

2019-20

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

Department of Chemistry

Semester – odd (V)

Time: 3 hrs, Max Marks: 100
10.30 to 11.00 AM

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10.30 to 11.00 AM

Section A -Marks out of 20:

Student Sign:

Section A

Instructions: 1) All Questions are compulsory.
2) For MCQs mark tic (✓) for correct answer. No marks for multiple tics (✓).
3) Section A should be submitted to Jr. Supervisor immediately after first 30 min.

Q.1 Choose the correct alternative for following.

Marks	20	Bloom's	CO
		level	

1 Amino methylation of nitroalkane is known as _____.

1

L1

1

- a) Michael addition
b) Mannich reaction
c) Nef reaction
d) Henry reaction

2 In the nitration of benzene using a mixture of conc. H_2SO_4 and conc. HNO_3 , the species which initiates the reaction is

1

L1

1

- a) NO_2
b) NO^+
c) NO^{2+}
d) NO^{2-}

3 The Hinsberg's method is used for which of the following?

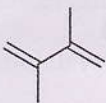
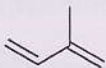
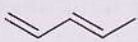
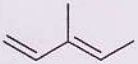
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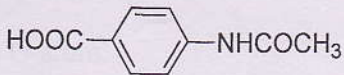
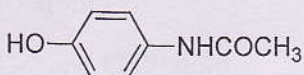
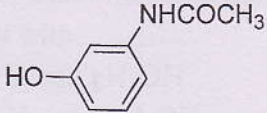
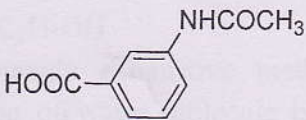
12

1

- Preparation of primary amine
- Preparation of secondary amine
- Preparation of tertiary amine
- Separation of amine mixture

- 4 The heterocyclic diene employed in cyclo-addition (Diels-Alder) reaction is 1 L2 2
- Furan
 - Pyrrole
 - 2,5-dimethylpyrrole
 - Thiophene
- 5 Which of the following statement is correct for relative reactivities of benzene and pyridine towards electrophiles. 1 L2 2
- Pyridine is more reactive towards electrophiles than benzene.
 - Pyridine is less reactive towards electrophiles than benzene.
 - Both pyridine and benzene undergo reactions with electrophiles, but pyridine always forms *N*-derivatives.
 - Both pyridine and benzene behave similarly towards electrophiles.
- 6 Electrophilic substitution reaction in furan usually occurs at: 1 L1 2
- the C-2 atom.
 - the O atom.
 - the C-3 atom.
 - both C-2 and C-2' atom
- 7 In Emde's modification, quaternary ammonium halide is reduced with..... 1 L1 3
- Na-Hg/aq.C₂H₅OH
 - Mg- Hg/aq.C₂H₅OH
 - NaBH₄/ C₂H₅OH
 - Na/aq.C₂H₅OH
- 8 In Hoffmann's exhaustive methylation the last step of elimination of water molecule by abstraction of hydrogen take place at position. 1 L2 3
- α
 - β
 - γ
 - δ

- 9 Alkaloids are 1 L1 3
 a) natural products, that contain one or more alcohol groups and found in animals
 b) natural products, that contain one or more nitrogen heteroatoms and found in animals
 c) natural products, that contain one or more nitrogen heterocyclic rings found in plants
 d) alcohol-like compounds
- 10 Nicotine is a based alkaloid. 1 L2 3
 a) Piperidine
 b) Quinoline
 c) Isoquinoline
 d) Pyridine
- 11 Terpenoids are isolated from 1 L1 3
 a) plants
 b) animals
 c) both a and b
 d) none of these
- 12 Which of the following is correct structure of isoprene? 1 L1 3
 a) 
 b) 
 c) 
 d) 
- 13 Monoterpenes contains 1 L1 3
 a) one isoprene unit
 b) two isoprene unit
 c) three isoprene unit
 d) four isoprene unit
- 14 Naturally occurring fats and oils are..... 1 L1 4
 a) tetra glycerides
 b) tri glyceride
 c) pent glycerides
 d) All of these
- 15 Hydrogenation process of oil is known as 1 L1 4

- a) softening
b) clarification
c) sedimentation
d) hardening
- 16 Drugs which are used to get relief from pain is known as..... 1 L2 4
a) Antipyretics
b) Antibiotics
c) Analgesics
d) Tranquilizers
- 17 Oils are and fats are..... at room temperature. 1 L1 4
a) solid, liquid
b) solid, solid
c) liquid, liquid
d) liquid, solid
- 18 Bactericidal drugs are used 1 L1 4
a) to kill the bacteria
b) to prevent growth of bacteria
c) to lower body temperature
d) to relieve or reduce stress
- 19 Choose the correct structure of Paracetamol from the following 1 L2 4
a) 
b) 
c) 
d) 
- 20 Chloramphenicol is 1 L2 4
a) Antiseptic
b) Antacid
c) Analgesic
d) Antibiotic



Sanjay Ghodawat University, Kolhapur

2019-20

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

Year and Program: 2019-20

School of Science

Department of Chemistry

T.Y. B.Sc. Chemistry

Course Code: CHS 301

Course Title: Organic chemistry

Semester – Odd (V)

Day and Date: Tuesday
19-11-2019

End Semester Examination

Time: 3 hrs, Max Marks: 100
11.00 am to 1.30 pm.

PRN:

Seat No:

Section B- Marks Out of 80

Section B

		Marks	Bloom's level	CO
Q.2	Answer the following questions (Solve any Two)	12		
a)	What are nitroalkanes? Explain the acidic character and important reactions of nitroalkanes.	6	L2	1
b)	Explain Hinsberg's method for identification of 1°, 2° and 3° amines.	6	L2	1
c)	Discuss the effect of substituents on the basicity of amines.	6	L2	1
Q.3	Answer the following questions (Solve any Two)	12		
a)	Discuss the Hantzsch synthesis of Pyridine and its chemical properties.	6	L3	2
b)	Write a note on Paal-Knorr synthesis for synthesis of five membered heterocyclic compound and explain the electrophilic reactions of five membered heterocycles.	6	L3	2
c)	Explain Skraup synthesis of quinoline and discuss the electrophilic and nucleophilic substitution reactions of quinoline.	6	L3	2

Q.4 a)	Answer the following questions (Solve any Two)	12		
i)	What are alkaloids? How are they isolated from plants? Describe their general properties.	6	L2	3
ii)	How terpenes are classified? Discuss the structure of any one terpene, along with its synthesis.	6	L2	3
iii)	Discuss in detail the general methods used for determining structure of alkaloids.	6	L2	3
b)	Answer the following questions (Solve any Four)	16		
i)	Explain the Hoffmann exhaustive methylation with suitable example.	4	L2	3
ii)	Propose the structure of Hygrine and suggest its synthesis.	4	L4	3
iii)	Write a note on medical importance of alkaloids.	4	L1	3
iv)	Illustrate the isoprene rule with suitable examples.	4	L1	3
v)	Outline the synthesis of α - Terpineol.	4	L1	3
Q.5 a)	Answer the following questions (Solve any Two)	16		
i)	What are fats and oils? Write a note on Hydrogenation of oil.	8	L3	4
ii)	What is drug? Classify drugs based on their pharmacological effects.	8	L3	4
iii)	Explain the medicinal importance of Curcumin, Azadirachtin and Vitamin C.	8	L3	4
b)	Answer the following questions (Solve any Three)	12		
i)	The saponification value of oil is characteristic of a particular fat or oil. Justify your answer?	4	L1	4
ii)	What are Antipyretics? Suggest the synthetic pathways of synthesis of Paracetamol.	4	L1	4
iii)	How to calculate the Iodine value of oil? Discuss its importance.	4	L3	4
iv)	Explain the pharmacological effect of Ibuprofen and its synthesis.	4	L3	4
