Reg. No.										

Manipal College of Pharmaceutical Sciences
Manipal Academy of Higher Education
I PharmD University Examination – July 2021

Course Code: PHA 1.1T; Course Title: Human Anatomy and Physiology

Date: 26-07-2021 Duration: 2 hr. Max. Marks: 50

Instructions: Answer ALL questions

Section A: Long Answer Questions (2 × 10 marks = 20 marks)

1. Draw a neat, labelled diagram of heart. Discuss its internal anatomy with circulation of blood into and out of heart. 4+6

2. Describe the phases of female reproductive cycle. Correlate the hormonal interactions in the ovarian and uterine cycles. 5+5

Section B: Short Answer Questions (6 × 5 marks = 30 marks)

3. In the cholinergic neurotransmission, describe the effects that could be observed if we inhibit acetylcholinesterase enzyme referring to the receptors involved. 5

4. Describe the anatomy of stomach. Discuss the process of secretion of gastric juice. 5

5. Describe the protective structures of the spinal cord. Explain the following clinical terms: epidural block meningitis and lumbar puncture. 5

6. A 60 year old female COPD patient came to the outpatient department with complaints of breathlessness, cough, and chest pain for past 3 months. He had no fever or other difficulties. What is the purpose of doing spirometry? Draw the diagram on lung volumes and capacities. Comment on the probable difference in patient's lung volumes and capacities as compared to normal. 5

7. Explain the mechanism of action of steroid hormones. 5

8. How is blood glucose level regulated by pancreatic hormones? 5

"End of question paper"

Manipal College of Pharmaceutical Sciences
MAHE, Manipal
First Year PharmD – University Examination – July 2021
Subject Code and Title: PCE 1.2T Pharmaceutics
Date: 28 JUL 2021 Time: 2:30 pm to 4:30 pm (IST)
Duration: 2 hr. Max. Marks: 50

Instructions: Answer ALL questions.

1. Student should view QP before writing.
2. Press turn in button after uploading answer file before Due time or close time
3. (Answer file name should be your PharmD register number)

Please Note: System will not allow you to upload answer file after close time

A. LONG ANSWER QUESTIONS (2 × 10 MARKS = 20 MARKS)

1. What is a prescription? Write a typical prescription, show different parts of prescription. Explain the importance of parts of prescription. 10 Marks

2. a) With suitable examples discuss the roles various adjuvants used in monophasic liquid dosage forms. (6 marks) 10 Marks
   b) Write on preparation of monophasic liquid dosage forms. (4 marks)

B. SHORT ANSWER QUESTIONS (6 × 5 MARKS = 30 MARKS)

3. What is physical stability of suspension? How to evaluate? Explain 5 marks

4. a) When you mix 50 g of 0.5% w/w drug A ointment and 25 g of 0.2% w/w drug A ointment, what is the final concentration of drug A in the mixed ointment? (3 marks) 5 marks
   b) If the adult dose is 80 mg and the weight of the child is 14 kg, what will be the calculated dose based on Clark's formula? (2 marks)

5. Write the advantages and disadvantages of powder dosage forms. 5 marks

6. Discuss on two methods of preparation of suppositories. 5 marks

7. List and explain various factors that enhances efficiency of extraction. 5 marks

8. Discuss the importance of factors influencing the dose selection. 5 marks

MANIPAL ACADEMY OF HIGHER EDUCATION
Manipal College of Pharmaceutical Sciences
MAHE, Manipal
First Year PharmD Degree Examination July-August 2021

Subject Code and Title: PBT 1.3T Medicinal Biochemistry

Date:02-08-2021 Time: 2:30-4:30 PM Duration: 2 hr. Max. Marks: 50

Specific Instructions
1. Answer All the Questions.
2. Draw neat labeled diagrams wherever necessary.

A. Long Answer Questions (2 × 10 marks = 20 marks) **Marks**

1. Starting with citrate, sketch the reactions of Krebs cycle (5m) and calculate its energetics (2 m). Give the diagrammatic representations of glycerol phosphate shuttle (1.5 m) and Rotary Motor Model of ATP synthesis (1.5 m) 10

2. Explain the steps involved in β-Oxidation of a fatty acid containing 16 carbons. Calculate the number of ATPs generated when the said fatty acid undergoes oxidation during the seventh cycle. 10

B. Short Answer Questions (6 × 5 marks = 30 marks)

3. Write short notes on transition state analogs. Explain with the help of a suitable graph, the pattern of rate of reaction when the active sites are free and when the active sites are saturated with substrate molecules. 5

4. 'Tyrosine becomes an essential amino acid during the deficiency of Phenylalanine Hydroxylase'. Justify the given statement and write short notes on the deficiency disorder associated with the said enzyme. 5

5. Sketch the degradation of purine nucleotides and write a note on the 'drug of choice' in treating primary gout. 5

6. Explain the initiation and elongation steps of 'translation process proper'. 5

7. Explain a laboratory method to determine and distinguish types of jaundice. 5

8. Give the diagrammatic representations of Sandwich ELISA and competitive ELISA methods. Enlist the hormones involved in maintaining electrolyte balance of the body and explain any one. 5

********** End of Question Paper**********

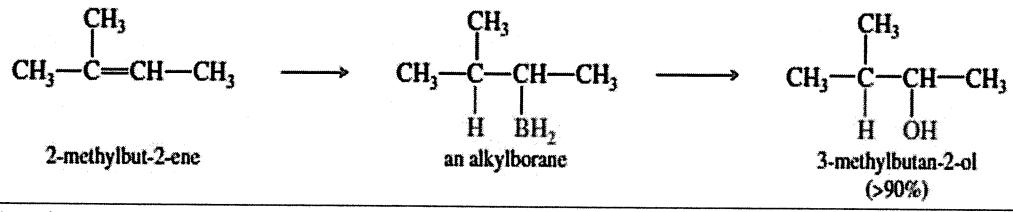
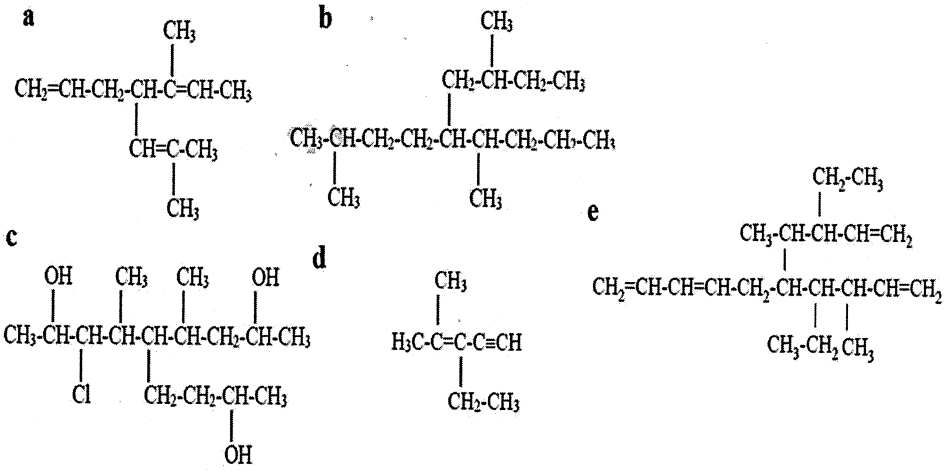
Program:	First year PharmD-2020-21	Total Marks: 50
Course Title:	Pharmaceutical Organic Chemistry	Course code: PCH 1.4T

Instructions: Answer ALL questions

Long Answer Questions (2 × 10 marks = 20 marks)

1A	i) Explain the mechanism of nucleophilic addition of secondary amines to aldehydes and ketones. ii) Discuss with mechanism the free radical halogenation of alkanes with suitable example.	10
1B	Describe with mechanism the bromination of Toluene. Predict the major products and justify your answer.	10

Short Answer Questions (6 × 5 marks = 30 marks)

2A	Discuss with mechanism the S_N1 reaction. Give any two important evidences. Propose suitable class of solvents for an S_N1 reaction and justify your answer.	5
2B	Explain the mechanism of the following reaction with suitable reagents to be used.  2-methylbut-2-ene → an alkylborane → 3-methylbutan-2-ol (>90%)	5
2C	Write the IUPAC nomenclature for the given 5 compounds. 	5
2D	Explain the resonance stabilization of allyl radical with suitable examples.	5
2E	a) Define and give any one example each for Friedel Crafts alkylation reaction, aldol condensation reaction. 3 marks b) Predict the reactivity and orientation towards electrophilic aromatic substitution of benzaldehyde and phenol. 2 marks	5
2F	What are the major types of organic reaction mechanisms? Give an example for each reactions.	5

Manipal College of Pharmaceutical Sciences
MAHE, Manipal
I Year PharmD – University Examination – August 2021

Subject Code and Title: PCH 1.5T, Pharmaceutical Inorganic Chemistry

Date: 04/08/2021 Time: 2.30- 4.30 p.m. Max. Marks: 50

Instructions: Answer ALL questions.

A. Long Answer Questions (2 × 10 marks = 20 marks)			**Teacher's initial**
1.	a. What are the qualities of an ideal antacid? Enlist the adverse effect of antacids. (2+3) b. Give the preparation and assay of aluminium hydroxide gel. (5)	10 marks	RV
2.	a. Give the preparation and assay of two compounds used as electrolyte acid base therapy.(6) b. Give the preparation and assay of antimicrobial agents which acts by precipitation mechanism.(4)	10 marks	RV
B. Short Answer Questions (6× 5 marks = 30 marks)			
3.	Explain the principle of non-aqueous titration of weak acids with an example.	5 marks	JPC
4.	What are precipitation titrations? Enlist its methods by detection of end point. How the thiocyanate ion reaction with silver chloride precipitate can be prevented to avoid the error in precipitation titration?	5 marks	JPC
5.	How potassium dichromate is more advantage over the potassium permanganate in volumetric analysis? Explain.	5 marks	JPC
6.	Enlist the applications of gravimetric analysis and complexometric titration.	5 marks	JPC
7.	With reactions, explain the principle involved in the limit test for Iron and Arsenic (2.5+2.5)	5marks	SGK
8.	Define Absolute error, relative error, accuracy, precision and list out the qualities of primary standard. (2+3)	5 marks	SGK

Manipal College of Pharmaceutical Sciences
MAHE, Manipal
I Year PharmD – University Examination – August 2021

Subject Code and Title: PCH 1.5T, Pharmaceutical Inorganic Chemistry

Date: 04/08/2021 Time: 2.30- 4.30 p.m. Max. Marks: 50

Instructions: Answer ALL questions.

A. Long Answer Questions (2 × 10 marks = 20 marks)			**Teacher's initial**
1.	a. What are the qualities of an ideal antacid? Enlist the adverse effect of antacids. (2+3) b. Give the preparation and assay of aluminium hydroxide gel. (5)	10 marks	RV
2.	a. Give the preparation and assay of two compounds used as electrolyte acid base therapy.(6) b. Give the preparation and assay of antimicrobial agents which acts by precipitation mechanism.(4)	10 marks	RV
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6.	Enlist the applications of gravimetric analysis and complexometric titration.	5 marks	JPC
7.	With reactions, explain the principle involved in the limit test for Iron and Arsenic (2.5+2.5)	5marks	SGK
8.	Define Absolute error, relative error, accuracy, precision and list out the qualities of primary standard. (2+3)	5 marks	SGK