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M.Sc.(Part - II) (Semester-IV) (CBCS)
Examination, April-2019
ORGANIC CHEMISTRY
Applied Organic Chemistry (Paper-XVI)
Sub. Code: 61433

Day and Date : Thursday, 11 - 04 - 2019

Total Marks : 80

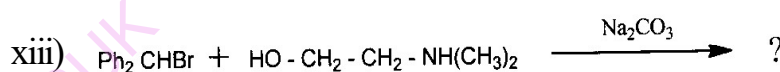
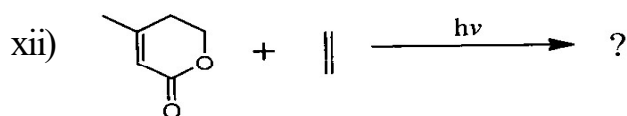
Time : 11.00 a.m. to 2.00 p.m.

- Instructions :**
- 1) Question No. one is compulsory.
 - 2) Answer any two questions from each section.
 - 3) Answers to the all the questions should written in the same answer book.
 - 4) Figure to the right indicates marks.

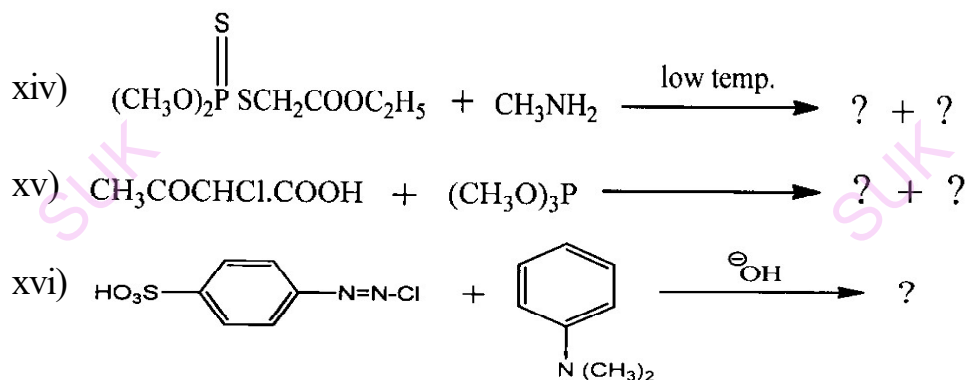
Q1) A) Answer the following: [16]

- i) Define term 'Persistence'?
- ii) Draw the structure of H-acid.
- iii) Write the structure of natural allethrin.
- iv) Draw the structure of JH-I.
- v) Enlist uses of polyvinyl alcohols.
- vi) _____ and _____ are examples of natural polymers.
- vii) What do you mean by reactive dyes?
- viii) What are pheromones?
- ix) The 2,4-D is used as _____.
- x) Give the examples of addition polymers.
- xi) Write the reaction involved in production of furfural.

B) Predict the Product of following:



P.T.O.

**SECTION - I**

Q2) What are carbamate pesticides? Give the synthesis and applications of: [16]

- Aldicarb
- Baygon
- Ziram and Zineb
- Carbaryl

Q3) a) Discuss manufacturing process of Citric acid from Molasses with flow diagram. [8]

- Give an account of food flavours. [8]
 - Write the synthesis of Congo-Red.

Q4) a) Define Dye and illustrate synthesis of important dye intermediates with examples. [10]

- Describe synthesis of Fenvalerate and Cypermethrin. [6]

SECTION - II

Q5) a) What is Juvenile hormone? Discuss its synthesis. [10]

- Explain Optical brighteners with examples. [6]

- Q6)** a) Discuss ionic mechanism of polymerization. [10]
b) What are synthetic rubbers? Give the synthesis and applications of: [6]
i) Polyamides
ii) Polyvinyl acetate

Q7) Write note on the following (Any Four) [16]

- a) Oxyphenbutazone
- b) Wacker Process
- c) Disperse dyes
- d) Importance of pheromones in IPM
- e) Synthetic detergents



Seat No.	
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M.Sc. (Part - II) (Semester - IV) (CBCS) Examination, November - 2018

ORGANIC CHEMISTRY

Applied Organic Chemistry (Paper - XVI)

Sub. Code : 61433

Day and Date : Friday, 30 - 11 - 2018

Total Marks : 80

Time : 2.30 p.m. to 5.30 p.m.

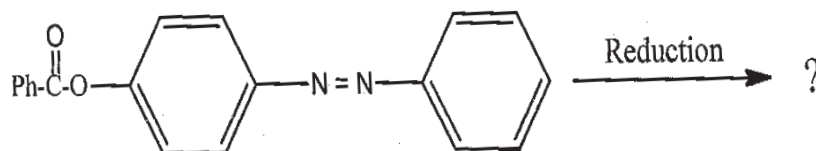
- Instructions :
- 1) Question No. 1 is compulsory.
 - 2) Answer any two questions from each section.
 - 3) Answers to the all questions should written in the same answer book.
 - 4) Figures to the right indicate full marks.

Q1) A) Answer the following: [16]

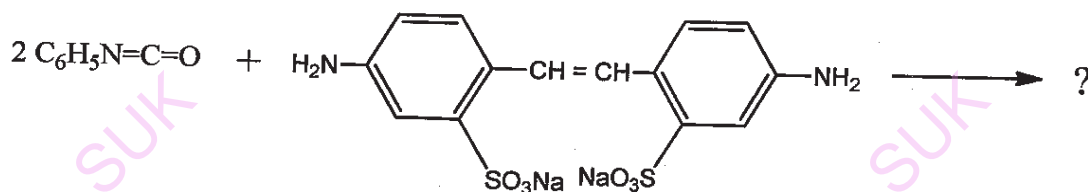
- i) Define Optical brighteners.
- ii) Enlist the initiators used in cationic polymerization.
- iii) Give the composition of Bagasse.
- iv) What are uses of β -phenyl ethanol.
- v) What are Systemic pesticides?
- vi) Draw the structure of JH-III.
- vii) What do you mean by LD_{50} ?
- viii) Give any two applications of Pheromones.
- ix) Draw the structure of Chrysanthemic acid.
- x) Define term 'Dye Intermediates'.

B) Predict the Product of following :

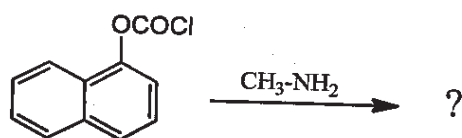
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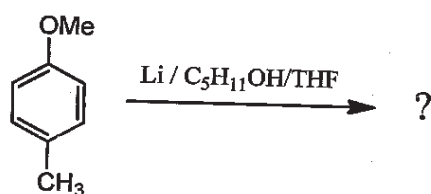
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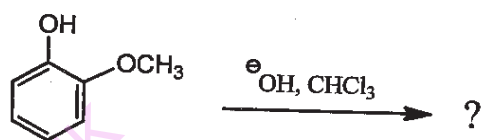
xiii)



xiv)



xv)



xvi)

**SECTION-I**

- Q2)** a) What are organophosphorous pesticides? Give the synthesis and applications of Dimethoate, Phorate and Malathion. [10]
- b) Describe manufacturing process of Furfural from Bagasse. [6]
- Q3)** a) Describe various types of polymerization. Give detail account of natural polymers. [10]
- b) Discuss in detail Wacker process. [6]

- Q4)** a) Describe the synthesis of Grandisol and disparlure. [8]
- b) Give the synthesis, properties and applications of following : [8]
- i) Polyethylenes
 - ii) Phenol-formaldehyde resin
 - iii) Polystyrene

SECTION-II

- Q5)** a) What are Pyrethroids ? Give the method of synthesis of following : [8]
- i) Fenvalerate
 - ii) Allethrin
- b) Explain diazo coupling with suitable examples. Give the preparation and applications of Metanil yellow and Congo red. [8]
- Q6)** a) What is sulphonation ? Describe the mechanism of sulphonation. Explain the method of synthesis of H-acid and J-acid. [8]
- b) Discuss the synthesis and pharmaceutical applications of [8]
- i) Ethambutal
 - ii) Benadryl

- Q7)** Write note on the following (Any Four) [16]
- a) Synthetic musk
 - b) Aldicrab and Baygon
 - c) Food flavors
 - d) Plant growth regulator
 - e) Disperse dye

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**M.Sc. (Part - II) (Semester - IV) (CBCS) Examination,
November - 2019**

ORGANIC CHEMISTRY (Paper - XVI)

Applied Organic Chemistry

Sub. Code : 61433

Day and Date : Monday, 25 - 11 - 2019

Total Marks : 80

Time : 03.00 p.m. to 06.00 p.m.

- Instructions :**
- 1) Question No.1 is compulsory.
 - 2) Answer any two questions from each section.
 - 3) Answers to the all the questions should written in the same answer book.
 - 4) Figures to the right indicate marks.

Q1) Answer the following : [16]

- a) Condensation polymers are sometime called as _____.
 - i) chain growth polymers
 - ii) step growth polymer
 - iii) initial polymer
 - iv) none of above
- b) Draw the structure of Congo red.
- c) Ethambutal is used as _____.
 - i) antibiotic
 - ii) antiseptic
 - iii) anti-allergic
 - iv) all of above
- d) Free radical polymerization results when a suitable _____ is heated with a radical initiator.
 - i) benzoyl peroxide
 - ii) alkene
 - iii) ketone
 - iv) amines
- e) Which of the following is starting material for the synthesis of malathion
 - i) diethyl maleate
 - ii) diethyl succinate
 - iii) dimethyl maleate
 - iv) diethyl phthalate

P.T.O

- f) Sevin is good contact of _____.
- i) carbamate insecticide
 - ii) carbamate bactericide
 - iii) carbamate fungicide
 - iv) all of above
- g) The common side effect of beridryl is _____.
- i) dizziness
 - ii) swelling
 - iii) abdominal pain
 - iv) all of above
- h) There are _____ major classes of polymers.
- i) two
 - ii) three
 - iii) four
 - iv) many
- i) Oxyphenbutazone is a _____ drug.
- i) Anti-inflammatory
 - ii) Antibiotic
 - iii) Antipyretic
 - iv) All of the above
- j) Malachite green is synthesized by condensing two molecules of _____ and one molecule of benzaldehyde.
- i) aniline
 - ii) dimethyl aniline
 - iii) Naphthol
 - iv) phenol
- k) Cypermethrin is used as a _____.
- i) insecticide
 - ii) plant growth regulator
 - iii) herbicide
 - iv) none of these
- l) Which of the following is a pyrethoid insecticide?
- i) Deltamethrin
 - ii) chloropyriphos
 - iii) Baygen
 - iv) phorate
- m) Define the term "Nylon".
- n) Define perfumery compounds. Give any two examples.
- o) Why H_2O_2 is added in hair dye.
- p) Write the structure of methyl orange.

SECTION - I

- Q2)** a) Give an account on method of synthesis of carbofuran, Zineb and disparlure. [10]
b) Discuss the synthesis and applications of reactive dye. [6]
- Q3)** a) Discuss the development of synthetic pyrethroids. Outline the synthesis of cypermethrin. [8]
b) Describe the industrial importance of Oxo process. [8]
- Q4)** a) Discuss various methods of amination used in the preparation of dye intermediates. [8]
b) What are resins? Give the method of preparation and uses of Bakelite. [8]

SECTION - II

- Q5)** a) Discuss the manufacturing and applications of polyamide and polystyrene. [8]
b) Describe the manufacturing process with flow sheet diagram of acetic acid and butyraldehyde from ethanol. [8]
- Q6)** a) Discuss the commercial process for azo and dispersed dyes. [8]
b) Illustrate different components of perfume and their role. [8]
- Q7)** Write a note (Any four) : [16]
a) Monocrotophos
b) Ionones
c) IPM
d) Beridryl
e) Antioxidants



Shivaji University, Kolhapur
Question Bank For Mar 2022 (Summer) Examination

Subject Code: 81567 **Subject Name:** Applied organic Chemistry

Common subject Code (if any):----

Q1 Short answer questions

- 1) Define optical brighteners with suitable examples.
- 2) Write the structure of aniline yellow.
- 3) Define perfumery compounds. Give any two examples.
- 4) Write the structure of aldicarb.
- 5) What are condensation polymers? Give one example.
- 6) Which are two processes used for the vinegar production.
- 7) Give two examples of plant growth regulators.
- 8) Write the structures of any two carbamate pesticides.
- 9) Give the applications of β -phenylethanol.
- 10) Write the structure of methyl orange.
- 11) Draw the structure of JH-III
- 12) Draw the structure of J- acid.
- 13) Enlist the applications of 2-phenylethanol.
- 14) Draw the structure of Winthers acid.
- 15) What do you mean by free radical polymerisation?
- 16) Which heterocyclic nucleus is present in Endrin?
- 17) What do you mean by unit process?
- 18) Draw the structure of any one azo dye.
- 19) Give the structure and applications of N, N'-dimethyl-4,4'-bipyridinium dichloride.
- 20) Name any one anti-oxidant for polymer.
- 21) What is type of dye Uranine?
- 22) What do you mean by IPM ?

- 23) Give any two examples food flavours.
- 24) What is viscous Rayon?
- 25) How recovery of aniline is carried out in Bechamp reduction.
- 26) Give examples of any two xanthene dyes.
- 27) Give oxides of nitrogen used in nitration reaction.
- 28) Name any one anti-oxidant for polymer.
- 29) What is importance of fluorine derivatives of organic compounds?
- 30) Draw the structure of martius yellow.
- 31) Which reaction is used in the synthesis of aldrin?
- 32) Define thermoplastic polymer? Give one example.
- 33) Draw the structure of JH-II.
- 34) Which system affected in the mode of action of pesticides?
- 35) Which pesticide is used against termites?
- 36) Which is the less toxic herbicide?
- 37) Which is the contact, non-selective and zero persistent herbicide in soils?
- 38) What is plant source of Vanillin?
- 39) What is inhibited in Paraquate?
- 41) Name any non-selective contact herbicide?
- 42) What is mode of action of Atrazine?
- 43) What is usefulness of Eldrin?
- 44) ----- pesticides are used in agriculture and mosquito control.
- 45) How many rings are fused in Endrin.
- 46) What is class of Aldrin pesticide?
- 47) Cyanuric chloride is used as starting material for the synthesis of ----
- 48) Methoprene mimics ----- hormone.
- 49) -----used for rose like odour.
- 50) Which reagent used in Bachamp reduction?
- 51) Mention applications of polyethylene?
- 52) Define the term 'systemic pesticide'.

53) Mention the class of Sunyellow dye.

54) Mention any two organochlorine pesticide.

55) Herbicides are also known as -----

56) Condensation of phenylhydrazine and monochloric acid gives-----

57) Juvelline hormone is secreted by-----

58) Draw the structure of indigo dye.

59) What is IUPAC name of Amitrole.

60) Draw the structure of musk ketone.

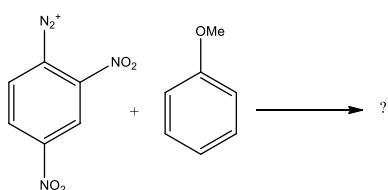
61) Draw the structure of any two azo dyes.

62) Enlist the applications of insect pheromones.

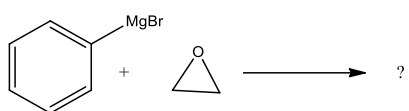
63) Styrene epoxide is important starting material for the synthesis of ----

64) What is starting material used in the synthesis of Musk ketone?

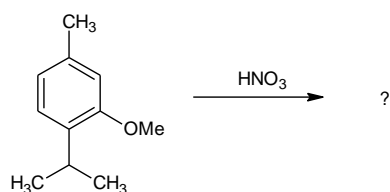
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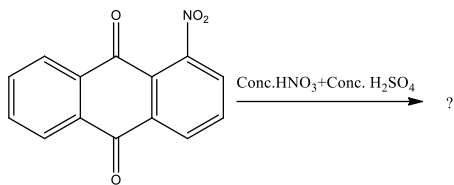
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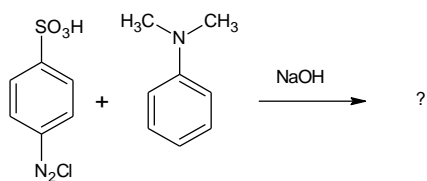
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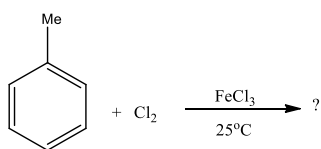
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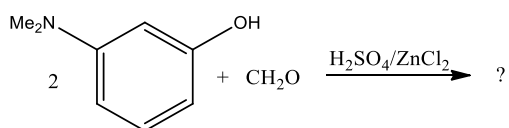
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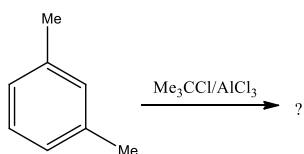
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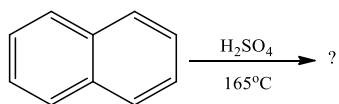
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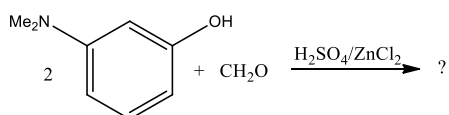
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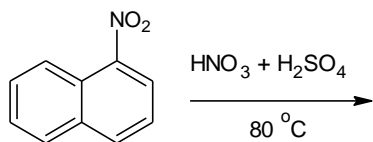
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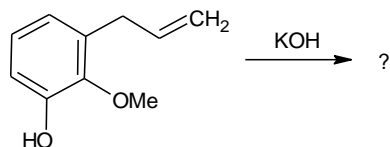
74)



75)



76)



77) What is oxidation product of Aldrin?

78) Mention the class of Picric acid.

79) Which functional groups are present in Metanil yellow?

80) Which heterocyclic nucleus is present in Indigo white?

SECTION -I

Q2

1) Discuss the method of synthesis and applications of following.

a) Aldrin b) Vaniline

2) What is Juvelline hormone? Discuss its importance in agriculture.

3) What are plasticizers? Explain their importance in polymer industry.

4) Discuss classification of dyes with examples.

5) What is nitration? Describe unit process of nitration of naphthalene to α -nitronaphthalene.

6) Give a detail account on Xanthenes dyes.

7) What are ionones? Discuss their synthesis and applications.

8) Give the methods of synthesis and applications of the following

i) Musk ketone ii) Para red iii) β -phenylethanol

9) Describe Bechamp reduction for manufacture of aniline.

10) What are nitro dyes? Describe the synthesis of any two nitro dyes.

Q3

1) What are herbicides? Discuss synthesis of triazoles.

2) What is nitration? Describe unit process of nitration of naphthalene to α -nitronaphthalene.

3) Discuss classification of Dyes. Illustrate the importance of reactive dyes.

4) Write the methods of synthesis and applications of

i) Musk ambrette ii) Vaniline

- 5) Discuss classification of azo dyes?
- 6) Give the methods of synthesis and applications of the following.
 - a) Musk xylene
 - b) Dieldrin
- 7) What are optical brighteners? Explain their importance.
- 8) What is halogenation? Discuss in detail Wacker process for manufacture of tetrachloroethane.
- 9) What are resins? Discuss synthesis of Bakelite resin.
- 10) Discuss synthesis of the following
 - a) Musk xylene
 - b) β -ionone

Q4

- 1) Discuss the method of synthesis and applications of following.
 - a) Diquat
 - b) Paraquat
- 2) What is integrated pest management? Give its importance in agriculture.
- 3) Give a detail account of unit process involved in the nitration of benzene.
- 4) What are herbicides? Discuss synthesis of triazines.
- 5) Give a detail account on Nitro dyes.
- 6) Discuss classification of Dyes. Illustrate the importance of acid dyes.
- 7) Write the methods of synthesis and applications of
 - a) 2-Phenyl ethanol
 - b) Musk xylene
- 8) Discuss method of synthesis and applications of acrylate and methacrylate polymer
- 9) What are dispersed dyes? Discuss in detail any one method of synthesis.
- 10) Discuss classification of dyes based on chemical constitution.

Q5

- 1) Discuss classification of dyes based on dye application.
- 2) Discuss classification of insecticides based on mode of action.
- 3) Discuss role of fixative in perfumery compounds with suitable examples.
- 4) Discuss the structure and synthesis of Juvenile hormone.
- 5) Define the term polymerisation. Discuss types of polymerisation methods.
- 6) What are biopolymers? Discuss synthesis of any one biopolymer.
- 7) Discuss classification of herbicides.
- 8) Write in detail mode of action of herbicides.
- 9) Discuss in detail herbicidal activity of triazines with suitable example.
- 10) Explain in detail selective pre-emergence herbicide with suitable example.

Q6

- 1) Explain bipyridinium herbicides and their mode of action with suitable examples.

- 2) Discuss in brief chemistry of triazoles with respect to their herbicidal activity.
- 3) Discuss in detail different approaches of integrated pest management.
- 4) Explain methods of synthesis of picric acid from chlorobenzene and phenol.
- 5) Write the synthesis of martius yellow dye.
- 6) Write the synthesis of amino yellow-E dye.
- 7) Write the synthesis of naphthol yellow-S dye.
- 8) Discuss in brief process of application of developed dyes.
- 9) Write the synthesis of Rhodamine B.
- 10) Write the synthesis of Rhodamine -6G.

Q7

Write short note on the following

- 1) Natural polymers
 - 2) Photochlorination
 - 3) Plasticizers
 - 4) Importance of Juvenile hormone
 - 5) Synthetic Musk
 - 6) IPM
 - 7) Synthetic Musk
 - 8) Dye intermediates
 - 9) Diazotization reaction
 - 10) Reactive dyes
 - 11) Organochlorine pesticides
 - 12) Plant growth regulators
 - 13) Wacker process
 - 14) Pyridazinones
 - 15) 2-phenylethanol
 - 16) Paraquate
 - 17) Dieldrin
 - 18) Vat dyes
 - 19) Alizarin dye
 - 20) Fixative in perfumes
-