

Question Paper

Exam Date & Time: 24-May-2019 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR B. PHARM. DEGREE EXAMINATION - MAY 2019

SUBJECT: BIOCHEMISTRY (PBT 103T)

(REVISED REGULATION 2014)

Friday, May 24, 2019 (14.00 - 17.00)

Marks: 70

Duration: 180 mins.

Long answer questions:

- 1) Sketch the citric acid cycle and elaborate on its energetics. (10)
- 2) Name any two ketone bodies. Write in detail the synthesis and utilization of ketone bodies. (10)
- 3) With the help of a neat labeled diagram, explain DNA replication in prokaryotes. (10)

4. Short answer questions:

- 4A) Explain the effect of substrate concentration and temperature on enzyme activity. (5)
- 4B) Define K_m . Explain the Fischer template model of enzyme action. (5)
- 4C) Write about van den Bergh reaction with respect to the reagents used, mechanism of reaction, types and significance. (5)
- 4D) Explain the steps involved in Urea cycle. (5)
- 4E) Write short notes on folic acid. (5)
- 4F) Write a note on primary gout with special mention about the drug of choice for its treatment. (5)

5. Give reason for the following:

- 5A) Lysosomes are regarded as digestive tract of the cell. (2)
- 5B) Cyanide is one of the most potent inhibitor of ETC. (2)
- 5C) Cause of most common porphyria. (2)
- 5D) Tyrosine is both glucogenic and ketogenic in nature. (2)
- 5E) Cause of fatty liver. (2)

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MANIPAL ACADEMY OF HIGHER EDUCATION
FIRST YEAR B. PHARM. DEGREE EXAMINATION – MAY 2019
SUBJECT: PHARMACEUTICAL ANALYSIS-I (PQA 104T)
(2014 REGULATION)

Saturday, May 25, 2019

Time: 14:00 – 17:00 Hrs.

Max. Marks: 70

✍ Answer ALL the questions.

✍ Write balanced chemical reactions and draw neatly labelled diagrams wherever necessary. Use of scientific calculator is allowed.

✍ Long answer questions:

1. What is quantitative analysis? Name and briefly describe any five instrumental techniques used in quantitative analysis.

(10 marks)

2. Explain the titration curve of weak acid V/S weak base with special emphasis on pH at different points. Suggest a suitable indicator for the same.

(10 marks)

3A. What is Iodometry? Explain with suitable example.

3B. Define equivalent weight of a reducing agent. Name and explain the methods to calculate the same with example.

(5+5 = 10 marks)

4. Short Answer Questions:

4A. Define the terms masking and demasking. Explain its importance in complexometric titrations with one example.

5 marks

4B. Explain the factors affecting solubility of a precipitate.

5 marks

4C. Compare volumetric and gravimetric analysis

5 marks

4D. Explain Le Chatelier's principle with a suitable example.

5 marks

4E. What is quality control? Explain the principle of limit test for chloride.

5 marks

4F. i) Explain the principle of non-aqueous titration of weak bases with suitable example.

ii) How the end point is detected in diazotization titration using external indicator?

(3+2 = 5 marks)

5. **Short answer questions:**

- 5A. Write types of argentometric titrations
- 5B. In which years, the first edition and the latest edition of Indian Pharmacopoeia were published?
- 5C. Why citric acid and ammonia solutions are used in the limit test for iron?
- 5D. Why hydrochloric acid is avoided in titration of ferrous sulphate against potassium permanganate?
- 5E. Why weakly basic drugs are assayed by non-aqueous titration?

(2 marks × 5 = 10 marks)





MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR B. PHARM. DEGREE EXAMINATION - MAY 2019
SUBJECT: PHARMACEUTICAL ORGANIC CHEMISTRY (PCH 105T)
(REVISED REGULATION 2014)
Monday, May 27, 2019 (14.00 - 17.00)

Marks: 70

Duration: 180 mins.

Long Answer Questions:

- 1A) Explain Dipole moment and Inductive effect with suitable examples. (5)
- 1B) Write brief notes on: (5)
i) Optical Activity ii) Cis-trans isomerism
- 2A) Explain bromination of toluene with mechanism. (8)
- 2B) Give any two reactions of Benzene. (2)
- 3A) Explain the methods of generation and reactions of carbocations. (6)
- 3B) What are alkenes? Explain two methods of preparation of alkenes. (4)

4. Short Answer Questions:

- 4A) What is peroxide effect? Explain with mechanism. (5)
- 4B) What is Reformatsky reaction? (2)
- i)
- ii) Explain the benzyne mechanism for nucleophilic aromatic substitution. (3)
- 4C) Explain the mechanism, kinetics and stereochemistry of S_N2 reactions. (5)
- 4D) What is Benzoin condensation? Explain with mechanism. (5)
- 4E) Explain the methods of preparation of carboxylic acids. (5)
- 4F) Compare the evidences for E1 and E2 reactions. (5)

5. Give Reasons for the Following:

- 5A) Allylic carbocation is more stable than propyl carbocation. (2)
- 5B) Water has high boiling point. (2)
- 5C) Tertiary and secondary alkyl halides are the best substrates for E1 reactions. (2)
- 5D) Cyclohexane is more stable than cyclopentane. (2)
- 5E) Toluene is more reactive than benzene. (2)

**MANIPAL ACADEMY OF HIGHER EDUCATION**

FIRST YEAR B. PHARM. DEGREE EXAMINATION - MAY 2019

SUBJECT: PHARMACOGNOSY - I (PCO 106T)

(Revised regulation 2014)

Tuesday, May 28, 2019 (14.00 - 17.00)

Marks: 70

Duration: 180 mins.

Long Answer Questions:

- 1) Give a Pharmacognostic report of Agar. (10)
- 2) Describe the microscopy of a leaf drug which you have studied. Add a note on ash values and their significance. (10)
- 3) Explain the extrinsic factors affecting the cultivation of crude drugs. (10)

4. Short Answer Questions:

- 4A) Give the source, chemical constituents and identification tests for Honey. (5)
- 4B) Give the method of isolation and estimation of tannins. (5)
- 4C) Describe Pharmacological classification of crude drugs with merits and demerits. (5)
- 4D) Discuss in brief Silk and wool as surgical fibers. (5)
- 4E) Give the method of preparation and uses of Castor oil. (5)
- 4F) Give the source, method of preparation and uses of Gelatin. (5)

5. Give Reasons for the Following:

- 5A) Adulteration is one of the malpractice in herbal trade. (2)
- 5B) Trained and skilled workers are usually employed for collection of crude drugs. (2)
- 5C) Black and pale catechu answers matchstick test. (2)
- 5D) Spirulina is one of the remarkable nutritional supplement. (2)
- 5E) Shark liver oil is stored in amber coloured containers. (2)

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MANIPAL ACADEMY OF HIGHER EDUCATION
FIRST YEAR B. PHARM. DEGREE EXAMINATION – MAY 2019
SUBJECT: ENVIRONMENTAL SCIENCE AND ETHICS (PMA 107T)
(2014 REGULATION)

Wednesday, May 29, 2019

Time: 14:00 – 17:00 Hrs.

Max. Marks: 70

✍ **Answer ALL the questions.**

✍ **Long answer questions:**

1. Define Biodiversity. Discuss genetic, species and ecosystem diversity. Add a note on genesis and evolution of biodiversity.
2. Discuss in detail various issues associated with environmental ethics.
3. Explain three areas of ethical concerns in research. Add a note on limitations.

(10 marks × 3 = 30 marks)

4. **Short answer questions:**

- 4A. Discuss Pragmatism and its criticisms.
- 4B. Discuss basic ideals of utility theory. Add a note on its criticisms.
- 4C. Discuss non-renewable natural resources and problems associated with its use.
- 4D. Write short notes on producers, consumers and decomposers in an ecosystem.
- 4E. Explain causes, effects and control of Air pollution.
- 4F. Outline adverse effects of environment on human health.

(5 marks × 6 = 30 marks)

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

- 5A. What is Morality?
- 5B. What is Utilitarianism?
- 5C. Define Kantian Ethics.
- 5D. Importance of Ethical code of conduct for Pharmacists.
- 5E. Need for public awareness about environmental science.

(2 marks × 5 = 10 marks)

