

Exam Date & Time: 04-Jan-2019 (09:30 AM - 12:30 PM)

**MANIPAL ACADEMY OF HIGHER EDUCATION**

BPharm - Semester -III
End Semester Examination, DECEMBER- 2018
Course Code: PCH-BP301T
Course Title: PHARMACEUTICAL ORGANIC CHEMISTRY-II (THEORY)
Date:04-01-2019
Pharmaceutical Organic Chemistry II [PCH-BP 301T]

Marks: 75

Duration: 180 mins.

I Multiple Choice Questions (MCQs)

Answer all the questions.

Section Duration: 30 mins

- 1) In Benzene delocalization of electrons is caused by side-side overlapping of
- 1) p orbitals 2) s orbitals 3) sp hybrid orbitals 4) sp² hybrid orbitals (1)

Correct option is: 1

- 2)is a deactivating group
- 1) -CHO 2) -C₆H₅ 3) -OH 4) -NH₂ (1)

Correct option is: 1

- 3) Benzene has π electron/s.
- 1) 4 2) 0 3) 6 4) 1 (1)

Correct option is: 3

- 4) In benzene, the actual C-C bond length is
- 1) 1.34 Å 2) 1.53 Å 3) 1.43 Å 4) 1.39 Å (1)

Correct option is: 4

- 5) One of the following is a weakly activating group
- 1) -NH₂ 2) -OCH₃ 3) -CH₃ 4) -OH (1)

Correct option is: 3

6) The RM value of butterfat ranges between
1) 35 -75 2) 135- 175 3) 17-35 4) 117-275 (1)

Correct option is: 3

7) Hydrogenation of oil increases theof oil
1) melting point 2) boiling point 3) freezing point 4) flash point (1)

Correct option is: 1

8) Triglyceride upon hydrolysis using superheated steam produces free acids and
1) ethanol 2) glycol 3) glycerol 4) guaiacol (1)

Correct option is: 3

9) Pyridine bromide solution is a mixture of pyridine, bromine, acetic acid and
1) HCl 2) H₂SO₄ 3) HNO₃ 4) HClO₄ (1)

Correct option is: 2

10) Oils upon storage develop an unpleasant odour due to formation of short chain
1) alcohols 2) esters 3) ethers 4) fatty acids (1)

Correct option is: 4

11) The pKa value of CF₃COOH is
1) 0.18 2) -7 3) -10 4) 9.9 (1)

Correct option is: 1

12) The nitrogen atom of amines has lone pair of electrons and they act as
1) acids 2) bases 3) electrophiles 4) salt (1)

Correct option is: 2

13) Libermann's test is used to identify
1) alcohol 2) ester 3) phenol 4) aldehyde (1)

Correct option is: 3

The K_b value of methyl amine is

- 1) $\frac{4.2}{\times 10^{-4}}$ 2) $\frac{0.6}{\times 10^{-4}}$ 3) $\frac{6.0}{\times 10^{-4}}$ 4) $\frac{0.2}{\times 10^{-4}}$ (1)

Correct option is: 1

The ion derived from deprotonation of amine is

- 1) Carbanion 2) carbocation 3) nitronium ion 4) amide ion (1)

Correct option is: 4

6) Anthracene on oxidation with chromium trioxide gives

- 1) anthraquinone 2) Menadione 3) naphthoquinone 4) phthaldehyde (1)

Correct option is: 1

7) Benzophenone with lithium aluminium hydride gives

- 1) dichloromethane 2) Triphenyl methane 3) diphenylmethane 4) trichloromethane (1)

Correct option is: 3

Morphine is used as

- 1) analgesic 2) antipyretic 3) anticancer 4) antiviral agent (1)

Correct option is: 1

Benzene with chloroform gives

- 1) diphenyl methane 2) triphenyl methane 3) Benzaldehyde 4) benzophenone (1)

Correct option is: 2

Triphenylmethane on oxidation with chromium trioxide gives

- 1) triphenyl carbinol 2) Benzyl chloride 3) Benzaldehyde 4) diphenyl methane (1)

Correct option is: 1

II Long Answers

Answer all the questions.

- 1) Explain the following reactions of benzene with mechanism
a) Nitration
b) sulphonation
c) halogenation
d) Friedel craft's acylation (10)
- 2) a) Define iodine value. Write the principle and procedure involved in the determination of iodine value with equations. 7 marks (10)
b) What are oils and fats? Give their physical properties. 3 marks

III Short Answers

Answer all the questions.

- 1) Explain the orbital picture of benzene with neat diagrams (5)
- 2) Discuss the basicity of amines. (5)
- 3) a) Give the resonance structures of Phenol 2 marks
b) Give the structure and uses of cresol and resorcinol 3 marks (5)
- 4) Write one method of synthesis of anthracene and give three important reactions of anthracene. (5)
- 5) Explain angle strain and discuss Coulson and Moffitts modification (5)
- 6) Write two important reactions of cyclobutane and cyclopropane. (5)
- 7) Give one method of preparation diphenyl methane and triphenyl methane. (5)

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