

Question Paper

Exam Date & Time: 13-May-2019 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR PHARM. D. DEGREE EXAMINATION - MAY 2019
SUBJECT: PHA 1.1T: HUMAN ANATOMY AND PHYSIOLOGY
(2014 REGULATION)

Monday, May 13, 2019 (10.00 - 13.00)

Answer ALL the questions.

Draw a labeled diagram wherever necessary.

Marks: 70

Duration: 180 mins.

Long Answer Questions:

- 1) Define action potential. Discuss the different phases of action potential in nerve fibers. List the differences between action potential and graded potential. (10)
(1+7+2 = 10 marks)
- 2) Define blood pressure and mention its normal value. Discuss the neural and hormonal regulation of BP. (10)
(2+3+5 = 10 marks)
- 3) Describe, with a labeled diagram, the structure of plasma membrane. Mention any four functions of it. (10)
(8+2 = 10 marks)

4. Short answer questions:

- 4A) Discuss the chemical digestion in small intestine. (5)
- 4B) Explain the neural mechanism of regulation involved in respiration. (5)
- 4C) With a flow chart, explain visual pathway. (5)
- 4D) Explain the role of renin angiotensin aldosterone system (RAAS) for mineral and fluid homeostasis in the body. (5)
- 4E) Discuss the factors affecting affinity of hemoglobin for oxygen. (5)
- 4F) Compare and contrast skeletal, cardiac and smooth muscles. (5)

5. Give reasons for the followings:

- 5A) ESR and PCV are significant for prognostic value. (2)
- 5B) Hypoxia results in increase RBC count. (2)
- 5C) Sertoli cells and Leydig cells helps in spermatogenesis. (2)
- 5D) Platelets play important role in hemostasis. (2)
- 5E) Endocrine function of pancreas maintains glucose homeostasis. (2)

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Question Paper

Exam Date & Time: 08-May-2019 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR PHARM. D. DEGREE EXAMINATION - MAY 2019

SUBJECT: PCE 1.2T: PHARMACEUTICS

(2014 REGULATION)

Wednesday, May 08, 2019 (10.00 - 13.00)

Marks: 70

Duration: 180 mins.

Long Answer Questions:

- 1) Define and classify incompatibility. Discuss physical incompatibility with examples. (10)
- 2) Define suppositories? Discuss briefly two methods for the preparation of suppositories. (10)
- 3) Define posology. Give different methods with formulae for the calculation of pediatric doses. (10)

4. Short Answer Questions:

- 4A) Write briefly on the different systems of weights and measures that are followed. Give examples for conversion from one system to other system. (5)
- 4B) Write a note on Pharmaceutical powders and their characteristics. Give examples. (5)
- 4C) Define surgical dressing. Write a note on cotton wool. (5)
- 4D) Explain the factors affecting selection of extraction process. (5)
- 4E) Write the differences between lotions and liniments. (5)
- 4F) Write the types of emulsion. Explain any two tests to confirm the types of emulsion. (5)

5. Give Reasons for the Following:

- 5A) Why water or other beverages should not be consumed immediately after throat paint? (2)
- 5B) Emulsifiers are required to prepare a stable emulsion. Why? (2)
- 5C) Liniments are not applied on the broken skin. Why? (2)
- 5D) Pharmacopoeia is an official document which one need to abide. (2)
- 5E) Why the Galenical preparations are called so? (2)

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Question Paper

Exam Date & Time: 15-May-2019 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR PHARM. D. DEGREE EXAMINATION - MAY 2019
SUBJECT: PBT 1.3T: MEDICINAL BIOCHEMISTRY
(2014 REGULATION)

Wednesday, May 15, 2019 (10.00 - 13.00)

Answer ALL the questions.

Draw neat labeled diagrams wherever necessary.

Marks: 70

Duration: 180 mins.

Long answer questions:

2. 1) Explain the intermediate step which links EMP pathway to TCA cycle. Sketch the TCA cycle reactions (10) and discuss its energetics.
- 2) Explain the steps involved in the synthesis and utilization of beta hydroxy butyrate. Add a note on its significance. (10)
- 3) Describe the following with respect to nucleic acid metabolism: (10)
i) Replication fork ii) Genetic code

4. Short answer questions:

- 4A) Define enzymes. Enlist their properties and write briefly on their nomenclature. (5)
- 4B) Write the characteristics associated with the following: (5)
i) Acute intermittent porphyria ii) Porphyrinuria cutanea tarda
- 4C) Describe the enzyme defects which is directly responsible for the development of gout. Add a note on the drug of choice for the treatment of gout. (5)
- 4D) Expand ELISA and explain the principle and procedure of direct ELISA. (5)
- 4E) Define clearance. Write a note on creatinine clearance and urea clearance. (5)
- 4F) Explain the rotary motor model of ATP formation. Add a note on uncouplers. (5)

5. Give reasons for the following:

- 5A) Body fluids should be decontaminated before disposal. (2)
- 5B) Albumin is an indicator of liver function. (2)
- 5C) Body has various mechanisms to maintain the acid base balance. (2)
- 5D) Triglycerides and LDL are indicators of health status of the body. (2)
- 5E) Biliverdin is excreted as such in birds and amphibians, but not in mammals. (2)

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Question Paper

Exam Date & Time: 06-May-2019 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR PHARM. D. DEGREE EXAMINATION - MAY 2019
SUBJECT: PCH 1.4T: PHARMACEUTICAL ORGANIC CHEMISTRY
(2014 REGULATION)

Monday, May 06, 2019 (10.00 - 13.00)

Marks: 70

Duration: 180 mins.

Long Answer Questions:

- 1A) Discuss the mechanism involved in Oxymercuration-Demercuration of alkenes. (5)
- 1B) What are carbenes? Give examples. Describe methods for the generation of carbenes. (5)
- 2) Give the method of preparation, assay and use of the following: (10)
i) Citric acid ii) Aspirin
- 3A) Discuss the mechanism involved in bromination of benzene. (5)
- 3B) Explain the mechanism of Wolf-Kishner reduction. (5)

4. Short Answer Questions:

- 4A) Explain the mechanism and give any three evidences for S_N1 reactions. (5)
- 4B) Write a note stability of 1,3 butadiene. (5)
- 4C) Describe relative reactivities of halogenation with methane. (5)
- 4D) Discuss Perkin condensation reaction with mechanism. (5)
- 4E) Explain Benzyne mechanism in nucleophilic aromatic substitution reactions. (5)
- 4F) What is aldol condensation? Explain with mechanism. (5)

5. Give Reasons for the Following:

- 5A) Polar aprotic solvents are best choice to carry out S_N2 reactions. (2)
- 5B) Peroxide effect is observed in the addition of HBr with propylene and not in case of addition of HI or HCl. (2)
- 5C) As an atom size increases, boiling point increases. (2)
- 5D) Hydroxyl group is a strong ortho- para- directing activator. (2)
- 5E) Piperidine is more basic than pyridine. (2)

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Question Paper

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



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR PHARM. D. DEGREE EXAMINATION - MAY 2019
SUBJECT: PCH 1.5T: PHARMACEUTICAL INORGANIC CHEMISTRY
(2014 REGULATION)

Friday, May 10, 2019 (10.00 - 13.00)

Marks: 70

Duration: 180 mins.

Long Answer Questions:

- 1A) Explain the three mechanism of action of antimicrobial agents. (4)
- 1B) Give the method of preparation and assay of Magnesium sulphate. (4)
- 1C) Give the preparation and use of Sodium bisulphite. (2)
- 2A) Explain Gutzeit's apparatus with a neat and labelled diagram. (5)
- 2B) Give the preparation, assay and use of potassium citrate. (5)
- 3A) Write a note on hazards associated with Radiopharmaceuticals and the precautions to be taken during their handling. (5)
- 3B) Give the method of preparation and principle involved in the assay of Oxygen. Explain about the apparatus used in assay procedure. (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 Aluminium sulphate. (5)
- 4C) Explain different types of complexometric titrations. (5)
- 4D) Write the method of preparation and use of potassium permanganate and sodium fluoride. (5)
- 4E) Explain the Mohr's methods of precipitation titrations. (5)
- 4F) Give the method of preparation, assay and use of Calcium carbonate. (5)

5. Give Reasons for the Following:

- 5A) Alcohol and potassium sulphate is used in the limit test for sulphates. (2)
- 5B) Iron is an essential and trace element. (2)
- 5C) Formaldehyde is added in the assay of ammonium chloride. (2)
- 5D) ORS is recommended in the cases of dehydration. (2)

5E)

Potassium iodide is used in the preparation of standard iodine solution.

(2)

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