



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 101T	Human Anatomy and Physiology – I
----------	----------------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All Questions CarryEqualMarks.

Q.1 List out the mixed cranial nerves. Mention the functions of vagus nerve.

Q.2 Write about the functions of mitochondria with diagram.

Q.3Define (a) Osmosis (b) Diffusion.

Q.4 Explain the structure and functions of cardiac muscle.

Q.5 List out examples for pivot joint and hinge joint.

Q.6 Write the function of Ca<sup>++</sup> ion in muscle contraction.

Q.7 Explain the structure location and functions of cuboidal epithelium



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 101T	Human Anatomy and Physiology – I
----------	----------------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All Questions Carry Equal Marks.

Q.1 List out the mixed cranial nerves. Mention the functions of vagus nerve.

Q.2 Write about the functions of mitochondria with diagram.

Q.3Define (a) Osmosis (b) Diffusion.

Q.4 Explain the structure and functions of cardiac muscle.

Q.5 List out examples for pivot joint and hinge joint.

Q.6 Write the function of Ca<sup>++</sup> ion in muscle contraction.

Q.7 Explain the structure location and functions of cuboidal epithelium



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP-102T	Pharmaceutical Analysis
---------	-------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All Questions Carry Equal Marks.

Q.1 Define volumetric analysis and list out the types of Volumetric analysis.

Q.2 Define accuracy and precision.

Q.3 Write different types of errors

Q.4 Define primary standard with example.

Q.5 Write the different sources of impurities.

Q.6 List out the indicators used in acid base titrations.

Q.7 Explain Co-precipitation.

Q.8 List out the types of redox titrations?



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 102T	Pharmaceutical Analysis
----------	-------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All Questions Carry Equal Marks.

Q.1 Define volumetric analysis and list out the types of Volumetric analysis.

Q.2 Define accuracy and precision.

Q.3 Write different types of errors

Q.4 Define primary standard with example.

Q.5 Write the different sources of impurities.

Q.6 List out the indicators used in acid base titrations.

Q.7 Explain Co-precipitation.

Q.8 List out the types of redox titrations?



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 103T	Pharmaceutics – I
----------	-------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All Questions Carry Equal Marks.

- Q.1 Explain career opportunities for pharmacists.
- Q.2 Briefly explain the principle involved in the preparation of Eutectic mixture.
- Q.3 How do you prepare 600ml of 60% alcohol using 90% alcohol by using allegation method.
- Q.4 Define and classify powders with examples.
- Q.5 Differentiate between syrups and elixirs.
- Q.6 Differentiate between flocculated and deflocculated suspension.
- Q.7 Define therapeutic incompatibility. Explain the terms potentiation and synergism.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP-103T	Pharmaceutics – I
---------	-------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All Questions Carry Equal Marks.

- Q.1 Explain career opportunities for pharmacists.
- Q.2 Briefly explain the principle involved in the preparation of Eutectic mixture.
- Q.3 How do you prepare 600ml of 60% alcohol using 90% alcohol by using allegation method.
- Q.4 Define and classify powders with examples.
- Q.5 Differentiate between syrups and elixirs.
- Q.6 Differentiate between flocculated and deflocculated suspension.
- Q.7 Define therapeutic incompatibility. Explain the terms potentiation and synergism.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 104T	Pharmaceutical Inorganic Chemistry
----------	------------------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All Questions Carry Equal Marks.

Q.1 Define the impurity. Give two examples.

Q.2 Write the principle involved in Limit test for Sulphates

Q.3 Define Lewis acid and Lewis base with examples.

Q.4 Differentiate acidifier and antacid.

Q.5 Define cathartics. Classify with examples.

Q.6 Explain the mechanism involved in cyanide poisoning

Q.7 Write the method of preparation and uses of Ferrous gluconate.

Q.8 Define antimicrobials with examples.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP-104T	Pharmaceutical Inorganic Chemistry
---------	------------------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All Questions Carry Equal Marks.

Q.1 Define the impurity. Give two examples.

Q.2 Write the principle involved in Limit test for Sulphates

Q.3 Define Lewis acid and Lewis base with examples.

Q.4 Differentiate acidifier and antacid.

Q.5 Define cathartics. Classify with examples.

Q.6 Explain the mechanism involved in cyanide poisoning

Q.7 Write the method of preparation and uses of Ferrous gluconate.

Q.8 Define antimicrobials with examples.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 105T	Remedial Biology*
----------	-------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All Questions Carry Equal Marks.

Q.1 Describe the composition of blood and write a note on blood grouping.

Q.2 Write about leaf modifications with examples and suitable diagrams.

Q.3 Describe the types of racemose inflorescence

Q.4 Describe the mechanism of breathing.

Q.5 How are carbohydrates digested and absorbed?

Q.6 Discuss the generation and conduction of nerve impulse.

Q.7 Write the salient features of monera and fungi.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 105T	Remedial Biology*
----------	-------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All Questions Carry Equal Marks.

Q.1 Describe the composition of blood and write a note on blood grouping.

Q.2 Write about leaf modifications with examples and suitable diagrams.

Q.3 Describe the types of racemose inflorescence

Q.4 Describe the mechanism of breathing.

Q.5 How are carbohydrates digested and absorbed?

Q.6 Discuss the generation and conduction of nerve impulse.

Q.7 Write the salient features of monera and fungi.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP-106T	Communication Skills*
---------	-----------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

- Q. 1 Discuss in detail the various barriers of communication and its impact.
- Q. 2 Write a paragraph of 250 words on," Impact of COVID 19 on Education system in India
- Q. 3 What are the ways to overcome nervousness before an interview?
- Q. 4 Write about the non-verbal communication.
- Q. 5 Discuss the communication process in detail.
- Q.6 Explain the various communication styles.
- Q.7 How to become an Active Listener?



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP-106T	Communication Skills*
---------	-----------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

- Q. 1 Discuss in detail the various barriers of communication and its impact.
- Q. 2 Write a paragraph of 250 words on," Impact of COVID 19 on Education system in India
- Q. 3 What are the ways to overcome nervousness before an interview?
- Q. 4 Write about the non-verbal communication.
- Q. 5 Discuss the communication process in detail.
- Q.6 Explain the various communication styles.
- Q.7 How to become an Active Listener?



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP-201T	Human Anatomy and Physiology-II
---------	---------------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

- Q.1 Write in detail about urine formation. Add a note on RAAS.
- Q.2 Write in detail about the hormones released by anterior pituitary gland.
- Q.3 Write a note on pregnancy and parturition
- Q.4 Write a note on generation of action potential.
- Q.5 Define neurotransmitter. Add a note on biogenic amines.
- Q.6 What are the various phases involved in digestion?
- Q.7 Write a note on spermatogenesis.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP-201T	Human Anatomy and Physiology-II
---------	---------------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

- Q.1 Write in detail about urine formation. Add a note on RAAS.
- Q.2 Write in detail about the hormones released by anterior pituitary gland.
- Q.3 Write a note on pregnancy and parturition
- Q.4 Write a note on generation of action potential.
- Q.5 Define neurotransmitter. Add a note on biogenic amines.
- Q.6 What are the various phases involved in digestion?
- Q.7 Write a note on spermatogenesis.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP-202T	Pharmaceutical Organic Chemistry – I
---------	--------------------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No																			
---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

Q.1 What are alkenes? Write any one method of preparation of the same.

Q.2 Define 'free radical'. Explain its formation with an example.

Q.3 Explain the significance of esterification test.

Q. 4 Write the structure and uses of chlorobutanol.

Q. 5 Explain about Walden in version.

Q.6 Write the structure and uses of hexamine.

Q.7 Write the uses of amphetamine and acetylsalicylic acid.

Q.8 Explain aldol condensation with an EXAMPLE



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP-202T	Pharmaceutical Organic Chemistry – I
---------	--------------------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No																			
---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

Q.1 What are alkenes? Write any one method of preparation of the same.

Q.2 Define 'free radical'. Explain its formation with an example.

Q.3 Explain the significance of esterification test.

Q. 4 Write the structure and uses of chlorobutanol.

Q. 5 Explain about Walden in version.

Q.6 Write the structure and uses of hexamine.

Q.7 Write the uses of amphetamine and acetylsalicylic acid.

Q.8 Explain aldol condensation with an EXAMPLE





# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 203T	Biochemistry
----------	--------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

- Q.1 What is amino acid and its function in human body?
- Q.2 Define Enzyme induction.
- Q.3 What are Isoenzymes& allosteric enzymes?
- Q. 4 What are essential fatty acids? Give two examples.
- Q.5 Differentiate between DNA & RNA.
- Q.6 Write a note on phenyl ketonuria.
- Q.7 Explain the deficiency of G6PD.
- Q.8 What is Ketoacidosis?.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 203T	Biochemistry
----------	--------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

- Q.1 What is amino acid and its function in human body?
- Q.2 Define Enzyme induction.
- Q.3 What are Isoenzymes& allosteric enzymes?
- Q. 4 What are essential fatty acids? Give two examples.
- Q.5 Differentiate between DNA & RNA.
- Q.6 Write a note on phenyl ketonuria.
- Q.7 Explain the deficiency of G6PD.
- Q.8 What is Ketoacidosis?.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 204T	Pathophysiology
----------	-----------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Describe pathogenesis of depression in detail.

Q.2 Represent the pathogenesis of atherosclerosis with neat labelled diagram.

Q.3 Explain in detail various cellular events of inflammation.

Q.4 Write a note on jaundice.

Q.5 Explain the pathogenesis of asthma.

Q. 6 Discuss the pathogenesis of tuberculosis.

Q.7 Write a brief note on schizophrenia.

Q.8 What is megaloblastic anaemia? Discuss its pathophysiology.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 204T	Pathophysiology
----------	-----------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Describe pathogenesis of depression in detail.

Q.2 Represent the pathogenesis of atherosclerosis with neat labelled diagram.

Q.3 Explain in detail various cellular events of inflammation.

Q.4 Write a note on jaundice.

Q.5 Explain the pathogenesis of asthma.

Q. 6 Discuss the pathogenesis of tuberculosis.

Q.7 Write a brief note on schizophrenia.

Q.8 What is megaloblastic anaemia? Discuss its pathophysiology.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 205T	Computer Application in Pharmacy
----------	----------------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Define number system. Explain the conversion process from binary to decimal and hexadecimal to binary

Q. 2 (a) Explain any 5 HTML tags with examples.  
(b) Explain the need of hospital and clinical pharmacy.

Q. 3 (a) What is bioinformatics? Explain its applications.  
(b) Write note on CDS (Chromatographic data systems).

Q.4 Explain the concept of One's complement and Two's complements.

Q.5 Write about syntax rules for Extensible Mark-up Language declaration.

Q. 6 Write a note on web server and server products.

Q.7 Explain the application of computers in Pharmacy.

Q. 8 Write about Objective of Bioinformatics



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 205T	Computer Application in Pharmacy
----------	----------------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Define number system. Explain the conversion process from binary to decimal and hexadecimal to binary

Q. 2 (a) Explain any 5 HTML tags with examples.  
(b) Explain the need of hospital and clinical pharmacy.

Q. 3 (a) What is bioinformatics? Explain its applications.  
(b) Write note on CDS (Chromatographic data systems).

Q.4 Explain the concept of One's complement and Two's complements.

Q.5 Write about syntax rules for Extensible Mark-up Language declaration.

Q. 6 Write a note on web server and server products.

Q.7 Explain the application of computers in Pharmacy.

Q. 8 Write about Objective of Bioinformatics



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 206T	Environmental Sciences
----------	------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Explain the concept of ecosystem. Give the structure and functions of ecosystem. Briefly explain any two ecosystems.

Q.2 What are the causes of air pollution? How can we reduce air pollution?

Q.3 Explain the different natural resources. What is the role of an individual in the conservation of natural resources?

Q.4 Explain the causes of water pollution?

Q.5 What are the different mineral resources? List the environmental problems of some minerals.

Q.6 Explain the structure and functions of forest ecosystem.

Q.7 Briefly explain the forest resources.

Q.8 Explain the various renewable resources.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 206T	Environmental Sciences
----------	------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Explain the concept of ecosystem. Give the structure and functions of ecosystem. Briefly explain any two ecosystems.

Q.2 What are the causes of air pollution? How can we reduce air pollution?

Q.3 Explain the different natural resources. What is the role of an individual in the conservation of natural resources?

Q.4 Explain the causes of water pollution?

Q.5 What are the different mineral resources? List the environmental problems of some minerals.

Q.6 Explain the structure and functions of forest ecosystem.

Q.7 Briefly explain the forest resources.

Q.8 Explain the various renewable resources.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 301T	Pharmaceutical Organic Chemistry-II
----------	-------------------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Define the terms aromaticity& resonance. Explain in detail about Huckel's rule.

Q. 2 Explain about the Hinsberg method of separation of amines.

Q. 3 Write about the electrophilic substitution reactions of naphthalene.

Q.4 Explain the mechanism involved in nitration of benzene.

Q.5 What are the limitations of Baeyer's strain theory and explain the theory of strainless rings?

Q.6 Write the decreasing order of aromaticity among anthracene, benzene and naphthalene and explain the reason for the same.

Q. 7 Explain about hydrolysis & drying of fats and oil



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 301T	Pharmaceutical Organic Chemistry-II
----------	-------------------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Define the terms aromaticity& resonance. Explain in detail about Huckel's rule.

Q. 2 Explain about the Hinsberg method of separation of amines.

Q. 3 Write about the electrophilic substitution reactions of naphthalene.

Q.4 Explain the mechanism involved in nitration of benzene.

Q.5 What are the limitations of Baeyer's strain theory and explain the theory of strainless rings?

Q.6 Write the decreasing order of aromaticity among anthracene, benzene and naphthalene and explain the reason for the same.

Q. 7 Explain about hydrolysis & drying of fats and oils.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 302T	Physical Pharmaceutics – I
----------	----------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

1. Explain briefly on the following with applications (a) Refractive index (b) Optical rotation (c) Dissociation constant.
2. (a) Write a note on surfactants and its applications. (b) Write the methods for determination of surface tension.
3. (a) Write the applications of buffers in pharmaceutical and biological systems. (b) Write a note on buffered isotonic solutions. PART – C Note: Answer any seven questions.
4. Write briefly on factors influencing on solubility of drugs.
5. Write a note on solubility of liquids in liquids and gases in liquids.
6. What is Polymorphism? Write about polymorphism and its importance.
7. Write a note on (a) Changes in states of matter (b) Liquid crystals.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 302T	Physical Pharmaceutics – I
----------	----------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

1. Explain briefly on the following with applications (a) Refractive index (b) Optical rotation (c) Dissociation constant.
2. (a) Write a note on surfactants and its applications. (b) Write the methods for determination of surface tension.
3. (a) Write the applications of buffers in pharmaceutical and biological systems. (b) Write a note on buffered isotonic solutions. PART – C Note: Answer any seven questions.
4. Write briefly on factors influencing on solubility of drugs.
5. Write a note on solubility of liquids in liquids and gases in liquids.
6. What is Polymorphism? Write about polymorphism and its importance.
7. Write a note on (a) Changes in states of matter (b) Liquid crystals.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 303T	Pharmaceutical Microbiology
----------	-----------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

- Q. 1 Explain general procedures of animal cell culture.
- Q. 2 Explain chemical and gaseous methods of Sterilization.
- Q. 3 Explain principle and procedure involved in microbiological assay of antibiotics
- Q. 4 Explain the methods of isolation of pure cultures.
- Q. 5 Explain simple staining technique.
- Q. 6 Explain about cultivation of anaerobic bacteria.
- Q. 7 Write about nutritional requirements of bacteria.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 303T	Pharmaceutical Microbiology
----------	-----------------------------

Time: – 03.00 HrsMax Marks: 75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

- Q. 1 Explain general procedures of animal cell culture.
- Q. 2 Explain chemical and gaseous methods of Sterilization.
- Q. 3 Explain principle and procedure involved in microbiological assay of antibiotics
- Q. 4 Explain the methods of isolation of pure cultures.
- Q. 5 Explain simple staining technique.
- Q. 6 Explain about cultivation of anaerobic bacteria.
- Q. 7 Write about nutritional requirements of bacteria.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 304T	Pharmaceutical Engineering
----------	----------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No										
---------	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 What is Bernoulli's theorem and write its application?

Q. 2 Write the objectives of size reduction and mention its applications.

Q.3 Classify mechanisms of size separation.

Q.4 Draw the diagram of steam jacketed kettle.

Q.5 Write the significance of drying rate curve.

Q. 6 Write construction and working of differential manometer.

Q.7 Write principle and procedure of determining particle size by sieve shaker..



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 304T	Pharmaceutical Engineering
----------	----------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No										
---------	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 What is Bernoulli's theorem and write its application?

Q. 2 Write the objectives of size reduction and mention its applications.

Q.3 Classify mechanisms of size separation.

Q.4 Draw the diagram of steam jacketed kettle.

Q.5 Write the significance of drying rate curve.

Q. 6 Write construction and working of differential manometer.

Q.7 Write principle and procedure of determining particle size by sieve shaker..





# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 401T	Pharmaceutical Organic Chemistry – III
----------	---

Time: – 03.00 HrsMax Marks: –75

Roll No														
---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

Q.1 Give the reason for Electrophilic substitution at 2nd position in pyrrole

Q.2 Define geometrical isomerism and explain the Cis-Trans/EZ/Syn Anti system of Nomenclature of geometrical isomers with examples.

Q.3 Describe the mechanism and applications of following reactions – (a) Beckmann rearrangement (b) Oppenauer-oxidation.

Q. 4 Write any two synthesis and three reactions and medicinal uses of (a) Furan (b) Thiophene.

Q.5 Explain the DL system of Nomenclature of stereoisom.

Q.6 Explain the stereo isomerism in biphenyl compounds and give the condition of optical activity.

Q. 7 Write the mechanism involved in Wolf-Kishner reduction.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 401T	Pharmaceutical Organic Chemistry – III
----------	---

Time: – 03.00 HrsMax Marks: –75

Roll No														
---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

Q.1 Give the reason for Electrophilic substitution at 2nd position in pyrrole

Q.2 Define geometrical isomerism and explain the Cis-Trans/EZ/Syn Anti system of Nomenclature of geometrical isomers with examples.

Q.3 Describe the mechanism and applications of following reactions – (a) Beckmann rearrangement (b) Oppenauer-oxidation.

Q. 4 Write any two synthesis and three reactions and medicinal uses of (a) Furan (b) Thiophene.

Q.5 Explain the DL system of Nomenclature of stereoisom.

Q.6 Explain the stereo isomerism in biphenyl compounds and give the condition of optical activity.

Q. 7 Write the mechanism involved in Wolf-Kishner reduction.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 402T	Medicinal Chemistry – I
----------	-------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 What is partition coefficient?

Q.2 What is chelation?

Q.3 What are the uses of barbiturates?

Q.4 Write the uses of Diazepam and Phenytoin.

Q.5 Give the synthesis of Propranolol.

Q. 6 Write a note on adrenergic receptors and their distribution.

Q.7 Define anticonvulsants. Give two examples.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 402T	Medicinal Chemistry – I
----------	-------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 What is partition coefficient?

Q.2 What is chelation?

Q.3 What are the uses of barbiturates?

Q.4 Write the uses of Diazepam and Phenytoin.

Q.5 Give the synthesis of Propranolol.

Q. 6 Write a note on adrenergic receptors and their distribution.

Q.7 Define anticonvulsants. Give two examples.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 403T	Physical Pharmaceutics-II
----------	---------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1. Define and classify coarse dispersions

Q.2. What is zeta potential

Q.3. What are non-Newtonian systems

Q.4. What is micro emulsion

Q.5. Mention factors influencing viscosity

Q.6. Define porosity

Q.7. Define sedimentation volume and what is its importance



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 403T	Physical Pharmaceutics-II
----------	---------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1. Define and classify coarse dispersions

Q.2. What is zeta potential

Q.3. What are non-Newtonian systems

Q.4. What is micro emulsion

Q.5. Mention factors influencing viscosity

Q.6. Define porosity

Q.7. Define sedimentation volume and what is its importance



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 404T	Pharmacology – I
----------	------------------

Time: – 03.00 HrsMax Marks: –75

Roll No																			
---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1. Compare the merits and demerits of oral and parenteral routes of administration.

Q.2 Differentiate enzyme induction and enzyme inhibition.

Q.3 Write a note on various phases of clinical trials.

Q.4 Explain about the factors modifying drug action.

Q.5 Explain the pharmacological actions of adrenaline.

Q.6 Define myasthenia gravis. Enlist the drugs used in its treatment.

Q.7 Classify sedative-hypnotics with examples. Explain the mechanism of action, adverse effects and uses of benzodiazepines



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 404T	Pharmacology – I
----------	------------------

Time: – 03.00 HrsMax Marks: –75

Roll No																			
---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1. Compare the merits and demerits of oral and parenteral routes of administration.

Q.2 Differentiate enzyme induction and enzyme inhibition.

Q.3 Write a note on various phases of clinical trials.

Q.4 Explain about the factors modifying drug action.

Q.5 Explain the pharmacological actions of adrenaline.

Q.6 Define myasthenia gravis. Enlist the drugs used in its treatment.

Q.7 Classify sedative-hypnotics with examples. Explain the mechanism of action, adverse effects and uses of benzodiazepines



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 405T	Pharmacognosy and Phytochemistry-I
----------	------------------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No																			
---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 (a) Write in detail the scope and development of pharmacognosy  
(b) Write about lycopodium spore method.

Q.2 Mention the objectives and write a detailed note on the methods adopted for the conservation of medicinal and aromatic plants.

Q.3 Explain methods for induction of polyploidy. Elaborate the influence of polyploidy on the active constituents taking examples.

Q.4 Write about the nutritional requirements for the growth and maintenance of plant cultures.

Q.5 Elaborate on ideal storage conditions for crude drugs

Q.6 Write pharmacognotic note on cotton.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 405T	Pharmacognosy and Phytochemistry-I
----------	------------------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No																			
---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 (a) Write in detail the scope and development of pharmacognosy  
(b) Write about lycopodium spore method.

Q.2 Mention the objectives and write a detailed note on the methods adopted for the conservation of medicinal and aromatic plants.

Q.3 Explain methods for induction of polyploidy. Elaborate the influence of polyploidy on the active constituents taking examples.

Q.4 Write about the nutritional requirements for the growth and maintenance of plant cultures.

Q.5 Elaborate on ideal storage conditions for crude drugs

Q.6 Write pharmacognotic note on cotton.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 501T	Medicinal Chemistry – II
----------	--------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

Q.1 (a) What are H<sub>2</sub>-antagonists? Outline the synthesis of cimetidine.

Q.2 Classify anti-neoplastic agents with two structures from each class.

Q.3 (a) Explain the mechanism of action of anti-arrhythmic drugs with examples.

Q.4 Outline the synthesis of chlorothiazide and furosemide.

Q.5 (a) Classify oral hypoglycemic drugs with one structure from each class.

Q.6 Discuss SAR of local anesthetics.

Q.7 Outline the synthesis of Diphenhydramine hydrochloride and promethazine hydrochloride.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 501T	Medicinal Chemistry – II
----------	--------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

Q.1 (a) What are H<sub>2</sub>-antagonists? Outline the synthesis of cimetidine.

Q.2 Classify anti-neoplastic agents with two structures from each class.

Q.3 (a) Explain the mechanism of action of anti-arrhythmic drugs with examples.

Q.4 Outline the synthesis of chlorothiazide and furosemide.

Q.5 (a) Classify oral hypoglycemic drugs with one structure from each class.

Q.6 Discuss SAR of local anesthetics.

Q.7 Outline the synthesis of Diphenhydramine hydrochloride and promethazine hydrochloride.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 502T	Formulativepharmacy
----------	---------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 (a) Discuss about crystallinity of solid substances.

Q.2 Describe the chemical reactions involved in degradation of API.

Q.3 Explain in detail about manufacturing of hard gelatin capsules and soft gelatin capsules.

Q.4 (a) Describe the components of aerosol system with the help of a neat diagram.

Q.5 Discuss the types of aerosol system.

Q.6 Explain the techniques for solubilization of API.

Q.7 Discuss the steps involved in sugar coating of tablets.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 502T	Formulativepharmacy
----------	---------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 (a) Discuss about crystallinity of solid substances.

Q.2 Describe the chemical reactions involved in degradation of API.

Q.3 Explain in detail about manufacturing of hard gelatin capsules and soft gelatin capsules.

Q.4 (a) Describe the components of aerosol system with the help of a neat diagram.

Q.5 Discuss the types of aerosol system.

Q.6 Explain the techniques for solubilization of API.

Q.7 Discuss the steps involved in sugar coating of tablets.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 503T	Pharmacology – II
----------	-------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

- Q. 1 Explain the various methods of bioassay of insulin and digitalis.
- Q. 2 (a) Classify the non-steroidal anti-inflammatory agents with examples.
- Q. 3 Explain the mechanism of action, uses and adverse effects of salicylates.
- Q. 4 (a) What is congestive heart failure? Classify the drugs used for its treatment.
- Q. 5 Explain the mechanism of action, adverse drug reactions and uses of digoxin.
- Q. 6 Write short notes on pharmacology vitamin B12.
- Q. 7 Classify anticoagulants. Mention the pharmacological actions of heparin.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 503T	Pharmacology – II
----------	-------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

- Q. 1 Explain the various methods of bioassay of insulin and digitalis.
- Q. 2 (a) Classify the non-steroidal anti-inflammatory agents with examples.
- Q. 3 Explain the mechanism of action, uses and adverse effects of salicylates.
- Q. 4 (a) What is congestive heart failure? Classify the drugs used for its treatment.
- Q. 5 Explain the mechanism of action, adverse drug reactions and uses of digoxin.
- Q. 6 Write short notes on pharmacology vitamin B12.
- Q. 7 Classify anticoagulants. Mention the pharmacological actions of heparin.





# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 504T	Pharmacognosy&Phytochemistry– II
----------	----------------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

Q1 Explain in detail the biosynthesis of any one secondary metabolite through acetate mevalonate pathway.

Q. 2 Explain in detail method of isolation, identification and analysis of reserpine.

Q. 3 Write a note on various chromatographic techniques used in identification and purification of phytoconstituents.

Q.4. Explain Shikimic acid pathway.

Q.5 What are alkaloids? Give general method of isolation for alkaloids.

Q.6 Write a note on method of isolation and identification of podophylotoxin.

Q7 Give the method of estimation for sennoside.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 504T	Pharmacognosy&Phytochemistry– II
----------	----------------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

1. Explain in detail the biosynthesis of any one secondary metabolite through acetate mevalonate pathway.

2. Explain in detail method of isolation, identification and analysis of reserpine.

3. Write a note on various chromatographic techniques used in identification and purification of phytoconstituents.

4. Explain Shikimic acid pathway.

5. What are alkaloids? Give general method of isolation for alkaloids.

6. Write a note on method of isolation and identification of podophylotoxin.

7. Give the method of estimation for sennoside.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 505T	Pharmaceutical Jurisprudence
----------	------------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

Q1. Describe schedule M with regard to requirements for manufacturing of a drug.

Q.2 Describe the salient features, prohibited advertisements, exempted advertisements of drugs as per magic remedies act.

Q. 3 Explain in detail about pharmaceutical ethics

Q.4 What are the requirements for manufacture of schedule X drugs?

Q. 5 Describe the classes of drugs and cosmetic prohibited from import according to D & C Act.

Q. 6 Describe wholesale, retail and restricted licenses for sale of drugs.

Q. 7 Write the constitution and responsibility of drug technical advisory board.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 505T	Pharmaceutical Jurisprudence
----------	------------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

Q.1 Describe schedule M with regard to requirements for manufacturing of a drug.

Q. 2 Describe the salient features, prohibited advertisements, exempted advertisements of drugs as per magic remedies act.

Q.3 Explain in detail about pharmaceutical ethics

Q. 4 What are the requirements for manufacture of schedule X drugs?

Q.5 Describe the classes of drugs and cosmetic prohibited from import according to D & C Act.

Q. 6 Describe wholesale, retail and restricted licenses for sale of drugs.

Q.7 Write the constitution and responsibility of drug technical advisory board.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 601T	Medicinal Chemistry – III
----------	---------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No										
---------	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Write the synthesis, mechanism of action and uses of Metronidazole.

Q.2 Mention any six Quinoline drugs.

Q.3 What are Monobactams? Give examples with one structure.

Q.4 Mention any six ant tubercular agents.

Q.5 Write about the chemical degradation of Penicillins.

Q.6 Mention any six antiviral drugs.

Q.7 What is Cotrimoxazole? Give its uses.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP-601T	Medicinal Chemistry – III
---------	---------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No										
---------	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Write the synthesis, mechanism of action and uses of Metronidazole.

Q.2 Mention any six Quinoline drugs.

Q.3 What are Monobactams? Give examples with one structure.

Q.4 Mention any six ant tubercular agents.

Q.5 Write about the chemical degradation of Penicillins.

Q.6 Mention any six antiviral drugs.

Q.7 What is Cotrimoxazole? Give its uses.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 602T	Pharmacology-III
----------	------------------

Time: - 03.00 HrsMax Marks: -75

Roll No																			
---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Write short notes on the pharmacology of H2 receptor blockers.

Q.2 Explain the MOA and adverse effects of tetracyclines and penicillins.

Q.3 Explain the general principles of treatment of poisoning.

Q.4 Classify antifungal agents and write the MOA and adverse effects of amphotericin B.

Q.5 Write short note on immunostimulants.

Q.6 Write about the treatment for urinary tract infections.

Q.7 Define toxicology and explain the types of toxicity studies.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 602T	Pharmacology-III
----------	------------------

Time: - 03.00 HrsMax Marks: -75

Roll No																			
---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Write short notes on the pharmacology of H2 receptor blockers.

Q.2 Explain the MOA and adverse effects of tetracyclines and penicillins.

Q.3 Explain the general principles of treatment of poisoning.

Q.4 Classify antifungal agents and write the MOA and adverse effects of amphotericin B.

Q.5 Write short note on immunostimulants.

Q.6 Write about the treatment for urinary tract infections.

Q.7 Define toxicology and explain the types of toxicity studies.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 603T	Herbal Drug Technology
----------	------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No										
---------	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Write an elaborate note on processing of herbal raw materials.

Q.2 Explain in detail about the scope and type of Nutraceutical products available market.

Q.3 Discuss WHO and ICH guidelines for the assessments of herbal drugs

Q.4 Explain the sources of herbs.

Q.5 Write a brief note on organic farming.

Q.6 Write a note on herb drug interactions with suitable exaples.

Q.7 Explain about the side effects and interactions of Hypericum and Kava -Kava.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 603T	Herbal Drug Technology
----------	------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No										
---------	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Write an elaborate note on processing of herbal raw materials.

Q.2 Explain in detail about the scope and type of Nutraceutical products available market.

Q.3 Discuss WHO and ICH guidelines for the assessments of herbal drugs

Q.4 Explain the sources of herbs.

Q.5 Write a brief note on organic farming.

Q.6 Write a note on herb drug interactions with suitable exaples.

Q.7 Explain about the side effects and interactions of Hypericum and Kava -Kava.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 604T	Bio pharmaceuticals and Pharmacokinetics
----------	--

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

Q.1 Describe factors influencing absorption of drugs.

Q.2 Describe renal excretion of drugs.

Q.3 Discuss about pH -partition hypothesis.

Q.4 Describe the absorption of drugs from extravascular routes.

Q.5 Explain briefly about Kinetics of protein binding.

Q.6 Explain biliary excretion of drugs.

Q.7 Discuss about methods to enhance bioavailability of poorly soluble drugs.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 604T	Bio pharmaceuticals and Pharmacokinetics
----------	--

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

Q.1 Describe factors influencing absorption of drugs.

Q.2 Describe renal excretion of drugs.

Q.3 Discuss about pH -partition hypothesis.

Q.4 Describe the absorption of drugs from extravascular routes.

Q.5 Explain briefly about Kinetics of protein binding.

Q.6 Explain biliary excretion of drugs.

Q.7 Discuss about methods to enhance bioavailability of poorly soluble drugs.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 605T	Pharmaceutical Biotechnology
----------	------------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1Define the following:

- i) Biotechnology
- ii) Enzyme immobilization

Q.2 Write the components of Biosensors

Q.3 Write significance of enzyme acting on DNA

- i) Restriction end nucleases ii) S1 nuclease

Q.4 Enumerate types of cloning vectors. Add a note on COSMID as vector

Q.5 What is active immunity?

Q.6 Write stability tests defined for official vaccines

Q.7 Give applications involved in Southern blotting technique

Q.8 How will you transfer gene by conjugation method



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 605T	Pharmaceutical Biotechnology
----------	------------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1Define the following:

- i) Biotechnology
- ii) Enzyme immobilization

Q.2 Write the components of Biosensors

Q.3 Write significance of enzyme acting on DNA

- i) Restriction end nucleases ii) S1 nuclease

Q.4 Enumerate types of cloning vectors. Add a note on COSMID as vector

Q.5 What is active immunity?

Q.6 Write stability tests defined for official vaccines

Q.7 Give applications involved in Southern blotting technique

Q.8 How will you transfer gene by conjugation method



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 606T	PHARMACEUTICAL Quality Assurance
----------	----------------------------------

Time: - 03.00 Hrs Max Marks: -75

Roll No										
---------	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

Q.1 What is Warehousing? Explain.

Q.2 Explain on out of specification.

Q.3 What is Sources of impurities? Explain.

Q.4 What is calibration. Why it should be bone for equipment

Q.5 What is SOP.? Explain.

Q.6 Write briefly about Quality control test for secondary packing materials.

Q.7 Define ICH. Explain about ICH Guidelines.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 606T	PHARMACEUTICAL Quality Assurance
----------	----------------------------------

Time: - 03.00 Hrs Max Marks: -75

Roll No										
---------	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

Q.1 What is Warehousing? Explain.

Q.2 Explain on out of specification.

Q.3 What is Sources of impurities? Explain.

Q.4 What is calibration. Why it should be bone for equipment

Q.5 What is SOP.? Explain.

Q.6 Write briefly about Quality control test for secondary packing materials.

Q.7 Define ICH. Explain about ICH Guidelines.





# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 701T	Instrumental Methods of Analysis
----------	----------------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

- Q.1 Explain the technique of Capillary Electrophoresis.
- Q.2 Write about electronic transitions and solvent effect on absorption spectra.
- Q.3 Describe the theory involved in fluorimetric technique.
- Q.4 Explain the instrumentation of Nephelotubiodmetry.
- Q.5 Write the factors affecting vibration in IR spectroscopy.
- Q.6 Differentiate between single and multi-component analysis in UV-Vis spectroscopy with examples.
- Q.7 Explain the principle and Interference in Atomic Absorption spectroscopy.
- Q.8 (a) Write the principle involved in column chromatography.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 701T	Instrumental Methods of Analysis
----------	----------------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carry equal marks

- Q.1 Explain the technique of Capillary Electrophoresis.
- Q.2 Write about electronic transitions and solvent effect on absorption spectra.
- Q.3 Describe the theory involved in fluorimetric technique.
- Q.4 Explain the instrumentation of Nephelotubiodmetry.
- Q.5 Write the factors affecting vibration in IR spectroscopy.
- Q.6 Differentiate between single and multi-component analysis in UV-Vis spectroscopy with examples.
- Q.7 Explain the principle and Interference in Atomic Absorption spectroscopy.
- Q.8 (a) Write the principle involved in column chromatography



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 702T	Industrial Pharmacy II
----------	------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q. 1 (a) Write the General considerations for pilot plant and scale up.

(b) Write a note on platform technology.

Q.2 (a) Write a note on six sigma concept.

(b) Write a note on ISO 14000.

Q. 3 (a) Discuss Regulatory requirements and approval procedures for New Drugs.

(b) Write the responsibilities of State Licensing authorities.

Q. 4 Explain the procedure for pilot plat scale-up for semisolid dosage forms.

Q. 5 What is technology transfer? Write general principles of Technology Transfer.

Q.6 Write the role and responsibility of regulatory affairs professionals.

Q.7 Write a note on technology transfer agencies in India.?



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 702T	Industrial Pharmacy II
----------	------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q. 1 (a) Write the General considerations for pilot plant and scale up.

(b) Write a note on platform technology.

Q.2 (a) Write a note on six sigma concept.

(b) Write a note on ISO 14000.

Q. 3 (a) Discuss Regulatory requirements and approval procedures for New Drugs.

(b) Write the responsibilities of State Licensing authorities.

Q. 4 Explain the procedure for pilot plat scale-up for semisolid dosage forms.

Q. 5 What is technology transfer? Write general principles of Technology Transfer.

Q.6 Write the role and responsibility of regulatory affairs professionals.

Q.7 Write a note on technology transfer agencies in India.?



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 703T	Pharmacy Practice
----------	-------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

- Q.1 Describe different types of drug interactions. Add a note on reporting and management of ADR
- Q.2 Describe organisation, structure, type and design of wholesale and community pharmacy outlet
- Q.3 Explain different types of drug distribution system in a hospital. What do you mean by satellite pharmacy?
- Q.4 Define hospital formulary. What are the contents of hospital formulary? What is the difference between hospital formulary and essential drugs list?
- Q.5 Explain the role of pharmacist in improving medication adherence and highlight few counselling barriers.
- Q.6 Describe schedule N of drugs and cosmetics act rules 1945.
- Q.7 Describe the policies of pharmacy and therapeutic committee.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 703T	Pharmacy Practice
----------	-------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

- Q.1 Describe different types of drug interactions. Add a note on reporting and management of ADR
- Q.2 Describe organisation, structure, type and design of wholesale and community pharmacy outlet
- Q.3 Explain different types of drug distribution system in a hospital. What do you mean by satellite pharmacy?
- Q.4 Define hospital formulary. What are the contents of hospital formulary? What is the difference between hospital formulary and essential drugs list?
- Q.5 Explain the role of pharmacist in improving medication adherence and highlight few counselling barriers.
- Q.6 Describe schedule N of drugs and cosmetics act rules 1945.
- Q.7 Describe the policies of pharmacy and therapeutic committee.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 704T	Novel Drug Delivery Systems
----------	-----------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Write the advantages and disadvantages of gastroretentive drug delivery system.

Q.2Explain various coating materials used in microencapsulation.

Q.3Write a note on transmucosal permeability.

Q.4What is floating time and floating lag time.

Q.5 Write the applications of monoclonal antibodies.

Q.6Compare and contrast liposomes and niosomes.

Q.7Explain in detail physiochemical and biological factors affecting controlled release formulation



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 704T	Novel Drug Delivery Systems
----------	-----------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Write the advantages and disadvantages of gastroretentive drug delivery system.

Q.2Explain various coating materials used in microencapsulation.

Q.3Write a note on transmucosal permeability.

Q.4What is floating time and floating lag time.

Q.5 Write the applications of monoclonal antibodies.

Q.6Compare and contrast liposomes and niosomes.

Q.7Explain in detail physiochemical and biological factors affecting controlled release formulation



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 751T	BIostatISTICS AND RESEARCH METHODOLOGY
----------	---

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Explain correlation, types of correlation and its applications.

Q.2 Discuss different methods of sampling.

Q.3.Explain null hypothesis, type I and type II errors.

Q.4Explain types of observational study designs.

Q.5 Explain with examples- Histogram, Pie chart.

Q.6Discuss the applications of SPSS and MINITAB in data analysis.

Q.7 Explain the concept of Central Composite Design.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 751T	BIostatISTICS AND RESEARCH METHODOLOGY
----------	---

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Explain correlation, types of correlation and its applications.

Q.2 Discuss different methods of sampling.

Q.3.Explain null hypothesis, type I and type II errors.

Q.4Explain types of observational study designs.

Q.5 Explain with examples- Histogram, Pie chart.

Q.6Discuss the applications of SPSS and MINITAB in data analysis.

Q.7 Explain the concept of Central Composite Design.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 802T	<b>SOCIAL AND PREVENTIVE PHARMACY</b>
----------	---

Time: - 03.00 HrsMax Marks: -75

Roll No										
---------	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1Dengue.

Q.2Concept of Prevention and control of disease

Q.3 Food in relation to nutrition & health.

Q.4 National urban health mission.

Q.5 AIDS control programme.

Q.6 Cancer.

Q.7 National Tobacco Control Programme.

Q.8 Cholera.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 802T	<b>SOCIAL AND PREVENTIVE PHARMACY</b>
----------	---

Time: - 03.00 HrsMax Marks: -75

Roll No										
---------	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1Dengue.

Q.2 Concept of Prevention and control of disease

Q.3 Food in relation to nutrition & health.

Q.4 National urban health mission.

Q.5 AIDS control programme.

Q.6 Cancer.

Q.7 National Tobacco Control Programme.

Q.8 Cholera.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 803T	PHARMA MARKETING MANAGEMENT
----------	--------------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Explain nature and scope of pharmaceutical marketing.

Q.2 Briefly explain the stages involved in market research.

Q.3What are the factors to be considered in pricing of pharmaceutical products?

Q.4 Mention the advantage and disadvantage of a wholesaler in distribution of Pharmaceutical product.

Q.5 Discuss the promotional strategies for OTC products.

Q.6 Explain strategies used during introductory stage of PLC.

Q.7 What is product mix?



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 803T	PHARMA MARKETING MANAGEMENT
----------	--------------------------------

Time: – 03.00 HrsMax Marks: –75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Explain nature and scope of pharmaceutical marketing.

Q.2 Briefly explain the stages involved in market research.

Q.3What are the factors to be considered in pricing of pharmaceutical products?

Q.4 Mention the advantage and disadvantage of a wholesaler in distribution of Pharmaceutical product.

Q.5 Discuss the promotional strategies for OTC products.

Q.6 Explain strategies used during introductory stage of PLC.

Q.7 What is product mix?



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 804T	PHARMACEUTICAL REGULATORY SCIENCES
----------	------------------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No																			
---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Explain the roles and responsibilities of the regulatory authority.

Q.2 Explain the Orange Book features.

Q.3 Explain the informed consent process & procedure involved in clinical trials.

Q.4 Explain the Drug Master File.

Q.5Explain the Common Technical Document.

Q.6 Explain the approval process for implementing the changes to an approved NDA.

Q.7Explain the regulatory authorities of Australia.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 804T	PHARMACEUTICAL REGULATORY SCIENCES
----------	------------------------------------

Time: - 03.00 HrsMax Marks: -75

Roll No																			
---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1 Explain the roles and responsibilities of the regulatory authority.

Q.2 Explain the Orange Book features.

Q.3 Explain the informed consent process & procedure involved in clinical trials.

Q.4 Explain the Drug Master File.

Q.5Explain the Common Technical Document.

Q.6 Explain the approval process for implementing the changes to an approved NDA.

Q.7Explain the regulatory authorities of Australia.





# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 805T	PHARMACOVIGILANCE
----------	-------------------

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1Various types of Drug Information Resources.

Q.2 Explain the Post Marketing Trials.

Q.3Why CIOMS are important within Pharmacovigilance Work.

Q.4 Pharmacovigilance Planning.

Q.5Eudravigilance

Q.6Why Pharmacovigilance is needed?

Q.7Safety Data Management.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 805T	PHARMACOVIGILANCE
----------	-------------------

Time: - 03.00 HrsMax Marks: -8075

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

Q.1Various types of Drug Information Resources.

Q.2 Explain the Post Marketing Trials.

Q.3Why CIOMS are important within Pharmacovigilance Work.

Q.4 Pharmacovigilance Planning.

Q.5Eudravigilance

Q.6Why Pharmacovigilance is needed?

Q.7Safety Data Management.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 806T	QUALITY CONTROL AND STANDARDIZATION OF HERBALS
----------	---

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

- Q.1 Explain the various herbal pharmacopoeias.
- Q.2 Write the GMP requirement for herbal medicine.
- Q.3 Explain the preparation of document for new drug application.
- Q.4 Discuss the protocol for clinical guidelines in herbal medicine.
- Q.5 Enumerate various aspects of GLP.
- Q.6 Write the applications of chromatography technique its standardization of herbal drugs
- Q.7 Write briefly about stability studies of herbal medicinal products.



# OPJS UNIVERSITY CHURU

Annual Examination -2023

BP- 806T	QUALITY CONTROL AND STANDARDIZATION OF HERBALS
----------	---

Time: - 03.00 HrsMax Marks: -75

Roll No									
---------	--	--	--	--	--	--	--	--	--

Note: - Attempt any five questions. All questions carryequal marks

- Q.1 Explain the various herbal pharmacopoeias.
- Q.2 Write the GMP requirement for herbal medicine.
- Q.3 Explain the preparation of document for new drug application.
- Q.4 Discuss the protocol for clinical guidelines in herbal medicine.
- Q.5 Enumerate various aspects of GLP.
- Q.6 Write the applications of chromatography technique its standardization of herbal drugs
- Q.7 Write briefly about stability studies of herbal medicinal products.

