Question Paper

Exam Date & Time: 10-Jul-2019 (10:00 AM - 01:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR PHARM. D. DEGREE EXAMINATION - JULY 2019
SUBJECT: PHA 1.1T: HUMAN ANATOMY AND PHYSIOLOGY
(2014 REGULATION)
Wednesday, July 10, 2019 (10.00 - 13.00)

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

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

Long Answer Questions:

1)	Describe the histology of small intestine. Explain the process of lipid absorption in small intestine. (5+5 = 10 marks)	(10)
2)	Describe the anatomy of medulla and cerebrum of human brain. (5+5 = 10 marks)	(10)
3)	Describe the formation, storage and release of thyroid hormones. What are physiological functions of thyroid hormones? (6+4 = 10 marks)	(10)

4) **Short answer questions:**

4A)	With the help of flow chart, explain the life cycle of RBC's.	(5)
4B)	Discuss the structure and functions of the five main types of cell junctions. (3+2 = 5 marks)	(5)
4C)	Explain RAAS pathway and its physiological importance.	(5)
4D)	Compare and contrast between graded potential and action potential in neurons.	(5)
4E)	Describe the factors regulating the glomerular filtration rate.	(5)
4F)	Discuss the calcium homeostasis in bones.	(5)

5) **Give reasons for the followings:**

5A)	Yellow bone marrow is not involved in haemopoiesis.	(2)
5B)	Connective tissue components help to fight against infections.	(2)
5C)	Alcohol can access the brain tissue easily as compared with most antibiotics.	(2)
5D)	Hemoglobin unload more O_2 in skeletal muscle during exercise, than is unloaded at rest.	(2)
5E)	The following sequence of hormones is not correct: CRH→ACTH→ T4→T3	(2)

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Question Paper

Exam Date & Time: 17-Jul-2019 (10:00 AM - 01:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR PHARM. D. DEGREE EXAMINATION - JULY 2019
SUBJECT: PCH 1.4T: PHARMACEUTICAL ORGANIC CHEMISTRY
(2014 REGULATION)
Wednesday, July 17, 2019 (10.00 - 13.00)

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

Long Answer Questions:

1A)	Explain with mechanism, the bromination of Toluene.	(5)
1B)	Write a note on Inter and intramolecular forces.	(5)
2A)	What are cycloalkanes? Give examples. Describe three general methods for the preparation of cycloalkanes.	(5)
2B)	Discuss the mechanism involved in the formation of ethylene chlorohydrin.	(5)
3)	**Give the preparation, assay and uses of the following:** a) Dimercaprol b) Salicylic acid (5+5 = 10 marks)	(10)

4) **Short Answer Questions:**

4A)	Discuss the mechanism involved in the allylic bromination using NBS.	(5)
4B)	Write the mechanism involved in the Aldol condensation reactions.	(5)
4C)	With a neat diagram, explain the orbital picture of allyl radical.	(5)
4D)	Explain the mechanism of nucleophilic aromatic substitution reactions.	(5)
4E)	Explain the mechanism involved in the conversion of acid chlorides to esters.	(5)
4F)	Discus the mechanism, stereochemistry and choice of a solvent for S_N2 reactions.	(5)

5) **Give reasons for the following:**

5A)	Tertiary butyl chloride is a good substrate for S_N1 reactions.	(2)
5B)	Chlorination of methane is considered as chain reaction.	(2)
5C)	Carboxylic acids are inactive towards nucleophilic substitution reactions.	(2)
5D)	Trichloro acetic acid is a stronger acid than acetic acid.	(2)
5E)	Methane is a gas, whereas pentane is a liquid at room temperature.	(2)

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Question Paper

Exam Date & Time: 19-Jul-2019 (10:00 AM - 01:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR PHARM. D. DEGREE EXAMINATION - JULY 2019
SUBJECT: PCH 1.5T: PHARMACEUTICAL INORGANIC CHEMISTRY
(2014 REGULATION)
Friday, July 19, 2019 (10.00 - 13.00)

Answer all the questions.

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

Long Answer Questions:

1A)	Explain the construction and working of Gutzeit's apparatus with a neat labelled diagram.	(5)
1B)	Write the principle involved in the limit test for chlorides.	(5)
2A)	Briefly explain the solvents used in non-aqueous titrations.	(3)
2B)	Explain the role of fluorides in the treatment of dental caries.	(3)
2C)	Give the preparation, assay and use of Hydrogen peroxide.	(4)
3A)	What is acid neutralizing capacity? Explain.	(2)
3B)	Write a note on combination antacid therapy along with few examples.	(3)
3C)	Explain the preparation, assay and use of Magnesium sulphate.	(5)

4) **Short Answer Questions:**

4A)	Briefly explain the various steps involved in the gravimetric analysis.	(5)
4B)	Give the preparation, assay and use of ammonium chloride.	(5)
4C)	Define a primary standard giving two examples. Classify volumetric methods and briefly explain each method.	(5)
4D)	Explain the preparation, assay and use of Potassium permanganate.	(5)
4E)	Explain Ostwald theory of indicators with example.	(5)
4F)	Give the preparation, assay and uses of carbon dioxide. Explain the apparatus used in assay procedure.	(5)

5) **Give reasons for the following;**

5A)	Disodium EDTA is preferred over EDTA in complexometric titrations.	(2)
5B)	Citric acid is used in the limit test for iron.	(2)
5C)	Phenolphthalein is not a suitable indicator for titrating a weak base against a strong acid?	(2)
5D)	Sodium hydroxide is a secondary standard.	(2)
5E)	Internal indicators differs from external indicators.	(2)