of Factories Act.
   (b) Describe the objectives of Drugs and Magic remedies Act.
8. Discuss about the salient features of prevention of food adult3ration Act 1954.

9. (a) Give a note on drug price control order.
   (b) Briefly describe the procedure of obtaining a patent.
10. (a) What are the inventions and non inventions according to patents Act 1970?
    (b) State the features of DPCO.

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Code No. 6431/Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II – Semester (Non-CBCS) (Backlog) Examination, November 2020

Subject: Physical Pharmacy - II

Time: 2 Hours **Max. Marks: 70**

Note: Answer any four questions. **(4 x 17 ½ = 70Marks)**

1. (a) Define solubility. Give applications of solubility.
   (b) Explain solubility of partially soluble liquid systems with examples.

2 (a) What are the applications of distribution law in extraction process?
   (b) Explain Nernst distribution law. What is the effect of molecular association in one of the phase?

3. (a) Define molecularity and order of reaction. How to determine the order of a chemical reaction?
   (b) Explain various factors which influence reaction rates.

4. (a) Explain first order reaction rate?
   (b) Explain in detail methods of accelerated stability studies.

5. (a) Define zeta potential.
   (b) Explain the method to determine surface and interfacial tension.

6. (a) What is HLB value?
   (b) Explain various physical principles involved in the study of adsorption at liquid interfaces.

7. (a) Mention the pharmaceutical application of colloids.
   (b) Describe electric properties of colloids.

8. (a) Define true, bulk and granular density.
   (b) Give the advantages and disadvantages of the sedimentation method used for the study of powders.
   How do you determine bulk density?

9. (a) Define Newtonian and non Newtonian systems.
   (b) Explain in detail non Newtonian system.

10. (a) Classify polymers. What are the pharmaceutical applications of polymers?
    (b) Write a note on polymers as thickening agents in pharmaceutical formulations.

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Code No. 6430 / Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Semester (Non-CBCS)(Backlog) Examination, November 2020

Subject : Pharmacology – II

Time: 2 Hours **Max. Marks: 70**

Note: Answer any Four questions. **($4x17^{1/2}$ =70 Marks)**

1 (a) Write the pharmacology of streptomycin.
(b) Write a note on vincristine.

2 Classify antiviral agents. Write a note on reverse transcriptase inhibitors.

3 Write a note on thrombolytic agents and histamine.

4 Describe the pharmacology of prostaglandins.

5 Write a note on oxytocin and tocolytics.

6 Describe the pharmacology of insulin.

7 Describe the bioassay of tetanus anti-toxin and rabies vaccine.

8 Explain the bioethics of animals used in bioassay studies.

9 Explain the phases of clinical trials.

10 Write a note on paracetamol poisoning and digitals poisoning.

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Code No.13264/Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Sem. (Non-CBCS) (Backlog) Examination, August 2019

Subject: Bio-Statistics (Pharmacostatistics)

Time: 3 Hours **Max. Marks: 70**

Note: Answer all questions. All questions carry equal marks.

1. (a) Explain about Graphical representation of the data. 7
   (b) Explain about Measures of Dispersion. 7

OR

2. (a) Find Mean and Median to the following data. 8

X	0	1	2	3	4	5	6	7	8	9
Frequency	8	10	11	16	20	25	15	10	9	6

   (b) Explain about principles of least squares. 6

3. Explain about
   (a) Normal distribution and its properties. 8
   (b) Adition and Multiplication theorems of probability. 6

OR

4. (a) Define Poisson distribution with two examples. 7
   (b) Two cards are drawn from a pack of cards, find the probability that the drawn two cards are either red or ace. 7

5. Explain about 14
   (a) Random Sampling Methods
   (b) 3D diagrams
   (c) Systematic Sampling.

OR

6. (a) Non-Sampling Errors 14
   (b) Sampling distributions
   (c) Cluster Sampling.

7. Define 14
   (a) Type-I and Type-II Errors
   (b) Interval Estimation
   (c) Explain steps which are involved in testing of Hypothesis.

OR

8. Explain about
   (a) Parametric and Non-parametric tests. 7
   (b) t-test and F-test. 7

9. (a) Explain about Analysis of variance one way classification. 7
   (b) Explain about Randomized Block Design with ANOVA Table. 7

OR

10. (a) Explain about basic principles of Design of Experiments. 7
    (b) Chi-Square test of independence of Attributes.

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Code No. 13263 / Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4-Year II-Semester (Non-CBCS)(Backlog) Examination, July 2019

Subject : Forensic Pharmacy (Pharmaceutical Jurisprudence)

Time : 3 Hours **Max. Marks: 70**

Note: Answer all questions. All questions carry equal marks.

1 a) Define Narcotic drugs as per the Narcotic psychotropic substances act 1985. Write about the official procedures for cultivation production of opium and sale and distribution of opium products. (14)

OR

b) Write the constitution and functions of Pharmacy Council of India. (9)

c) Explain about the different Consumer Dispute Redressal Agencies according to Consumer Protection Act. (5)

2 a) Write about the Functions of Central Drug Laboratory. (6)

b) What are the conditions required for obtaining license for the manufacture of schedule X drugs? (8)

OR

c) Explain various functions and powers of central and state licencing authorities. (7)

d) Define cosmetic and explain the prohibition of cosmetics for import, manufacture and sale according to D&C 1940. (7)

3 a) Write in detail about schedule M of Drugs and Cosmetics Act and Rules. (10)

b) Explain the packaging requirements for drugs and cosmetics according to Drugs and Cosmetics Act 1940. (4)

OR

b) Describe the procedures for manufacture of alcohol containing products in bonded and non-bonded laboratories. (10)

c) What for the following schedules under Drugs and Cosmetic Act stand for: (4)

1 Schedule P
2 Schedule F
3 Schedule C
4 Schedule X

4 a) Describe the objectives of factories act 1948 and discuss various provisions to be provided towards the Welfare of workers in a factory according to Factories Act. (2+12)

OR

b) What are the qualifications, duties and functions of food inspector? (7)

c) Explain the class of advertisements prohibited according to Drugs and Magic Remedies Act 1954. (7)

5 a) What are inventions and non-inventions according to Patent Act? Write about the procedure for obtaining a patent. (4+5)

b) Define IPR and write about various types of Intellectual Property Rights. (5)

OR

c) What are the objectives of DPCO 2013? And explain the formula used for the calculation of ceiling price and retail price of a formulation as per Drug Price Control 2013. (2+6)

d) Explain the salient features of pharmaceutical policy 2002. (6)

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Code No. 13262/Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4-Year II-Semester (Non-CBCS)(Backlog) Examination, July 2019

Subject : Physical Pharmacy - II

Time : 3 Hours **Max. Marks: 70**

Note: Answer all questions. All questions carry equal marks.

1 (a) Define intrinsic solubility? Describe partition coefficient and their importance in pharmaceutical systems? 7

(b) Define phase rule? Describe the thermodynamic solubility determination of a drug substance using phase rule? 7

OR

(c) What are the limitations of thermodynamic solubility determination? 4

(d) Define dielectric constant? Describe effect of pH on solubility? Describe the influence of solvents and surfactants on solubility? 10

2 (a) Define reaction rate? Describe the factors which govern the rate of a chemical reaction? 7

(b) Compare the kinetics of first and pseudo first order reactions with suitable examples? 7

OR

(c) Define half life? Derive an equation for the determination of half life from integral equation incase of a product undergoing deterioration by a zero order reaction? 7

(d) Differentiate between order and molecularity of a chemical reaction? 7

3 (a) Describe in detail electric double layer? Add a note on Nernst and zeta potential? 10

(b) Write a note on HLB value? 4

OR

(c) Explain different methods to measure surface tension ? 10

(d) Classify surface active agents and explain their importance in pharmacy? 4

4 (a) Enumerate the derived properties? How are they be evaluated? 7

(b) Describe any two methods to determine the weight distribution of particles in a powder? 7

OR

(c) Describe kinetic properties of colloids? 7

(d) Classify different types of colloids giving their salient features with examples? 7

5 (a) What is thixotropy? How will you measure thixotropy? 10

(b) Explain the determination of viscosity using capillary viscometer? 4

OR

(c) Classify polymers and their properties with examples? Explain in detail pharmaceutical applications of polymers? 14

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Code No. 13261/Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Sem. (Non-CBCS) (Backlog) Examination, July 2019

Subject: Pharmacology - II

Time: 3 Hours **Max. Marks: 70**

Note: Answer all questions. All questions carry equal marks.

1. (a) Write the pharmacology of aminoglycoside antibiotics. 10
   (b) Write a note on anti-protozoal drugs. 4

OR

2. Classify antiviral agents. Write the pharmacology of protease inhibitors. 4+10

3. Write a note on nitric oxide donors and inhibitors. 14

OR

4. Describe the pharmacology of prostaglandins.

5. Write a note on oxytocin and tocolytics. 14

OR

6. Discuss the pharmacology of insulin.

7. Explain the bioassay of tetanus anti-toxin and rabies vaccine. 14

OR

8. Explain the bioethics of animals used in bioassay studies.

9. Explain the phases of clinical trials. 14

OR

10. Write a note on paracetamol poisoning and digitalis poisoning.

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Code No. 13260/Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Sem. (Non-CBCS) (Backlog) Examination, July 2019

Subject: Pharmaceutical Chemistry (Chemistry of Natural Products)

Time: 3 Hours **Max. Marks: 70**

Note: Answer all questions. All questions carry equal marks.

1. (a) Give structures and name the principal product of the reaction of D(+) – Glucose with:
   (i) Excess of phenylhydrazine
   (ii) Sodium borohydride.
   (iii) Methanolic hydrogen chloride; Dimethyl sulphate and an acid. 8
   (b) Differentiate Oils, Fats and Waxes. Classify lipids with examples. 6

OR

2. (a) Explain the following : (i) Rancidity (ii) Acrolein formation (iii) Drying of Oils (iv) Iodine value. 8
   (b) Discuss chemistry of fructose. 6

3. (a) Write a note on various methods used for separation of amino acids from protein hydrolysate. 8
   (b) Write constitution of Thyroxin. 6

OR

4. (a) Write structure and significance of Valine, Cystine, Tyrosine and Tryptophan. 6
   (b) Write about tertiary and quarternary structure of proteins. 8

5. (a) Write about:
   (i) Isoprene and special Isoprene rule. 4
   (ii) Extraction methods of Volatile Oils. 6
   (iii) Structure and stereochemistry of menthol. 4

OR

6. (a) Write constitution of quercitin. 6
   (b) Write structures and uses of citral and camphor. 8

7. (a) Write source, structure, identification test and uses of (i) Atropine (ii) Papaverine (iii) Caffeine (iv) Quinine. 8
   (b) Write reactions to determine the functional nature of Oxygen atom in structure elucidation of alkaloids. 6

OR

8. (a) Write source, structure and uses of ephedrine and caffeine. 8
   (b) Classify alkaloids. Write in detail their method of extraction and pharmaceutical importance. 6

9. (a) Draw structure and write essential structural features and uses of (i) Testosterone (ii) Digoxin (iii) Aldosterone (iv) Diosgenin. 8
   (b) Write chemistry of Bile acids. 6

OR

10. (a) Discuss SAR of cardiac glycosides. Draw structure and write sources of any two glycosides. 8
    (b) Write a note on chemistry of corticosteroids. 6

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