

Printing Pages : 2

Paper Code : Pharm.D-101 A (SVSU:2022-23/R)

Enrollment No.

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PHARM. D

IST YEAR ANNUAL EXAMINATION

Human Anatomy and Physiology (Pharm D 101T)

[Time : 3:00 Hours]

[Max. Mark-70]

Q No1 Multiple Choice Question: Answer All Questions

[1×14=14]

- a) Ligament is:
 - (a) Modified yellow elastic fibrous tissue
 - (b) Inelastic white fibrous tissue
 - (c) Modified white fibrous tissue
 - (d) None of the above
- b) Which one of the following organelles digests the old organelles that are no longer useful to the cells?
 - (a) Ribosomes
 - (b) Mitochondria
 - (c) Lysosomes
 - (d) Chromatin
- c) The ligaments join:
 - (a) Muscle to muscle
 - (b) Muscle to bone
 - (c) None of these
 - (d) Bone to bone
- d) Tibia is a bone found in the:
 - (a) Skull
 - (b) Face
 - (c) Leg
 - (d) Arm
- e) Which of the following term describe production of RBCs?
 - a. Anabolism
 - b. Catabolism
 - c. Erythropoiesis
 - d. Homeostasis
- f) Which of the following is not required for blood clot formation?
 - a. Vitamin K
 - b. Calcium
 - c. Plasmin
 - d. Fibrinogen
- g) Spleen is called " Grave yard" of:
 - a) WBC
 - b) Platelets
 - c) RBC
 - d) Thrombocytes
- h) The first cranial nerve is:
 - a) Optic
 - b) Olfactory
 - c) Oculomotor
 - d) Trigeminal
- i) Which of the following substance that aids the transmission of nerve impulses to the muscles?
 - a. Acetylcholine
 - b. Deoxyribose
 - c. Ribose
 - d. Oxytocin
- j) Which of the following is master gland of endocrine system
 - a. Adrenal
 - b. Pancreas
 - c. Renal
 - d. Pituitary
- k) Decrease in Total WBC count is:
 - a) Thrombocytosis
 - b) Thrombocytopenia
 - c) Leukemia
 - d) Leukocytosis

- l) Define Physiology.
- m) Innermost layer of Uterus is.....
- n) First Menstrual Cycle also known as.....

Q No2 (Short question)Answer any Eight **[3.5×8=28]**

- a. Write about ABO blood group system.
- b. Write detailed Classification of Tissue.
- c. Write about Hypertension. Discuss its management.
- d. Write a Note on Type of Bones with example.
- e. Enlists Cranial Nerves and its Function.
- f. Write about Contraceptive Devices.
- g. Draw well labeled Diagram of Eye.
- h. Draw well labeled Diagram of Skin.
- i. Write a note on "Drugs and Athletics".
- j. Draw the neat and labeled diagram of Cell

Q No 3 (Medium question)Answer any Two **[7×2=14]**

- a. Write a Note on "Renin Angiotensin System".
- b. Write in Detail about Male Reproductive System.
- c. Discuss the anatomical part that support Breathing.

Q No 4 (Long question)Answer any One **[1×14=14]**

- a. Draw neat and labeled diagram of Heart. Explain conduction system of Heart.
- b. Discuss Hormones Secreted from Pituitary Gland.

Printing Pages : 2

Paper Code : Pharm.D-102

A (SVSU:2022-23/R)

Enrollment No.

PHARM. D

First Year Annual Examination

Subject Name: Pharmaceutics (Pharm.D 102)

[Time: 3:00 Hours]

[Max. Marks: 70]

Q1. Attempt ALL questions.

(1X14=14)

- a) Young's rule for dose calculation is based on
 - (i) Age (ii) Weight (iii) Surface area (iv) All
- b) Syrups are solutions of in water or other vehicles.
 - (i) Sugar (ii) Talc (iii) Both (i) & (ii) (iv) None.
- c) In prescription signatura means
 - (i) Direction to patient (ii) Direction to pharmacist
 - (iii) Direction to physician (iv) None of the above
- d) Calculate the does for a child weighing 75 lbs if the adult dose is 300 mg.
 - (i) 100 mg (ii) 150 mg (iii) 200 mg (iv) 250 mg
- e) Conversion of powder to granules
 - (i) Enhances flow property (ii) Increases density
 - (iii) Improve tableting property (iv) All of these
- f) "Shake well before use" is generally written on
 - (i) Tablets (ii) Solutions (iii) Emulsion (iv) None
- g) First I.P. was published in
 - (i) English (ii) Hindi (iii) Tamil (iv) Latin
- h) In posology average body surface area for adult is m²
 - (i) 1.53 (ii) 1.73 (iii) 2.73 (iv) 1.37
- i) Which of the following gelling agent is used in preparation of Unna's paste?
 - (i) Tragacanth (ii) Pectin (iii) Gelatin (iv) Sodium alginate
- j) Which of the following gelling agent resist the bacterial attack?
 - (i) Starch (ii) Cellulose derivatives
 - (iii) Sodium alginate (iv) None of these
- k) Angle of repose is used to find
 - (i) Flow of powder (ii) Flow of water (iii) Wind flow (iv) All
- l) During weighing weights are removed by
 - (i) Hand (ii) Forceps (iii) Paper (iv) Fingers

m) Citric acid is used to in effervescent granules.

(i) To provide water of crystallization (ii) To impart acidic taste

(iii) Both (i) & (ii)

(iv) None of the above

n) Which one of the dosage form is used to treat throat infection?

(i) Linctus (ii) Elixir

(iii) Gargle

(iv) Emulsion

Q2. Answer any EIGHT questions.

(3.5X8=28)

a) What is drug interaction? Give the difference between intentional or unintentional drug interactions.

b) What is powder? Classify different types of powder with suitable example.

c) Write any two formula used for calculate the dose.

d) Define suppositories? Add a note on suppository base.

e) What is suspension? Differentiate flocculated and deflocculated suspension.

f) Define menstrum with suitable examples.

g) What will be the present strength of alcohol corresponding to 50 O.P.?

h) Define syrup and also give the advantage and disadvantage of pharmaceutical syrup.

i) Write the name of any four Indian pharmaceutical industries.

j) Define emulsion. Explain different identification test for emulsion.

Q3. Answer any TWO questions.

(7X2=14)

a) Explain in detail about prescription. How will you handle the prescription

b) Define the following terms

(i) Throat paint

(ii) Mouth washes

(iii) Nasal drop

(iv) Ear drop

c) What are the factors affecting choice of an Extraction Process?

Q4. Answer any ONE question.

(14X1=14)

a) Write about British Pharmacopoeia.

b) Discuss brief about history of pharmacy.

Printing Pages :2

Paper Code : Pharm.D-103

B (SVSU:2022-23/R)

Enrollment No.

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PHARM. D

IST YEAR EXAMINATION

MEDICINAL BIOCHEMISTRY (PHARM D 103)

[Time : 3:00 Hours]

[Max. Mark-70]

Q No1 Multiple Choice Question: Answer All Question | 1×14=14|

- a. Which of the following organic groups are found in naturally occurring amino acids?
A. Guanidinium ion B. Indole C. Imidazole D. All of these
- b. The pH of a solution is determined by
A. concentration of salt
B. relative concentration of acids and bases
C. dielectric constant of the medium
D. environmental effect
- c. Molecules in which the atoms are held together by _____ bonds have the strongest chemical linkages.
A. noncovalent B. covalent C. ionic D. hydrogen
- d. What is the product of the catabolic breakdown of Arginine?
A. Alpha-ketoglutarate B. Fumarate C. Oxaloacetate D. Succinate
- e. An essential amino acid is one that
A. is essentially easy to synthesize
B. essential to flagella motion
C. body can't synthesize
D. body synthesizes under essential conditions
- f. D-Alanine and L-Alanine are technically known as
A. anomers B. enantiomers C. epimers D. polymer
- g. Amino acids required in human diet & not synthesized by body are called
A. specialized B. trace C. essential D. accessory
- h. Which of the following is not part of the vertebrate immune system?
A. Lymphocytes B. Antibodies
C. Cardiac glycosides D. Lymph nodes
- i. The protein, produced by B cells that binds to a specific antigen is
A. phagocyte B. leukocyte C. vaccine D. antibody
- j. The competitive immunoassay can be used
A. to detect very small amounts of antigen
B. to detect antibody associated with allergies (IgE)
C. both (a) and (b)
D. none.

- k. What is the ELISA test intended to measure?
A. Antibody to HIV only B. Antigen to HIV only C. both D. none
- l. Which of the following radioactive element is generally involved in RIA?
A. Tritium B. Carbon-14 C. Iodine-125 D. All of these
- m. Where in a eukaryotic cell, DNA can be found?
A. Nucleus B. Mitochondrion C. Vacuole D. Both (a) and (b)
- n. Which of the following are responsible causing the diseases?
A. Pathogens B. T cells
C. Lymphocytes D. Macrophages

Q No2 (Short question) Answer any Eight [3.5×8=28]

- a. What is the role of carnitine in fatty acid metabolism?
- b. Name the bile salts and give their significance.
- c. What is alkaptonuria?
- d. What is tyrosinemia?
- e. Define nucleosides and nucleotides.
- f. Explain about the HMP pathway with its significance.
- g. Write down the note on hormonal regulation of blood glucose level.
- h. Name the enzyme present in DNA replication with its significance.
- i. Define energy rich compounds with example.
- j. Define carbohydrates. Classify with example and their biological significance.

Q No 3 (Medium question) Answer any Two [7×2=14]

- a. Explain different types of RNA.
- b. Describe the double helical structure of DNA.
- c. Write the formation of ketone bodies in the body.

Q No 4 (Long question) Answer any One [14×1=14]

- a. Define enzyme, IUB classification of enzymes, enzyme inhibitors and discuss different types of enzyme inhibitions.
- b. Describe Urea cycle and explain liver function test with examples.

Printing Pages :2

Paper Code :Pharm.D-104

C (SVSU:2022-23/R)

Enrollment No.

PHARM. D

IST YEAR EXAMINATION

Subject Name (Pharmaceutical organic chemistry [Pharm.D104])

[Time : 3:00 Hours]

[Max. Mark-70]

Q No1 Multiple Choice Question: Answer All Question [1×14=14]

- a. Which statement is not true of nucleophilic substitution reactions?
 - a. SN1 proceeds through a cation intermediate.
 - b. SN2 occurs with inversion of stereochemistry.
 - c. Rates of both SN1 and SN2 increase with higher concentration of the nucleophile.
 - d. Rate of both SN1 and SN2 increase with higher concentrations of the nucleophile.
 - e. Rates of both SN1 and SN2 increase with higher concentrations of RX.
- b. The oxidation number of sulfur in H₂SO₃ is
 - a. +1
 - b. +2
 - c. +3
 - d. +4
- c. The halide ion is an extremely _____ .
 - a) Weak base
 - b) Weak acid
 - c) Strong base
 - d) Strong acid
- d. In an electrochemical cell (voltaic), the anode is:
 - a. the electrode at which reduction occurs.
 - b. the electrode at which electrons are produced
 - c. the positive electrode
 - d. all of the above
- e. Which step in SN1 reaction is a slow rate determining step?
 - a) Attack of nucleophile
 - b) Formation of a racemic mixture
 - c) Formation of a transition state
 - d) All of the mentioned
- f. In which substance does sulfur have a negative oxidation number?
 - a. Na₂S
 - b. CaSO₄
 - c. S
 - d. SO₂
- g. Which atom forms an ion that would migrate toward the cathode in an electrolytic cell?
 - a. Na
 - b. F
 - c. I
 - d. Cl .
- h. Which of the following compounds can show geometrical isomerism?
 - a) 2-pentene
 - b) 1,3-dibromocyclobutane
 - c) 1,1,2-trichloropropene
 - d) 2-methyl-3-heptene
- i. The stereoisomers which are not mirror images of each other are called as.....
 - a) Epimers
 - b) Conformers
 - c) Diastereomer
 - d) None of these
- j. The carbon atom having four different substituents is called as.....
 - a) Chiral carbon
 - b) Good carbon
 - c) Bad carbon
 - d) symmetric carbon

- k. Which of the following type of isomer contain similar group on same side of the double bond
 a) Cis b) Trans c) Eclipsed d) Staggered
- l. Which one of the following possess highest melting point?
 a) Chlorobenzene b) o-dichlorobenzene
 c) m-dichlorobenzene d) p-dichlorobenzene
- m. The reactivity order of alkyl halides in S_N2 is _____
 a) $CH_3X > 1^\circ > 2^\circ > 3^\circ$ c) $CH_3X > 3^\circ > 1^\circ > 2^\circ$
 b) $CH_3X > 2^\circ > 1^\circ > 3^\circ$ d) $CH_3X > 3^\circ > 2^\circ > 1^\circ$
- n. Identify the oxidizing agent in the following reaction:
 $2Na + 2H_2O \rightarrow 2NaOH + H_2$
 a. Na b. H_2O c. NaOH d. H_2

Q No2 (Short question) Answer any Eight [3.5×8=28]

- Discuss on the mechanism, kinetics and stereo chemistry of Aliphatic nucleophilic substitution with suitable examples.
- Elaborate on the free radical halogenations reaction in alkenes. Compare free radical substitution with free radical addition
- Explain the following reactions:
 a) Fries Rearrangement. b) Reimer - Tiemann reaction.
- Differentiate $E1$ and $E2$ reaction.
- Describe briefly about Baeyer strain theory by depicting the orbital picture of angle strain of various cyclo alkanes.
- Explain the mechanism and reaction involved in
 a) Sandmeyer's reaction. b) Hofmann rearrangement.
- Explain the activating and deactivating O, P, and M directing groups in the aromatic compounds.
- What is Aldol condensation? Explain its mechanism
 What is hybridization? Write a note on sp^3 hybridization in alkanes
- Define and classify carbocations. Write a note on stability of them.
- Explain Markonikov and Antimarkonikov rule.

Q No 3 (Medium question) Answer any Two [7×2=14]

- Give the preparation, assay and use of Lactic acid and Ethyl benzoate.
- What is resonance and hyper conjugation? Add salient features on the resonance stabilization of allyl radicals
- Define oxidation. Write a note on the types of oxidizing agents with examples.

Q No 4 (Long question) Answer any One [14×1=14]

- What are addition reactions? Explain the mechanism of electrophilic and free Radical addition reactions of alkenes with the suitable example
- Explain kinetics, mechanism, stereochemistry and reactivity of S_N1 , reaction.

Printing Pages : 2

Paper Code : Pharm.DM-106

C (SVSU:2022-23/R)

Enrollment No.

PHARM. D
1ST YEAR ANNUAL EXAMINATION
SUBJECT: REMEDIAL MATHEMATICS
(CODE: Pharm.DM106)

[Time : 3:00 Hours]

[Max. Marks : 70]

Q1. Long Question : Answer Any ONE

[14×1=14]

a Solve the equation using Cramer's rule.

$$x-3y+z=2, \quad 3x+y+z=6, \quad 5x+y+3z=3$$

b Prove that $\int_0^{\pi/2} \frac{1}{1+\sqrt{\cot x}} dx = \pi/4$ **Q2.. Medium Question: Answer any eight**

[7×2=14]

a Solve $dy/dx = e^{y+x} + e^y x^2$.b Evaluate $\int_0^{\pi/2} \frac{1}{1+\tan x} dx$.c if $A = \begin{bmatrix} 2 & 5 \\ 7 & 1 \end{bmatrix}$, $B = \begin{bmatrix} 3 & -2 \\ 5 & 4 \end{bmatrix}$, Find AB and BA.

d Find the slope and the equation of the straight line joining the points (2, -5) and (4, 1).

Q3.. Short Question: Answer any eight

[3.5×8=28]

a Define the determinant of $\begin{vmatrix} 2 & 4 \\ 4 & -2 \end{vmatrix}$.

b Explain the square and identity matrix with example.

c Evaluate $L[e^{2t}]$.d Find $\lim_{x \rightarrow 1} \left(\frac{x^3 - 1}{x - 1} \right)$.e If $f(x) = x^2 + 3$, then find $f(0)$.f Find the vertex and focus of a parabola $y^2 = 4ax$.g Find the differential coefficient of $7x^7$.h If $A = \begin{bmatrix} 3 & 7 \\ 5 & 10 \end{bmatrix}$, find A^{-1} .i Evaluate $\int_0^2 \frac{dx}{x-1}$.j If $\begin{vmatrix} 6x & 8 \\ 6 & 4 \end{vmatrix} = 0$, find the value of x.

- Q4. Multiple choice question.(Answer all) [1×14=14]**
- i The integration of x is equal to
 a) $x^2/2 + c$ b) $x+c$ c) $x^3/3 + C$ d) none
- ii Differentiation of $\sin x$
 a) $\cos x$ b) $-\sin x$ c) $\sec^2 x$ d) $\cot^{2x}$
- iii Determinant is a
 a) Vector b) Scalar c) Quantity d) none
- iv Let $f(x) = x^2+2$, then $f(2)$ is equal to
 a) 0 b) 2 c) 3 d) none
- v $L(t)$ is equal to-----
 a) $1/s$ b) 1 c) $1/s^2$ d) none
- If A and B are matrices of same order, then $A+B = B+A$ is called
 a) commutative law b) distributive law
 c) both a and b d) none
- vii A matrix A is said to be singular matrix if its determinant
 a) $|A| \neq 0$ b) $|A| = 0$ c) both a and b d) none
- viii $\int \tan x \, dx$ is equal to
 a) $\log \sec x + c$ b) $\log \tan x + c$ c) $\tan x + c$ d) none
- ix The matrix is a
 a) Quantity b) vector c) scalar d) none
- x $L[1]$ is equal to
 a) 2 b) $1/5$ c) $2/5$ d) none
- xi Differentiation of $\log x$
 a) 1 b) $1/x$ c) $\log x$ d) none
- xii Let $f(x) = -x^2+3$, then $f(1)$ is equal to
 a) 0 b) 3 c) 2 d) none
- xiii In a triangle ABC , if angle $A = 60^\circ$ and angle $B = 60^\circ$, then angle C is equal to
 a) 60° b) 50° c) 30° d) none
- xiv Radius of the given circle $x^2 + y^2 = 25$ is
 a) 3 b) 36 c) 5 d) 0

Printing Pages : 2

Paper Code : Pharm.DB-106

C (SVSU:2022-23/R)

Enrollment No.

PHARM. D

First Year Annual Examination

Subject Name: Remedial Biology (Pharm.DB 106)

[Time: 3:00 Hours]

[Max. Marks: 70]

Q1. Attempt ALL questions.

(1X14=14)

- a) Who was the father of DNA fingerprinting?
 (i) James Watson (ii) Hargobind Khurana
 (iii) Alec Jeffreys (iv) Nirenberg
- b) In which year Anton van Leeuwenhoek first observed yeast.
 (i.) 1685 (ii.) 1700 (iii.) 1680 (iv.) 1785
- c) Which juice secreted by the organs in the alimentary canal plays an important role in the digestions of fats?
 (i) Pancreatic juice, saliva (ii) Hydrochloric acid, mucus
 (iii) Bile juice, pancreatic juice (iv) Saliva, hydrochloric acid
- d) Study of cultivating fruit is called
 (i) Mycology (ii) Pomology
 (iii) Dendrology (iv) Paleobotany
- e) Bile juice is formed in the
 (i) Kidney (ii) Salivary gland (iii) Liver (iv) Lung
- f) Vascular tissues consist of
 (i). Xylem (ii.) Phloem (iii.) Both (iv.) None
- g) The cell wall of a plant is composed of:
 (i) Cellulose (ii) Carbohydrates
 (iii) Lipids (iv) Lipoprotein
- h) Outermost layer of the fruit is called
 (i) Testa (ii) Mesocarp
 (iii) Fruit Coat (iv) Exocarp
- i) The outer whorl is called the and consists of the sepals.
 (i) Calyx (ii) Corolla
 (iii) Androecium (iv) Gynoecium
- j) Which of the following organism breathes from skin?
 (i) Snake (ii) Earthworm
 (iii) Monkey (iv) Humans
- k) In which stage of meiosis does synapsis take place?
 (i) Leptotene (ii) Zygotene
 (iii) Pachytene (iv) Metaphase I
- l) The flexibility in plants is due to a tissue called
 (i) Parenchyma (ii) Collenchyma
 (iii) Sclerenchyma (iv) None of these

- m) Cell wall of fungi is made up of
(i) Chitin (ii) Amino acid
(iii) Cellulose (iv) Polysaccharide
- n) Who introduced 5 kingdoms of classification
(i) Robert Whittaker (ii) William Harvey
(iii) Galen (iv) None of the above

Q2. Answer any EIGHT questions. (3.5X8=28)

- What is translocation. Explain vascular tissues.
- Define Inflorescence. Explain the types of seed dormancy
- Write a short note on fungi.
- Give a brief note on placentation.
- Draw a neat labeled diagram of a plant cell.
- Explain the stem and its types.
- What are the functions of roots. Elaborate on types of roots
- Explain Gymnosperm.
- Explain the term biology. Give a brief history of biology.
- Write a short note on vascular plant organs.

Q3. Answer any TWO questions. (7X2=14)

- Explain about respiratory system of a frog.
- Differentiate between:-
 - Androecium and Gynoecium
 - Monocot and Dicot Plants
- Explain pollination and types of pollination.

Q4. Answer any ONE question. (14X1=14)

- Discuss briefly about tissues and explain its types.
- Write a detailed note on general organization of mammals.