

Code No: 241AB

JAWAHARLALNEHRUTECHNOLOGICALUNIVERSITYHYDERABAD

B. Pharmacy I Year I Semester Examinations, September/October- 2021

PHARMACEUTICAL ANALYSIS - I

Time: 3Hours

Max.Marks:75

Answer any five questions
All questions carry equal marks

- 1.a) Explain the preparation and standardization of 0.1 M Ceric ammonium sulphate solution and 0.5 M Sulfuric acid solution.
- b) Explain the rules for rounding off the significant figures or values. [10+5]
- 2.a) Define Pharmaceutical Analysis and explain the scope of Pharmaceutical analysis in Pharmaceutical field.
- b) Briefly explain out the methods of expressing concentrations. [7+8]
- 3.a) Explain in detail the Bronsted Lowry Theory of Acids and Bases.
- b) Add a note on the solvents used in Non-aqueous titrations. [8+7]
- 4.a) Explain the preparation and Standardization of 0.1 M Perchloric acid.
- b) Add a note on the Neutralization Curves. [8+7]
- 5.a) Write in detail the principle and steps involved in the Gravimetry.
- b) Add a brief note on Metal ion indicators. [10+5]
- 6.a) Write the theory and principle involved in Precipitation titrations.
- b) Write the theory and principle involved in Complexometric titrations. [7+8]
- 7.a) Write the theory and principle involved in Cerimetry titration.
- b) Add a note on how do you detect the end point in redox titrations. [8+7]
- 8.a) Discuss the construction and working of Dropping Mercury Electrode.
- b) Discuss the methods to determine the end point in Potentiometric titration. [7+8]

--ooOoo--

Oct-21

Code No: 241AB**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Pharmacy I Year I Semester Examinations, October-2020****PHARMACEUTICAL ANALYSIS-I****Time: 2hours****Max.Marks:75**

Answer any five questions
All questions carry equal marks

- 1.a) Discuss primary and secondary standards with examples.
b) Prepare and standardize 0.1M Oxalic acid solution. [15]
- 2.a) Write the sources and types of errors.
b) Give a note on methods of minimizing errors. [15]
- 3.a) Give a note on neutralization curves with example.
b) How can you estimate sodium benzoate by non aqueous titration? Explain. [15]
- 4.a) Explain the theory involved in titration of strong acid and strong base with example.
b) How can you estimate the Ephedrine HCl by non-aqueous titrations? Explain. [15]
- 5.a) Explain in detail about Fajans method for precipitations titrations
b) Give a note on masking and demasking agents with examples. [15]
- 6.a) Give the concept of oxidation and reduction.
b) Write in brief on Dichrometry. [15]
- 7.a) Write the principles of Redox titrations. Give a note on its concepts.
b) Differentiate iodimetry and iodometry titrations with examples. [15]
- 8.a) Explain the different methods to determine the end point in potentiometric titration.
b) Give the construction and working of dropping mercury electrode. [15]

--ooOoo--

R17

Code No: 242AC

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Pharmacy I Year II Semester Examinations, September/October-2021

BIOCHEMISTRY

Time: 3hours

Max.Marks:75

**Answer any five questions
All questions carry equal marks**

- 1.a) Describe HMP shunt pathway and give its significance in carbohydrate metabolism.
b) Explain bring about glycogen metabolism pathways and glycogen storage diseases. [8+7]
- 2.a) What is oxidation phosphorylation. Explain and give its mechanism.
b) Write a note on oxidative phosphorylation give examples. [8+7]
- 3.a) Describe De-novo synthesis of palmitic acid.
b) Write a note on disorders of lipid metabolism. [7+8]
- 4.a) Give the synthesis of 5- HT and dopamine along with their significance.
b) Write about the catabolism of phenylalanine. [8+7]
- 5.a) Describe briefly about the organization of mammalian genome.
b) Write the structure and functions of DNA and RNA. [8+7]
- 6.a) Discuss about RNA synthesis.
b) Give the biosynthesis of pyrimidine nucleotides. [7+8]
- 7.a) Give the classification, chemical nature and biological role of following biomolecules.
i) lipids ii) proteins
b) Write a brief note on energy rich compounds. [8+7]
- 8.a) Give the IUB classification of enzymes along with nomenclature.
b) Explain enzyme induction with suitable example. [8+7]

--ooOoo--

R17

Code No: 242AE

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Pharmacy I Year II Semester Examinations, September/October-2021

COMPUTER APPLICATIONS IN PHARMACY

Time : 3 hours

Max Marks: 75

**Answer any five questions
All questions carry equal marks**

- 1.a) Convert the hexadecimal number 68BE to binary and then convert it from binary to octal.
b) Discuss the Decimal number system in detail. [8+7]
- 2.a) Explain about 1's and 2's complements of Binary Numbers with examples.
b) Convert the following numbers with the indicated bases to decimal:
i) $(198)_{12}$
ii) $(435)_8$ [7+8]
3. Explain and compare HTML and XML. [15]
- 4.a) Explain the steps involved in connecting the MYSQL database from PHP.
b) Give a brief note on MS Access in detail. [8+7]
5. Discuss the Drug information storage and retrieval. [15]
6. Explain the role of information technology in Hospital and Clinical Pharmacy. [15]
7. Describe the Bioinformatics Databases in detail. [15]
- 8.a) What is chromatography in food analysis? Explain
b) Explain the role of computers in preclinical development. [7+8]

---ooOoo---

R17

Code No: 241AE

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Pharmacy I Year I Semester Examinations, September/October-2021

COMMUNICATION SKILLS

Time: 3hours

Max.Marks:75

**Answer any five questions
All questions carry equal marks**

- 1.a) Define Communication skills. And explain its importance.
b) Briefly explain the Communication process. [8+7]
- 2.a) Explain the cultural and language barriers of Communication.
b) Briefly explain the different perspectives in Communication. [8+7]
- 3.a) Explain the Salient features of verbal Communication.
b) Describe the importance of physical Communication. [8+7]
- 4.a) What is systematic Communication style and give few examples.
b) Explain the salient features of spirited and considerate Communication styles. [7+8]
- 5.a) Briefly explain salient features of the basic listening skills.
b) Describe the importance of effective written Communication skills. [7+8]
- 6.a) Explain the importance of different shades in written Communication.
b) What are the factors to be considered in effective writing? [8+7]
- 7.a) Explain different purposes of interview.
b) Describe the significance of structuring in presentation. [8+7]
- 8.a) Outline the do's and dot's of group discussion.
b) Describe the significance of communication skills in group discussion. [8+7]

--ooOoo--

R17

Code No: 241AA

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Pharmacy I Year I Semester Examinations, September/October-2021

HUMAN ANATOMY AND PHYSIOLOGY-I

Time: 3hours

Max.Marks:75

**Answer any five questions
All questions carry equal marks**

- 1.a) Draw a neat diagram of cell and label it.
- b) Explain mitotic cell division. [8+7]
- 2.a) Describe cell diffusion.
- b) Write general principles of cell communication. [7+8]
- 3.a) Explain muscle contraction.
- b) Write the properties of skeletal muscle. [7+8]
- 4.a) Explain the structure of bones.
- b) Describe joint movement. [8+7]
- 5.a) Explain nerve conduction.
- b) Describe the structure of reflex arc. [7+8]
- 6.a) Write the properties of nerve fibre.
- b) Explain ventricles of brain. [8+7]
- 7.a) Draw a neat diagram of cross section of ear.
- b) Write the origin and functions of spinal nerves. [7+8]
- 8.a) Describe the structure of pituitary gland.
- b) Explain the structure of thyroid gland. [8+7]

--ooOoo--

Code No: 242AA**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Pharmacy I Year II Semester Examinations, December-2018/ January-2019
HUMAN ANATOMY AND PHYSIOLOGY – II****Time: 3hours****Max.Marks:75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A**(25 Marks)**

- 1.a) What will happen after a mismatched blood transfusion? [2]
- b) List the functions of B cells, T cells and natural killer cells. [3]
- c) Which blood vessels supply blood to left and right atria? [2]
- d) What is Frank-Starling law of the heart? Mention its importance. [3]
- e) Which two plexuses form the enteric nervous system. Give its location. [2]
- f) Enumerate the three major salivary glands. Write its function. [3]
- g) How do kidneys remove wastes from the body? [2]
- h) List the three regions of the pharynx. Explain the role of each in respiration. [3]
- i) How do diploid and haploid cells differ? [2]
- j) What are the functions of Sertoli cells and Leydig cells? [3]

PART-B**(50 Marks)**

- 2.a) Describe the extrinsic and intrinsic pathways of blood coagulation.
 - b) Depict the steps involved in platelet plug formation. [10]
- OR**
- 3.a) Discuss haemopoiesis with a neat, labelled diagram
 - b) What is the importance of emigration, chemotaxis and phagocytosis? [10]
- 4.a) Explain the external anatomy of heart with a neat, labelled diagram.
 - b) Describe the conduction system of heart in generating an electric current. [10]
- OR**
- 5.a) Discuss the events of a cardiac cycle
 - b) With a neat, labelled diagram of an electrocardiogram, explain its clinical significance. [10]
- 6.a) Explain the physiology in production of hydrochloric acid in the stomach.
 - b) Describe the mechanical and chemical digestive processes of small intestine. [10]
- OR**
- 7.a) Discuss the digestion and absorption of carbohydrates.
 - b) Elaborate the functions of liver. [10]

- 8.a) Explain the factors affecting pulmonary ventilation
b) Describe the histology and function of respiratory membrane. [10]

OR

- 9.a) Discuss the processes involved in urine formation.
b) Describe the routes and mechanisms of tubular reabsorption and secretion. [10]

10.a) Outline the events of the uterine cycle and correlate them with the events of the ovarian cycle.

- b) Write the functions of female reproductive system. [10]

OR

11.a) Indicate the roles of FSH and LH in male reproductive system. How is the secretion of these hormones controlled?

- b) Explain the functions of seminal vesicles, prostate and Cowper's glands. [10]

--ooOoo--

Code No: 241AG

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Pharmacy I Year I Semester Examinations, September/October-2021

REMEDIAL MATHEMATICS

Time: 3 hours

Max.Marks:75

Answer any five questions
All questions carry equal marks

- - -

- 1.a) Resolve $\frac{x^2}{(x+1)(x+2)^2}$ into partial fractions.
- b) If $f:Q \rightarrow Q$ is defined by $f(x) = 5x + 4$ for all $x \in Q$, find the inverse of f . [7+8]
- 2.a) Find $\lim_{x \rightarrow 1} \frac{2x+1}{3x^2-4x+5}$.
- b) Check the continuity of the function f given by 1 and at 2 [7+8]
- $$f(x) = \begin{cases} x+1 & \text{if } x \leq 1 \\ 2x & \text{if } 1 < x < 2 \\ 1+x^2 & \text{if } x \geq 2 \end{cases}$$
- 3.a) Resolve the matrix $A = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 6 & -3 & 0 \end{bmatrix}$ into a symmetric matrix and a skew – symmetric matrix.
- b) Find the inverse of $A = \begin{bmatrix} 2 & -3 \\ 4 & 6 \end{bmatrix}$. [8+7]
4. Solve the system of equations by using Cramer's rule. [15]
- $$\begin{aligned} 3x + 4y + 5z &= 18 \\ 2x - y + 8z &= 13 \\ 5x - 2y + 7z &= 20 \end{aligned}$$
- 5.a) If $f(x) = \frac{1}{x^2+1}$ ($x \in R$), prove that f is differentiable on R and find $f'(x)$.
- b) Find the derivative of $g(x) = \sin 2x$ from the first principle. [8+7]
- 6.a) If $y = \tan^{-1} \sqrt{\frac{1-x}{1+x}}$, find $\frac{dy}{dx}$.
- b) If $y = x^{\tan x} + (\sin x)^{\cos x}$, find $\frac{dy}{dx}$. [7+8]
- 7.a) Find the slope and y intercept of the straight joining $P(1,2)$ and $Q(4,8)$.
- b) Write the intercept form of the straight line joining $(4,5)$ and $(5,4)$. [8+7]
- 8.a) Solve $\frac{dy}{dx} = \frac{x-y}{x+y}$
- b) Solve $\frac{dy}{dx} = \frac{y^2+2y}{x-1}$. [7+8]

R17

Code No: 242AD

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Pharmacy I Year II Semester Examinations, September/October-2021

PATHOPHYSIOLOGY

Time: 3hours

Max.Marks:75

**Answer any five questions
All questions carry equal marks**

- 1.a) Discuss the nuclear damage.
b) Explain the principles of wound healing. [7+8]
- 2.a) Explain chemical mediators of inflammation.
b) Discuss the adaptive changes in hypertrophy and Metaplasia. [8+7]
- 3.a) Write the pathophysiology of ischemic heart disease.
b) Discuss the pathophysiology of acute renal failure. [8+7]
- 4.a) Explain the pathophysiology of Angina pectoris.
b) Write the pathophysiology of COPD. [8+7]
- 5.a) Discuss the pathophysiology of schizophrenia.
b) Write the pathophysiology of parkinsonism. [8+7]
- 6.a) Explain the pathophysiology of megaloblastic anaemia.
b) Discuss the pathophysiology of Peptic ulcer. [8+7]
- 7.a) Write pathogenesis of gout.
b) Discuss the pathophysiology of rheumatoid arthritis. [7+8]
- 8.a) Write pathogenesis of syphilis.
b) Discuss the pathophysiology of AIDs. [7+8]

--ooOoo--

R17

Code No: 241AC

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Pharmacy I Year I Semester Examinations, September/October-2021

PHARMACEUTICS- I

Time: 3hours

Max.Marks:75

**Answer any five questions
All questions carry equal marks**

1. Write the definitions and classification of dosage forms with examples. [15]
2. Define posology and write the factors affecting posology. [15]
3. Discuss advantages and disadvantages of liquid dosage forms. [15]
4. Write notes on:
a) effervescent powders (b) efflorescent powders (c) hygroscopic powders. [5+5+5]
5. Differentiate Liniments and Lotions. [15]
6. Discuss stability problems of Emulsion and methods to overcome. [15]
7. Discuss therapeutic incompatibilities in detail with suitable examples. [15]
8. Discuss the mechanisms of dermal penetration of drugs. [15]

---ooOoo---

R17

Code No: 241AD

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Pharmacy I Year I Semester Examinations, September/October-2021

PHARMACEUTICAL INORGANIC CHEMISTRY-I

Time: 3hours

Max.Marks:75

**Answer any five questions
All questions carry equal marks**

- 1.a) Write a note on the history of Pharmacopoeia.
- b) Give principle, procedure, reactions and role of reagents involved in the limit test for Chlorides. [7+8]
2. Explain the principle and procedure involved in the limit test of arsenic with a neat labelled diagram of Gutzeit's apparatus. [15]
- 3.a) Discuss in detail the various functions of major Physiological ions.
- b) Write a note on the Electrolytes used in the replacement therapy. [8+7]
- 4.a) Give the preparation and stability of buffers.
- b) Write a note on the composition and uses of Oral Rehydration Salt. [7+8]
- 5.a) What are Antacids? Classify it with examples.
- b) Write the ideal properties of Antacids. Give the method of preparation and assay of Sodium bicarbonate. [7+8]
- 6.a) Write a note on Iodine and its preparation.
- b) Give the preparation, uses and assay of Chlorinated lime. [7+8]
- 7.a) What are astringents? Write the structure and uses of Potash Alum, Sodium nitrite
- b) Write the method of preparation, assay and uses of Ammonium chloride. [8+7]
8. Discuss the various techniques used for the measurement of radioactivity. [15]

--ooOoo--

R17

Code No: 242AB

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Pharmacy I Year II Semester Examinations, June-2019

PHARMACEUTICAL ORGANIC CHEMISTRY – I

Time: 3 hours

Max.Marks:75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A**(25 Marks)**

- 1.a) Give the IUPAC name for $(\text{CH}_3\text{CH}_2)_2\text{CHCN}$. [2]
- b) What are Homologous series? Give an example. [3]
- c) Discuss the Halogenation reactions of Alkanes. [2]
- d) Write a note on Ozonolysis. [3]
- e) Give the structure and uses of Chlorbutanol. [2]
- f) Write the factors affecting SN_1 and SN_2 reactions. [3]
- g) Give the structure and uses of Vanillin. [2]
- h) Give a note on Aldol condensation. [3]
- i) Give the structure and uses of Oxalic acid. [2]
- j) Explain the basicity of Amines. [3]

PART-B**(50 Marks)**

- 2.a) What do you understand by the term Functional group? Give the structure and names of five important functional groups.
 - b) Write the Common system of nomenclature of organic compounds. [10]
- OR**
3. Explain different types of structural isomerism with examples. [10]
 4. Explain in detail the Markownikoff's and Anti Markownikoff's orientation [10]
- OR**
- 5.a) Discuss the mechanism and kinetics in E1 and E2 reactions.
 - b) Write a note on the factors affecting E1 and E2 reactions. [10]
6. Explain in detail the reaction, kinetics, order of reactivity, stereochemistry of SN_1 reaction of Alkyl halides. [10]
- OR**
7. Give the structure and uses of the following:
 - a) Ethyl alcohol
 - b) Iodoform
 - c) Cetosteryl alcohol
 - d) Glycerol and
 - e) Chloroform. [10]

- 8.a) Explain in detail the Perkin condensation with its mechanism. [10]
b) Give the qualitative tests for carbonyl compounds. [10]

OR

9. Give the structure and uses of:
a) Hexamine
b) Cinnamaldehyde
c) Acetone
d) Paraldehyde. [10]

10. Explain the acidity of carboxylic acids and add a note on the effect of substituent's on Acidity. [10]

OR

- 11.a) Give the structure and uses of Acetyl salicylic acid and Salicylic acid. [10]
b) Write the Qualitative tests for Aliphatic amines. [10]

--ooOoo--