MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR PHARM. D. DEGREE EXAMINATION - JULY 2018
SUBJECT: PHA 1.1T: HUMAN ANATOMY AND PHYSIOLOGY
(REVISED REGULATION 2014)
Tuesday, July 17, 2018 (10.00 - 13.00)

Answer ALL the questions.
Draw a labeled diagram wherever necessary.

Marks: 70 **Duration: 180 mins.**

1. Long Answer Questions.

1A) Discuss the six major function of skeletal system. Explain the anatomy of long bone. (10)
(6+4 = 10 marks)

1B) Describe the anatomy of an eye ball. List the accessory structures of eye and their functions. (10)
(7+3 = 10 marks)

1C) Identify and explain the location and regulation of respiratory centers in brain. (10)
(2+2+6 = 10 marks)

2. **Short answer questions:**

2A) Describe the nistology of spleen. (5)

2B) Draw a labelled ECG and correlate it with the cardiac cycle. (5)

2C) Describe the functions and components of blood. Explain the role of testosterone in regulating hematocrit. (5)
(2+2+1 = 5 marks)

2D) What are the properties of muscular tissue? Draw a schematic representation of skeletal muscle fiber. (5)
(2+3 = 5 marks)

2E) Write a note on types of papillae for gustation. Draw a scheme for gustatory pathway. (5)

2F) Explain the mechanism of action of steroid hormones. (5)

3. **Give reasons for the followings:**

3A) Type of cell junction is crucial in retarding or allowing the passage of substances between the cells. (2)

3B) Gastric acid, chemically digests the food, but does not digest the stomach wall. (2)

3C) Summation is absent in neuronal action potential. (2)

3D) Hormones can influence blood pressure. (2)

3E) The following sequence of hormones is not correct: CRH→TSH→ T4→T3. (2)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR PHARM. D. DEGREE EXAMINATION - JULY 2018
SUBJECT: PCE 1.2T: PHARMACEUTICS
(REVISED REGULATION 2014)
Thursday, July 19, 2018 (10.00 - 13.00)

Answer ALL the questions.

Marks: 70 **Duration: 180 mins.**

1. Long Answer Questions.

1A)	Define and classify chemical incompatibility with examples.	(10)
1B)	Continuous hot percolation process.	(10)
1C)	Explain the fusion method to prepare suppositories.	(10)

2. **Short answer questions:**

2A)	Write on Theobroma oil and its uses.	(5)
2B)	Discuss briefly the deflocculated suspensions.	(5)
2C)	Write any five differences between lotion and liniment.	(5)
2D)	Write a short note on tooth powders.	(5)
2E)	Adult dose of a drug is 550 mg. Calculate the dose for 7 years old child using Younger's formula.	(5)
2F)	Prepare 500 mL of 45% v/v alcohol from 75% v/v and 10% v/v alcohols.	(5)

3. **Give reasons for the following:**

3A)	Prescriber's signature, license number and date are required in the prescriptions containing narcotic drugs. Why?	(2)
3B)	Why the tetracycline should not be taken with the milk?	(2)
3C)	Why coalescence in emulsions is irreversible?	(2)
3D)	Chromic salts are used in the manufacturing of catgut. Why?	(2)
3E)	Patient history is an important factor in posology. Why?	(2)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR PHARM. D. DEGREE EXAMINATION - JULY 2018
SUBJECT: PBT 1.3T: MEDICINAL BIOCHEMISTRY
(REVISED REGULATION 2014)
Monday, July 23, 2018 (10.00 - 13.00)

Answer ALL the questions.
Draw neat labeled diagrams wherever necessary.

Marks: 70 **Duration: 180 mins.**

1. Long answer questions:

1A) Give the synonyms of HMP pathway and justify the names. Explain the pathway and add a note on the significance of NADPH. (10)

1B) Explain the steps involved in cholesterol biosynthesis. (10)

1C) Describe the following with respect to nucleic acid metabolism: (10)
i) Salient features of Watson and Crick model of DNA.
ii) Mutations and its consequences.

2. **Short answer questions:**

2A) With respect to enzymes, explain the various types of reversible inhibition. (5)

2B) Define Porphyria. Classify them and enlist the characteristics of most common porphyria. (5)

2C) Show how catabolism of nucleotides produce uric acid. Add a note on tophi. (5)

2D) What are immunochemical tests? Elaborate on competitive ELISA. (5)

2E) Explain van den Bergh test with respect to reagent, reaction and interpretation of result. Add a note on obstructive jaundice. (5)

2F) Sketch the components of electron transport chain and explain the process. (5)

3. **Give reasons for the following:**

3A) Brown adipose tissue conserves heat in hibernating animals. (2)

3B) Clearance tests indicates glomerular function. (2)

3C) Disturbance of acid base balance can result in disorders. (2)

3D) Zak's method can be used to estimate serum total cholesterol. (2)

3E) Cause of black urine disease. (2)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR PHARM D. DEGREE EXAMINATION - JULY 2018
SUBJECT: PHARMACEUTICAL ORGANIC CHEMISTRY (PCH 1.4T)
(2014 REGULATION)
Wednesday, July 25, 2018 (10.00 - 13.00)

Answer ALL the questions.

Marks: 70 **Duration: 180 mins.**

Long Answer Questions:

1A)	Explain, along with mechanism, nitration of toluene.	(8)
1B)	What are intermolecular forces? Mention few examples.	(2)
2A)	Discuss in detail about nucleophilic substitution in allylic substrates.	(7)
2B)	Write a note on hyperconjugation in alkenes.	(3)
3)	Give the method of preparation, assay and uses of the following: a) Dimercaprol b) Lactic acid	(10)

4. **Short Answer Questions:**

4A)	Explain sandmeyer's reaction with mechanism.	(5)
4B)	Explain addition elimination mechanism of nucleophilic aromatic substitution reactions.	(5)
4C)	Discuss the mechanism of enamine formation.	(5)
4D)	Explain the free radical mechanism of allylic bromination using NBS.	(5)
4E)	Write the mechanism and stereochemistry of SN_2 reactions.	(5)
4F)	What is Hoffman rearrangement? Explain with mechanism.	(5)

5. **Give Reasons for the Following:**

5A)	The boiling point of methane is much lower than that of hydrogen fluoride.	(2)
5B)	Tertiary carbocations are more stable than secondary carbocations.	(2)
5C)	Cyclohexane is more stable than cyclobutane.	(2)
5D)	Acetaldehyde do not answer Cannizaro's reaction.	(2)
5E)	Chloroacetic acid is more acidic than acetic acid.	(2)

MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR PHARM. D. DEGREE EXAMINATION - JULY 2018
SUBJECT: PCH 1.5T: PHARMACEUTICAL INORGANIC CHEMISTRY
(REVISED REGULATION 2014)
Friday, July 27, 2018 (10.00 - 13.00)

Answer ALL the questions.

Marks: 70 **Duration: 180 mins.**

Long Answer Questions:

1A)	Explain the method of evaluation of acid neutralizing capacity of antacids.	(2)
1B)	Give the method of preparation and assay of Sodium bicarbonate.	(4)
1C)	What are pharmaceutical aids? Give the preparation and assay of sodium acetate.	(4)
2A)	Give the preparation, assay and use of potassium permanganate.	(4)
2B)	Give the principle involved in the limit test for chlorides and sulphates.	(6)
3A)	Classify volumetric methods and briefly explain each method.	(5)
3B)	Explain the neutralization curve for strong acid vs strong base titration.	(5)

4. **Short Answer Questions.**

4A)	Give the method of preparation and assay of oxygen. Explain the apparatus used in assay procedure.	(5)
4B)	Give the method of preparation, assay and use of Boric acid.	(5)
4C)	Describe various types of Complexometric Titrations.	(5)
4D)	Give the preparation and standardization of 0.1M perchloric acid solution.	(5)
4E)	What is the chemical composition of Bentonite? Mention its use and the test for purity.	(5)
4F)	Explain various mechanism of action of antimicrobial agents. Define gross error, relative error, absolute error and random error.	(5)

5. **Give Reasons for the Following:**

5A)	Zinc granules are used in the limit test for arsenic.	(2)
5B)	Nitrobenzene is used in modified Volhard's method.	(2)
5C)	Manganese is an essential and trace element.	(2)
5D)	Formaldehyde is used in the assay of ammonium chloride.	(2)

5E) Potassium iodide is used in the preparation of standard iodine solution. (2)

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