



**G. PULLA REDDY COLLEGE OF PHARMACY
AUTONOMOUS**

Affiliated to **Osmania University** Approved by **PCI** & Accredited by **NAAC**
Mehdipatnam, Hyderabad - 500028. Telangana State.

PHARM D FIRST YEAR REGULAR EXAMINATIONS, SEP- 2026

Subject: Human Anatomy and Physiology

Sub Code: 1.1

QP CODE: PDI01TE26

Time: 03 Hours

**Max Marks: 70
10X2 = 20M**

SECTION - A

Answer ALL Questions.

Each Question carries 02 Marks

S. No	Questions
1	Define supine and prone positions. Give one example for each.
2	Classify joints and give one example of each major type.
3	Define haemopoiesis and name the main site of haemopoiesis in adults.
4	Define stroke volume and mention its relationship with cardiac output.
5	Classify cranial nerves based on their functions.
6	Name the hormones secreted by the pituitary gland.
7	What is ECG? Mention its clinical significance.
8	Define spermatogenesis and mention its site.
9	What are the functions of lymph?
10	Define hypoxia and asphyxia.

SECTION - B

05X10 = 50M

Answer Any **05** Questions.

Each Question carries 10 Marks

S. No	Questions
11	Define Tissue? Classify epithelial tissues and write their location and function.
12	Explain the anatomy of the gastrointestinal tract and discuss the processes involved in digestion and absorption.
13	Give a detailed account of the structure of the spinal cord. Explain the mechanism of spinal reflexes.
14	Explain the anatomy and functions of the autonomic nervous system. Differentiate between sympathetic and parasympathetic nervous systems.
15	Explain the circulation of blood through the heart. Discuss the mechanisms involved in the regulation of blood pressure.
16	Give an account of the urinary system and explain the role of the kidney in maintaining acid-base balance.
17	Explain the anatomy and physiology of the eye with a neat labelled diagram. Add a note on the mechanism of vision.
18	Explain different phases of Menstrual Cycle. Give the physiological functions of Oestrogen.



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PHARM D FIRST YEAR REGULAR EXAMINATIONS, SEP- 2026

Subject: PHARMACEUTICAL ORGANIC CHEMISTRY

Sub Code: 1.4

Q.P CODE: PDI04TE26

Time: 03 Hours

Max Marks: 70

SECTION - A

10X2 = 20M

Answer ALL Questions.

Each Question carries 02 Marks

S.No	Questions
1	Define isomerism with examples
2	Write any two preparations of cycloalkanes
3	Define nucleophiles with examples.
4	Differentiate activating and deactivating groups in electrophilic aromatic substitution reactions with examples.
5	Classify dienes with examples.
6	Justify the stability of carbocation in E1 mechanism with respect to saytzeffs rule.
7	Write the structure and uses of salicylic acid and lactic acid.
8	Explain Williamson ether synthesis.
9	Explain cross canizaro reaction.
10	Explain orbital picture of orbital strain.

SECTION - B

05X10 = 50M

Answer Any **05** Questions.

Each Question carries 10 Marks

S.No	Questions
11	Explain free radical substitution reaction of alkanes.
12	Justify the stabilities of cycloalkanes with respect to Bayer strain theory and add a note on its limitations.
13	Explain in detail about the mechanism and stereochemistry of SN1 reaction.
14	Isopropyl bromide is the major product in markownikovs reaction and n-propylbromide is the major product in anti-markownikovs reaction. Justify the statement with the help of their mechanisms.
15	Explain the following a) 1,4-addition and 1,2-addition of dienes b) Friedel craft's alkylation and acylation.
16	Justify the following a) secondary amines are more basic than primary and tertiary amines b) Phenols are more acidic than alcohols.
17	Explain the following a) Claisen's condensation b) Aldol condensation.
18	Explain the bimolecular displacement mechanism of nucleophilic aromatic substitution reaction.



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PHARM D FIRST YEAR REGULAR EXAMINATIONS, SEP- 2026

Subject: PHARMACEUTICS

Sub Code: 1.2

Q.P CODE: PDI02TE26

Time: 03 Hours

Max Marks: 70

SECTION - A

10X2 = 20M

Answer ALL Questions. Each Question carries 02 Marks

S. No	Questions
1	Write a note on handling of prescription
2	Write a note on Collodions?
3	Explain about Insufflations
4	How are Explosive powders handled?
5	Define enemas with application.
6	Why are granules advantageous than powders
7	Differentiate flocculated and deflocculated suspensions
8	Classify suppository bases with examples.
9	Write notes on Sutures and Ligatures
10	Differentiate Maceration from Percolation process

SECTION - B

5X10 = 50M

Answer Any Five Questions. Each Question carries 10 Marks

S. No	Questions
11	Explain in detail about parts of Prescription.
12	Explain Development of Pharmacy Profession
13	a. Find the concentration of NaCl required to make 50 ml of 2% w/v solution of boric acid iso-osmotic with blood plasma [Freezing point of 1% w/v solution of NaCl is - 0.576 °C & Freezing point of 1% w/v solution of boric acid is -0.288 °C. 5M b. Explain any one method of preparation of effervescent granules. 5M
14	Write a brief note on the formulation of Throat paints.
15	What is displacement value in suppositories and how is it calculated. Explain with an example.
16	Describe the causes and remedies of instabilities in emulsions.
17	Write in detail about the steps involved in Maceration process.
18	Classify Chemical Incompatibilities and explain the methods to overcome chemical Incompatibility.



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PHARM D FIRST YEAR REGULAR EXAMINATIONS, SEP- 2026

Subject: PHARMACEUTICAL INORGANIC CHEMISTRY

Sub Code: 1.5

Q.P CODE: PDI05TE26

Time: 03 Hours

Max Marks: 70

SECTION - A

10X2 = 20M

Answer ALL Questions.

Each Question carries 02 Marks

S. No	Questions
1	Define accuracy and precision.
2	Describe the physiological role of Zinc as an essential trace element.
3	What is Henderson hasselbalch equation? Explain the terms.
4	Distinguish Iodometry and Iodimetry
5	Define co -precipitation and post precipitation
6	Define acid neutralizing capacity. Give formula.
7	Write the composition and uses of ORS.
8	Explain the uses of fluorides as anti caries agent.
9	Write the preparation and uses of oxygen.
10	Define sedatives and hypnotics with examples.

SECTION – B

05X10 = 50M

Answer Any **05** Questions.

Each Question carries 10 Marks

S. No	Questions
11	Explain the limit test for Arsenic with a neat labelled diagram.
12	Explain in detail about the neutralization curves.
13	Write in detail about complexometric titrations.
14	Explain various steps involved in gravimetric analysis and its pharmaceutical applications.
15	Classify antacids. Write the method of preparation and assay of calcium carbonate and magnesium hydroxide.
16	Write the method of preparation, assay and uses of sodium chloride and potassium permanganate.
17	What are radio pharmaceuticals? Mention units used for its measurement. Write the clinical applications of radio pharmaceuticals.
18	Explain the mechanism of action of antidotes used in cyanide poisoning and write the method of preparation and assay of sodium thiosulphate.



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PHARM D FIRST YEAR REGULAR EXAMINATIONS, SEP- 2026

Subject: REMEDIAL MATHEMATICS

Sub Code: 1.6

Q.P CODE: PDI06RMTE26

Time: 03 Hours

Max Marks: 70

SECTION - A

10X2 = 20M

Answer ALL Questions.

Each Question carries 02 Marks

S. No	Questions
1	Find the values of $2 \log 3 - 5 \log 2 - 3 \log 5$
2	Find the value of K, if the distance between two points (1,0) (4, k) is 5
3	If $A = \begin{bmatrix} 1 & 2 & 6 \\ 0 & 3 & 5 \\ 0 & 4 & x \end{bmatrix}$ and $\det A = 10$ then find x.
4	If $A = \begin{bmatrix} i & 0 \\ 0 & -i \end{bmatrix}$ find $\det A$ value
5	Find the value of $\sin 15^\circ$.
6	Find the derivative of function w.r.t.x. $10^x + \log x + x^4 e^x$
7	If $v = \sin(x+y)$ Find $\frac{\partial v}{\partial x}, \frac{\partial v}{\partial y}$
8	Evaluate $\int \tan x \, dx$
9	find the Laplace transform $\sin 4t \cdot \cos t$
10	Find the equation of circle passing through origin and having centre at (-2, -4)

SECTION - B

05X10 = 50M

Answer Any 05 Questions.

Each Question carries 10 Marks

S. No	Questions
11	a) If $\log\left(\frac{x+y}{3}\right) = \frac{1}{2}(\log x + \log y)$ prove that $\frac{x}{y} + \frac{y}{x} = 7$ b) Find the perpendicular distance from the points. i) (-2, -3) to the line $5x - 2y + 4 = 0$ ii) (3, 4) to the line $3x - 4y + 10 = 0$
12	a) Show that $\begin{vmatrix} 1 & a & a^2 \\ 1 & b & b^2 \\ 1 & c & c^2 \end{vmatrix} = [a - b][b - c][c - a]$ b) Solve the following system of linear equation by using matrix inverse method $2x - y + 3z = 9$, $x + y + z = 6$, $x - y + z = 2$.
13	a) If $\sec \theta + \tan \theta = \frac{1}{5}$, Find the quadrant in which θ lies and the value of $\sin \theta$. b) Show that $\sin 600^\circ \cos 330^\circ + \cos 120^\circ \sin 150^\circ = -1$
14	a) Find the derivatives $\frac{x \sin x}{\sin x + \cos x}$ b) Evaluate $\lim_{x \rightarrow 3} \frac{x^3 - 27}{x - 3}$
15	a) If $u = x^2 \sin y + y^2 \sin x$ then show that $\frac{\partial^2 u}{\partial x \partial y} = \frac{\partial^2 u}{\partial y \partial x}$



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	b) If $u = \frac{x^2(x^2 - y^2)^2}{(x^2 + y^2)^2}$ then show that $x \cdot \frac{\partial u}{\partial x} + y \cdot \frac{\partial u}{\partial y} = 4u$
16	a) Evaluate $\int x^2 \cdot \log x \, dx$ b) Evaluate $\int \frac{\sec^2 x}{\sqrt{\tan x}} \, dx$
17	a) Find the Laplace transform of $e^{-t} \cdot \sin 2t$ b) Find the Laplace transform of $t \sin at$
18	a) Find the equation of circle passing through three points (3,4), (3,2) (1,4) b) Find the centre and radius of circle $2x^2 + 2y^2 + 2x - 3y - 1 = 0$





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PHARM D FIRST YEAR REGULAR EXAMINATIONS, SEP- 2026

Subject: REMIDIAL BIOLOGY

Sub Code: 1.6

Q.P CODE: PDI06RBTE26

Time: 03 Hours

Max Marks: 70

SECTION - A

10X2 = 20M

Answer ALL Questions.

Each Question carries 02 Marks

S. No	Questions
1	Define binomial nomenclature.
2	Define fungi and give one example.
3	Write any two functions of plasma membrane.
4	What is a monocot seed?
5	Define sclerenchyma.
6	What is tap root?
7	What is inflorescence?
8	Define photosynthesis and mention its site in a plant cell.
9	What is Penicillin?
10	Name any two poisonous animals.

SECTION - B

05X10 = 50M

Answer Any **05** Questions.

Each Question carries 10 Marks

S. No	Questions
11	Explain the general organization of a plant cell and its cell inclusions
12	Write about Bentham and Hooker's classification of the plant kingdom.
13	Describe the modifications of roots and stems with suitable examples.
14	Describe the morphology of a typical leaf and explain the different types of inflorescence.
15	Describe the structure of dicot and monocot seeds with neat labelled diagrams.
16	Describe the light reactions of photosynthesis
17	Write a note on Penicillium and yeast
18	Describe the cardiovascular system of frog with a neat labelled diagram



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PHARM D FIRST YEAR REGULAR EXAMINATIONS, SEP- 2026

Subject: MEDICINAL BIOCHEMISTRY

Sub Code: 1.3

Q.P CODE: PDI03TE26

Time: 03 Hours

Max Marks: 70

SECTION - A

10X2 = 20M

Answer ALL Questions.

Each Question carries 02 Marks

S. No	Questions
1	Write the concepts of passive and active transport to explain the movement of substances across cell membranes.
2	State the biological significance of ATP.
3	Differentiate between competitive and non-competitive inhibition.
4	What are bile pigments? Name the major bile pigments.
5	Mention the hormonal regulation of blood glucose level.
6	Analyze fatty liver with respect to its causes and metabolic significance.
7	What is nitrogen balance? Mention its types.
8	What is the significance of serum sodium estimation?
9	Mention the clinical significance of serum creatinine.
10	Evaluate the significance of LDL cholesterol in lipid metabolism and cardiovascular health.

SECTION - B

05X10 = 50M

Answer Any **05** Questions.

Each Question carries 10 Marks

S. No	Questions
11	Define enzymes and explain their nomenclature and classification according to the IUB system with suitable examples.
12	Explain the pathway of glycolysis in detail. Discuss its energetics, regulation and biological significance.
13	Examine the pathway of β -oxidation of saturated fatty acids with respect to its energetics and biological significance.
14	Describe the urea cycle in detail. Explain its regulation, energetics and biological significance.
15	Evaluate the characteristics of the genetic code and apply its role in determining the sequence of amino acids in a protein.
16	Discuss the metabolism of bile pigments with reference to bilirubin formation, transport, conjugation and excretion.
17	Explain the principle, procedure and applications of Radioimmunoassay (RIA) in the determination of hormone levels and protein levels in serum.
18	Explain the physiological role of bicarbonate in maintaining acid-base balance. Discuss the significance of its determination in body fluids.