Code No.PD082411

St.Pauls College of Pharmacy

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Recognition of College under Section 2(f) of the UGC Act 1956,
UGC Autonomous Institution

Pharm.D I Year (6 YDC) (Main) Examination July/August 2024

Subject & Code: HUMAN ANATOMY AND PHYSIOLOGY & 1.1

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

PART- A

Note: Answer ALL questions **(10 x 2 = 20 Marks)**

Q.No.	Question	CO	BL
1	Draw a typical diagram of bone and mention its functions.	1	1
2	Describe the following terms: (a) Anemia (b) Thrombocytopenia	2	2
3	Describe the functions of the spleen and add note on splenomegaly.	3,5	2
4	Define the following terms: (a) Atherosclerosis (b) Arteriosclerosis	3	1
5	Define the following terms: (a) Tidal volume (b) Vital capacity	3,5	1
6	What are the auxiliary parts of the GIT and enlist the functions.	3	1
7	Illustrate the process of micturition.	3	4
8	Write about Myasthenia gravis?	6	3
9	Write about the reflex arc.	3,5	3
10	Outline different methods of contraception.	4	1,4

PART B

Note: Answer any FIVE questions **(5 x 10 = 50 Marks)**

Q.No.	Question	CO	BL
11	Explain in detail (a)Renin-Angiotensin System (b) ECG	3,5	2
12	(a) Describe the anatomical features of a nephron with the help of diagram (b) Explain in detail the various steps involved in the formation of urine.	3	2
13	Discuss in detail about the synthesis, storage, transportation of and function of the thyroid gland.	3	2
14	Describe the structure and functions of the cerebrum in detail.	3,5	2
15	Write a short note on (a) Oogenesis (b) Spermatogenesis	3,5	3
16	Describe the anatomy of the lung and write a note on transport of respiratory gases.	3,5	2
17	Define and classify various types of tissues and write a note on epithelial tissue.	1	1,2
18	Describe anatomical features of the ear and add note on the physiology of hearing.	5	2

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Pharm.D I Year (6 YDC) (Main) Examination July/August 2024

Subject: PharmaceuticalInorganicChemistry& 1.5

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

PART- A

Note: Answer ALL questions **(10 x 2 = 20 Marks)**

Q.No.	Question	CO	BL
1	Give the principle reaction of limit test for chlorine.	2	1
2	Define antacids and give any two examples.	2	1
3	Name four indicators used in the Non-Aqueous titrations with colour change.	1	1
4	Define electrolyte and give the composition of any electrolyte mixture	3	1
5	Define Normality and how do you prepare 0.1N, 250ml HCl solution.	1	4
6	Discuss difference detection methods for trace elements.	4	3
7	Discuss the mechanism of actionof Anti microbial with any one example.	4	3
8	Define complexometry and Explain the examples of metal ion indicators.	1	2
9	Explain the preparation of sodium carbonate.	2	2
10	Define Catheritics with examples.	2	1

PART B

Note: Answer any FIVE questions **(5 x 10 = 50 Marks)**

Q.No.	Question	CO	BL
11	Explain the limit test for arsenic with neat labelled diagram.	2	2
12	Discuss the different types of Neutralisation curves with examples.	1	2
13	Describe the Radio Pharmaceuticals used in Pharmacy with note of storage.	6	3
14	Explain about the miscellaneous Pharmaceutical compounds and uses.	5	3
15	Explain the estimation of Barium sulfate by gravimetry.	3	5
16	Explain the dental products and sodium flouride preparation and uses.	5	4
17	Explain the Different types of Acidifiers with examples.	2	3
18	Explain the Estimation of sodium benzoate.	1	5

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Pharm.D I Year (6 YDC) (Main) Examination July/August 2024

Subject & Code: Pharmaceutical Organic Chemistry & 1.4

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

PART- A

Note: Answer ALL questions **(10 x 2 = 20 Marks)**

Q.No.	Question	CO	BL
1	Define Isomerism? Write the classification of isomerism	2	1
2	Write the structural formula of the following compounds (a) 2,2-dichloro ethane (b) 3-chloro-3-methyl -1-butene	1	1
3	Explain the mechanism of SN1 reaction.	3	2
4	Write about acidity of carboxylic acids	2	1
5	Explain the mechanism of free radical addition reaction at carbon-carbon double bond	4	4
6	Write about 1, 2- elimination of alkyl halides.	3	1
7	Explain the acidity of phenol.	2	2
8	Write about benzoin condensation	6	2
9	Explain the concept involved in basicity of amines	2	3
10	Write the structure and uses of Chlorbutol and salicylic acid	7	1

PART B

Note: Answer any FIVE questions **(5 x 10 = 50 Marks)**

Q.No.	Question	CO	BL
11	(a) What are cycloalkanes? Explain Bayers strain theory for stability of cycloalkanes (b) Compare between SN1 reaction and SN2 reaction	3	2 5
12	Explain the reaction, mechanism and stereochemistry of E2 reaction	4	2
13	Explain the orientation and reactivity of free radical addition to conjugated dienes.	4	3
14	(a) Explain the mechanism of friedel craft alkylation (b) Explain the effect of halogen on electrophilic aromatic substitution in alkyl benzene.	3	1 2
15	Write the mechanism of nucleophilic addition reaction of carboxylic acid	4	2
16	Write the preparation , assay and uses of (a) Tartaric acid (b) benzyl benzoate (c) Vanillin	7	2
17	Write the mechanism involved in the following; (a) Perkin condensation (b) Michael addition.	6	2

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Pharm.D I Year (6 YDC) (Main) Examination July/August 2024

Subject: Medicinal Biochemistry & 1.3

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

PART- A

Note: Answer ALL questions **(10 x 2 = 20 Marks)**

Q.No.	Question	CO	BL
1	Define Michaelis Menton constant and give its significance	1	1
2	Discuss briefly about Gluconeogenesis	2	2
3	Summarize on water balance and electrolyte distribution in body	6	2
4	Write a short note on Oxidative phosphorylation.	3	3
5	List out the abnormal constituents of urine and give test procedures for identification of any two of them.	5	1
6	Define Genetic code and give their characteristic features	4	1
7	Write briefly on facilitated diffusion across membranes.	1	3
8	Give protocol for estimation of total serum cholesterol and give desirable and risk levels of serum non-HDL-Cholesterol.	7	5
9	Illustrate the role of insulin and glucagon on regulation of carbohydrate metabolism	2	4
10	Discuss briefly on Malfunction of a cell.	5	2

PART B

Note: Answer any FIVE questions **(5 x 10 = 50 Marks)**

Q.No.	Question	CO	BL
11	a. Write the Nomenclature and IUB classification of enzymes. b. Explain about the different Enzyme inhibitions with suitable examples	1	1 2
12	Explain about β – oxidation of saturated fatty acids	2	2
13	Discuss the events taking place at the DNA replication fork and add a note on the DNA repair mechanisms.	4	2
14	Describe RIA and ELISA with suitable applications	7	2
15	Demonstrate Krebs's cycle and its significance. Add a note on energetic.	8	6
16	Explain ETC and brief out on its inhibitors.	3	2
17	Write a short note on the following: a. Enlist liver function tests and discuss the significance of the **selected enzyme tests** in the diagnosis of Liver diseases. b. Write the reactions of HMP shunt and illustrate the significance of its metabolites.	 5 2	 1 4
18	a. Discuss the composition and functions of Lipoproteins. Add a short note on Hypercholesterolemia b. Brief out on determination of serum sodium and potassium in body fluids	7 6	2 5

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Pharm.D I Year (6 YDC) (Main) Examination July/August 2024

Subject & Code: PHARMACEUTICS & 1.2

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

PART- A

Note: Answer ALL questions **(10 x 2 = 20 Marks)**

Q.No.	Question	CO	BL
1	What is inscription? Write its importance.	1	4
2	Define the term Tachyphylaxis.	2	6
3	Name the editions of Indian Pharmacopoeia	3	5
4	Define proof spirit. Discuss its importance	2	3
5	Define suspension and discuss various types of suspensions.	4	4
6	What is phase inversion in emulsion? How do you prevent?	1	1
7	What are humectants?	4	2
8	What is displacement value? Discuss with formula.	3	2
9	What is antagonism?	2	2
10	Define nasal drops.	1	1

PART B

Note: Answer any FIVE questions **(5 x 10 = 50 Marks)**

Q.No.	Question	CO	BL
11	Write in detail about U.S. pharmacopoeia.	3	1
12	Discuss about handling of prescription and sources of errors in prescription.	1	
13	Classify Powders. Write in detail about effervescent and efflorescent powders with examples.	1	2
14	Classify liquid dosage forms. Differentiate between gargles and mouthwash.	1	1
15	Define suspension. Write a note on method of preparation of suspension.	1	2
16	Define maceration. Discuss on different types of maceration.	1	3
17	What are the evaluation methods of suppositories?	1	3
18	Discuss in detail about chemical incompatibility.	6	1

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Pharm.D 1Year (6 YDC) (Main) Examination July/August 2024

Subject& Code: Remedial Mathematics 1.6M

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

PART- A

Note: Answer ALL questions **(10 x 2 = 20 Marks)**

Q.No.	Question	CO	BL
1	If $\begin{vmatrix} x & 4 \\ 4 & x \end{vmatrix} = 0, find\ x.$	3	1
2	Find the value of $\cos 15^{\circ}$.	3	2
3	Find the equation of the line whose slope is 16 and intercepts with the y-axis is 1.	1	2
4	State Euler's theorem on homogeneous functions of two variables.	4	1
5	Evaluate $\int_1^2 x^2 dx.$	4	1
6	Write the order and degree of the differential equation $5\frac{dy}{dx} = 7 - y(\frac{dy}{dx})^3.$	1	2
7	Define the linearity property.	5	1
8	Find the distance between the points (2,8) and (-1,5).	3	3
9	If $\begin{bmatrix} 5 & 4 \\ 1 & 2 \end{bmatrix}$ show that $A^2 - 7A + 6I = 0.$	3	2
10	Find the Laplace transform of $sin2tcost.$	5	3

PART B

Note: Answer any FIVE questions **(5 x 10 = 50 Marks)**

Q.No.	Question	CO	BL
11	If $A = \begin{bmatrix} 3 & 4 & 5 \\ 1 & 2 & 0 \\ 5 & 1 & 1 \end{bmatrix}$, then find A^{-1}.	3	2
12	If $\sin A = \frac{3}{5}, \cos B = \frac{9}{41}$, then find the value of $\sin(A-B)\ and\ \sin(A+B).$	3	2
13	Find the equation of the line passing through the point (1, 1) and perpendicular to the line passing through the points (3, 5) and (-6, -2).	1	3
14	Find $\frac{\partial u}{\partial x}\ and\ \frac{\partial u}{\partial y}$ for $u = e^x(sinxy + cosxy).$	4	2
15	a) Find $\int x^2 e^x\, dx.$ [5M]	4	1
	b) Evaluate $\int_0^{\pi} xsinxdx.$[5M]	4	2
16	a) Solve the differential equation $\frac{dy}{dx} = \frac{x^2+y^2}{2xy}.$ [5M]	1	3
	b) Form the differential equation from the equation $x^2 + y^2 = 4ax$, 'a' being arbitrary constant. [5M]	1	2
17	Find Laplace transform of $e^{-3t}(cos4t + 3sin4t).$	5	3
18	Solve the equations $x + 2y - 2z = 3, 2x - 5y + 4z = -4, 4x - y + 3z = 5$ by using Cramer's rule.	2	3

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Pharm.D I Year (6 YDC) (Main) Examination July/August 2024

Subject & Code: Remedial Biology

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

PART- A

Note: Answer ALL questions **(10 x 2 = 20 Marks)**

Q.No.	Question	CO	BL
1	What is pollination and give its importance	1	2
2	Write a note on inflorescence	1	1
3	Write short notes on plant tissues	1	3
4	Give the functions of plasma membrane	1	2
5	Explain about metamorphosis	1	4
6	Explain the structure of neuron	1	3
7	Write about morphology of a leaf	1	2
8	Write about tadpole	4	1
9	Write about yeast	4	3
10	Write a note on simple fruits	2	4

PART B

Note: Answer any FIVE questions **(5 x 10 = 50 Marks)**

Q.No.	Question	CO	BL
11	Write about the study of classes Pisces and Aves	6	1
12	Describe the circulatory system of frog	5	3
13	Explain about absorption of water and minerals in plants	1	2
14	Write in detail about Study of animal tissues?	5	4
15	Describe the economic importance and medicinal values of Solanaceae and Leguminosae	3	2
16	Describe the structure of monocot and dicot root with a neat labelled diagram	1	5
17	Explain in detail about poisonous animals	6	2
18	Illustrate the light reactions of photosynthesis	1	4

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