



## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND YEAR B.PHARM DEGREE EXAMINATION - JULY 2018

SUBJECT: PATHOPHYSIOLOGY (PPR 201T)

(REVISED 2014 REGULATION)

Tuesday, July 17, 2018 (10.00 - 13.00)

Answer ALL the questions.

Marks: 70

Duration: 180 mins.

### Long Answer Questions:

- 1) Explain the role of major histocompatibility complex role in immune system. (10)
- 2) Define tuberculosis. Explain etiopathogenesis of tuberculosis. (10)
- 3) Define ischemic injury. Explain the mechanism of ischemic injury. (10)

### 4. Short Answer Questions:

- 4A) Explain etiopathogenesis of chronic renal failure. (5)
- 4B) Explain the characteristic of cancer cells. (5)
- 4C) Explain the pathophysiology of alcoholic liver disease. (5)
- 4D) Explain type IV hypersensitivity reaction. (5)
- 4E) Explain pathophysiology of hyperthyroidism. (5)
- 4F) Define COPD. Explain the differences between chronic bronchitis and emphysema. (5)

### 5. Give Reasons for the Following:

- 5A) Mean Corpuscular Volume (MCV) value increases in macrocytic anemia. (2)
- 5B) Recirculation of blood after ischemia often associated with reperfusion injury. (2)
- 5C) Chronic bronchitis patients are called blue bloaters. (2)
- 5D) Gastric ulcer patients normally avoid spicy foods. (2)
- 5E) Mycobacterium tuberculosis can survive longer in humans without causing illness. (2)

-----End-----



## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND YEAR B.PHARM DEGREE EXAMINATION - JULY 2018

SUBJECT: PHARMACEUTICAL MICROBIOLOGY (PBT 202T)

(REVISED 2014 REGULATION)

Thursday, July 19, 2018 (10.00 - 13.00)

Answer ALL the questions.

Marks: 70

Duration: 180 mins.

### Long Answer Questions:

- 1) Discuss the different methods for isolation of pure culture. (10)
- 2) Differentiate between Non ionising radiations and Ionising radiations. Discuss Gamma radiation sterilisation as under: Source, Mechanism of action, sterilisation dose and applications. (10)
- 3) Discuss the chemotherapy for mycobacterial infections. Add a note on the resistance mechanisms offered to anti-mycobacterial therapy. (10)

### 4. Short Answer Questions:

- 4A) Write a note on preservation of microbial cultures. (5)
- 4B) Explain about pasteurization and tyndallisation methods of sterilisation. (5)
- 4C) Briefly outline the protocol to perform sterility testing of water for injection and mention the purpose of positive and negative controls. (5)
- 4D) Write the principle involved in microbiological assay of antibiotics and explain any three criteria in selecting the test organism. (5)
- 4E) Write a note on microbial factors influencing the process of infection. (5)
- 4F) Write the causative organism, mode of transmission, important symptoms, prevention and treatment of typhoid. (5)

### 5. Give reasons for the following:

- 5A) Resolution of a light microscope can be improved by using light of shorter wavelength. (2)
- 5B) Embryonic egg is considered as a better medium for cultivation of viruses over animals and birds. (2)
- 5C) Coliform bacteria are better indicators of water purity. (2)
- 5D) Chick Martin Coefficient is superior to Rideal Walker Coefficient. (2)
- 5E) Protein synthesis by both mammalian and bacterial ribosomes is inhibited by tetracyclines in cell-free systems, but they are selectively toxic to bacterial cells. (2)



## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND YEAR B.PHARM DEGREE EXAMINATION - JULY 2018

SUBJECT: PHARMACEUTICS (PCE 203T)

(REVISED REGULATION - 2014)

Monday, July 23, 2018 (10.00 - 13.00)

Answer ALL the questions.

Marks: 70

Duration: 180 mins.

### Long Answer Questions:

- 1) Explain Physical incompatibility with suitable examples. (10)
- 2) Explain Cracking and Phase inversion in Emulsions. Briefly explain ways to overcome these quality issues? Mention the advantages of using emulsifying agents. (10)
- 3) Explain the principle, construction and working of ball mill with the help of diagram. (10)

### 4. Short Answer Questions:

- 4A) Define surgical aids. Mention any four important features. (5)
- 4B) Give the differences between amorphous and crystalline solids. Discuss the factors involved in caking of crystals. (5)
- 4C) Explain briefly various impellers used for mixing of liquids. (5)
- 4D) Give the principle involved in the working of Venturi meter. (5)
- 4E) Define powders. Mention the precautions to be taken during compounding of Eutectic powders and list the uses. (5)
- 4F) Explain the cold compression method for preparation of suppositories. (5)

### 5. Give Reasons for the Following:

- 5A) Milk of magnesia is given in acid poisoning. (2)
- 5B) Rotating disc & blades are essential in Air Separator. (2)
- 5C) Presence of solute in the liquid reduces the evaporation. (2)
- 5D) Fluid bed dryer is preferred over tray dryer for drying of granules. (2)
- 5E) Linctus's are to be swallowed slowly. (2)

-----End-----



## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND YEAR B.PHARM DEGREE EXAMINATION - JULY 2018

SUBJECT: PHARMACEUTICAL CHEMISTRY (PCH 204T)

(REVISED REGULATION - 2014)

Wednesday, July 25, 2018 (10.00 - 13.00)

Answer ALL the questions.

Marks: 70

Duration: 180 mins.

### Long Answer Questions:

- 1A) Explain Hantzsch synthesis of pyrrole and discuss the important reactions of pyrrole. (5)
- 1B) Define atropisomerism with an example and discuss the conditions for a biphenyl compound to show optical activity. (5)  
(2+3 = 5 marks)
- 2A) Explain the cyclic structure of D-Glucose. (4)
- 2B) Give the structure of cholesterol. (2)
- 2C) Explain two reactions of amino acids. (4)
- 3A) Explain in detail the structural elucidation of Papaverine. (7)
- 3B) Give the structure and uses of alpha-terpineol. (3)

### 4. Short answer questions:

- 4A) Give one method each for preparation of benzimidazole and pyrimidine. (5)
- 4B) Explain the electrophilic and nucleophilic reactions of quinoline with examples. (5)
- 4C) Give the preparation and uses of barium sulphate and potassium iodide. (5)
- 4D) What are terpenoids? Explain the chemistry of camphor. (5)
- 4E) Give the method preparation and uses of Aluminium sulphate and Ferrous gluconate. (5)
- 4F) Explain the preparation, uses and storage conditions of nitrous oxide and Selenium sulphide. (5)

### 5. Give reasons for the following:

- 5A) Glucose fails to restore the pink colour of Schiff's base. (2)
- 5B) Isoquinoline gets nitrated in the phenyl ring. (2)
- 5C) Chair conformation shows more stability than boat conformation. (2)
- 5D) Oils become rancid on storage. (2)

5E) Tropine on oxidation with chromium trioxide gives tropinone a ketone with same number (2) of carbon atoms. Give reason with reaction.

-----End-----



**MANIPAL ACADEMY OF HIGHER EDUCATION**  
**SECOND YEAR B. PHARM. DEGREE EXAMINATION – JULY 2018**  
**SUBJECT: PHARMACEUTICAL CHEMISTRY (PCH 204)**  
**(CREDIT BASED SYSTEM)**

Wednesday, July 25, 2018

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer ALL the questions.**

✍ **Long Essays:**

- 1A. How do you prove the cyclic structure of D-Glucose? Explain.  
 1B. Give the structure and medicinal uses of:  
 i) Flavonoid derivative.  
 ii) Coumarin derivative.  
 1C. What are waxes? How do they differ from fats and oils?  
(4+2+2 = 8 marks)

- 2A. Explain the electrophilic reactions of pyridine.  
 2B. Discuss the stereochemistry of cyclohexane.  
(4+4 = 8 marks)

- 3A. Discuss the chemistry of atropine.  
 3B. Write the synthesis of alpha terpeniol.  
(4+4 = 8 marks)

4. **Short Essays:**

- 4A. i) Give the synthesis of alpha amino acids starting from alpha haloacids.  
 ii) What are the limitations of the open chain structure for Glucose?  
(2+2 = 4 marks)

- 4B. i) How do you prepare 3-chloropyridine from pyrrole?  
 ii) Explain the preparation of 4-aminopyridine from pyridine.  
(2+2 = 4 marks)

- 4C. Define and classify terpenoids. Give an account of isoprene and special isoprene rule.  
(4 marks)

- 4D. Discuss the chemistry and uses of sennosides.  
(4 marks)

5. **Short Answers:**

- 5A. Draw the structure of imidazoline and imidazolidine.  
 5B. Enlist the important cellulose derivatives used in pharmacy.  
 5C. What is saponification value? Give its significance in the analysis of oils.  
 5D. What happens when Pyrrole is treated with KOH and chloroform? Write reactions also.  
 5E. Give the structure and biological importance of Vitamin-A.  
(2 marks × 5 = 10 marks)





## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND YEAR B.PHARM DEGREE EXAMINATION - JULY 2018

SUBJECT: PHARMACEUTICAL MANAGEMENT (PMA 205T)

(REVISED REGULATION 2014)

Friday, July 27, 2018 (10.00 - 13.00)

Answer ALL the questions.

Marks: 70

Duration: 180 mins.

### Long Answer Questions:

- 1) Discuss Henry Fayol's 14 principles of management. (10)
- 2) What are the elements of promotional mix? Discuss all in detail. (10)
- 3) With specimen formats explain all types of Journals and a Ledger. (10)

### 4. Short Answer Questions:

- 4A) What is meant by functional and dysfunctional conflict? Briefly write about methods to deal with conflict. (5)
- 4B) Define motivation. Discuss any two theories of motivation. (5)
- 4C) What are marketing objectives and strategies for different stages of product life cycle? (5)
- 4D) What is meant by material handling? Explain any eight principles of material handling. (5)
- 4E) Explain law of supply and various factors, that determine supply. (5)
- 4F) Define six sigma. Explain DMAIC roadmap of six sigma. (5)

### 5. Give reasons for the following:

- 5A) Importance of planning. (2)
- 5B) Define Asset and Liability. (2)
- 5C) What are the benefits of marketing research? (2)
- 5D) Explain in brief various types of plant layout. (2)
- 5E) Differentiate between entrepreneur and entrepreneurship. (2)

-----End-----



## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND YEAR B. PHARM DEGREE EXAMINATION - JULY 2018

SUBJECT: PHARMACOGNOSY-2 (PCO 206T)

(REVISED REGULATION - 2014)

Monday, July 30, 2018 (10.00 - 13.00)

Answer ALL the questions.

Marks: 70

Duration: 180 mins.

### Long Answer Questions:

- 1) Give the source, chemical constituents and tests for identification of Colophony and Asafoetida. (10)
- 2) Describe the Pharmacognostic report of Cinnamon bark. (10)
- 3) Describe the general methods of extraction of Alkaloids and Glycosides. Give the general identification tests for Alkaloids. (10)

### 4. Short Answer Questions:

- 4A) Briefly discuss supercritical fluid extraction. (5)
- 4B) Discuss various sensitivity tests for Allergy. (5)
- 4C) Give the morphology, chemical constituents and uses of Clove. (5)
- 4D) What is tracer technique? Discuss various stable and unstable isotopes used in tracer technique. (5)
- 4E) *Ex-situ* conservation methods of medicinal plants. (5)
- 4F) Artemisia. (5)

### 5. Give Reasons for the Following:

- 5A) Alum-precipitated allergenic extracts are widely preferred in treatment of Allergy. (2)
- 5B) Natural pesticides are preferred over synthetic pesticides. (2)
- 5C) Sumatra Benzoin answers potassium permanganate test and Siam Benzoin answers  $\text{FeCl}_3$  test. (2)
- 5D) The drug requires preliminary moistening with percolation process. (2)
- 5E) Saffron must be tested for its purity. (2)

-----End-----