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(To be filled in the OMR Sheet)

प्रश्नपुस्तिका क्रमांक
Question Booklet No.

O.M.R. Serial No. | | | | | | | | |

प्रश्नपुस्तिका सीरीज
Question Booklet Series
C

M.Sc Industrial Chemistry (First Semester) Examination, February/March-2022
MSIC-103
Organic Chemistry

Time : 1:30 Hours **Maximum Marks-100**

जब तक कहा न जाय, इस प्रश्नपुस्तिका को न खोलें

निर्देश : –

1. परीक्षार्थी अपने अनुक्रमांक, विषय एवं प्रश्नपुस्तिका की सीरीज का विवरण यथास्थान सही– सही भरें, अन्यथा मूल्यांकन में किसी भी प्रकार की विसंगति की दशा में उसकी जिम्मेदारी स्वयं परीक्षार्थी की होगी।
2. **इस प्रश्नपुस्तिका में 100 प्रश्न हैं, जिनमे से केवल 75 प्रश्नों के उत्तर परीक्षार्थियों द्वारा दिये जाने है। प्रत्येक प्रश्न के चार वैकल्पिक उत्तर प्रश्न के नीचे दिये गये हैं। इन चारों में से केवल एक ही उत्तर सही है। जिस उत्तर को आप सही या सबसे उचित समझते हैं, अपने उत्तर पत्रक (O.M.R. ANSWER SHEET)में उसके अक्षर वाले वृत्त को काले या नीले बाल प्वांइट पेन से पूरा भर दें। यदि किसी परीक्षार्थी द्वारा निर्धारित प्रश्नों से अधिक प्रश्नों के उत्तर दिये जाते हैं तो उसके द्वारा हल किये गये प्रथमतः यथा निर्दिष्ट प्रश्नोत्तरों का ही मूल्यांकन किया जायेगा।**
3. प्रत्येक प्रश्न के अंक समान हैं। आप के जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।
4. सभी उत्तर केवल ओ०एम०आर० उत्तर पत्रक **(O.M.R. ANSWER SHEET)** पर ही दिये जाने हैं। उत्तर पत्रक में निर्धारित स्थान के अलावा अन्यत्र कहीं पर दिया गया उत्तर मान्य नहीं होगा।
5. ओ०एम०आर० उत्तर पत्रक **(O.M.R. ANSWER SHEET)** पर कुछ भी लिखने से पूर्व उसमें दिये गये सभी अनुदेशों को सावधानीपूर्वक पढ़ लिया जाय।
6. परीक्षा समाप्ति के उपरान्त परीक्षार्थी कक्ष निरीक्षक को अपनी प्रश्नपुस्तिका बुकलेट एवं ओ०एम०आर० शीट पृथक–पृथक उपलब्ध कराने के बाद ही परीक्षा कक्ष से प्रस्थान करें।
7. निगेटिव मार्किंग नहीं है।

महत्वपूर्ण : – **प्रश्नपुस्तिका खोलने पर प्रथमतः जॉच कर देख लें कि प्रश्नपुस्तिका के सभी पृष्ठ भलीभॉति छपे हुए हैं। यदि प्रश्नपुस्तिका में कोई कमी हो, तो कक्ष निरीक्षक को दिखाकर उसी सीरीज की दूसरी प्रश्नपुस्तिका प्राप्त कर लें।**

417

1. Hydroquinone is soluble in :

(A) Benzene

(B) Water

(C) Ethanol

(D) Acetone

2. The name of compound is :

$C_6Cl_2(CN)_2O_2$

(A) DDQ

(B) DDC

(C) DDT

(D) None of these

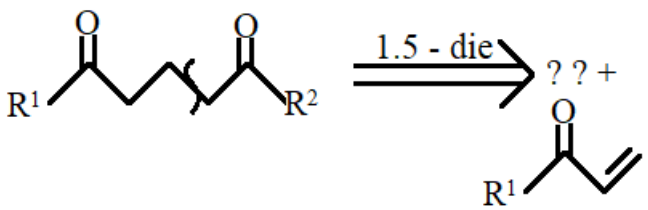
3. Gilmann reagent can be prepared with help of :

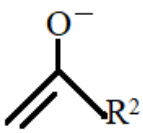
(A) Copper Iodide

(B) Methyl lithium

(C) Both (A) and (B)

(D) Tetrahydrofuran

4. 

(A) 

(B) 

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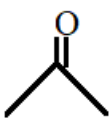
(D) 

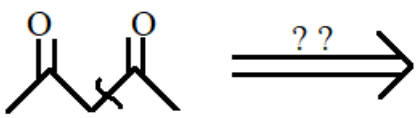
5. Lithium dimethyl cuprate is also known as :

(A) Gilman Reagent

(B) Reducing Agent

(C) Oxidizing Agent

(D) None of these

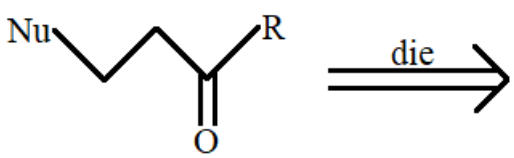
6. 

(A) 1, 1 die

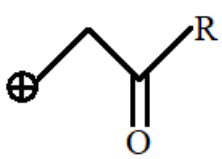
(B) 1, 2 die

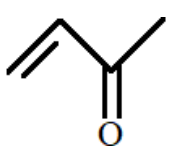
(C) 1, 3 die

(D) 1, 5 die

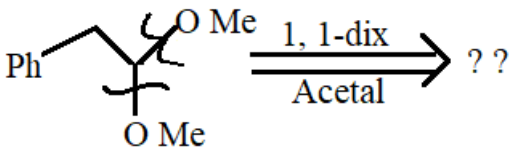
7. 

(A) $Nu^{\ominus}$

(B) 

(C) 

(D) All of these

8. 

(A) Ph-CHO

(B) Ph-CH_2-CHO

(C) 

(D) None of these

9. Paracetamol is an examples of which disconnection :

(A) C-N

(B) C=N

(C) C≡N

(D) None of these

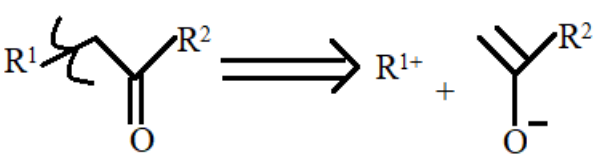
10. The weed killer propanil is anexample of :

(A) C-C dis

(B) C_1-C_2 dis

(C) C-X dis

(D) 1, 3 – dis

11. 

(A) C-C die

(B) C-X die

(C) 1.5 die

(D) 1.3 die

12. The acid chloride is converted into alcohols, what types of reagent used ?

(A) $NaBH_4$

(B) $NaBH_2$

(C) $KMnO_4$

(D) SeO_2

13. $4NaH + B(OCH_3)_3 \xrightarrow{250°C}$??

(A) $NaNH_2$

(B) $NaBH_4$

(C) $NaBH_3$

(D) $NaBH_2$

14. What will be product when acetic acid is reacts with SeO_2

(A) Malic acid

(B) Fumeric acid

(C) Cinamic acid

(D) Succinic acid

15. Aldehyde is converted into glyoxal, what types of reactants used :

(A) SeO_2

(B) SeO_4

(C) OsO_4

(D) $KMnO_4$

16. R-N=C=O $\xrightarrow{LiAlH_4}$??

(A) R-CO

(B) R-NH_2

(C) R-NH-CH_3

(D) None of these

17. RCHO $\xrightarrow{LiAlH_4}$??

(A) RCH_2OH

(B) RCOOH

(C) R-CH_3

(D) R-OH

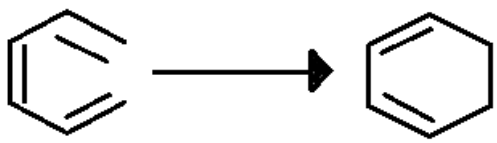
18. $LiH + AlCl_3 \xrightarrow[THF]{Dry\ ether} ??$

(A) LiAlH

(B) $LiAlH_2$

(C) $LiAlH_3$

(D) $LiAlH_4$

19. 

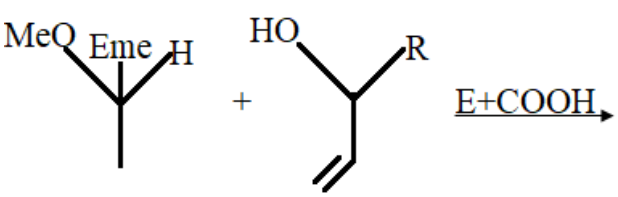
is an example of :

(A) Cyclo addition

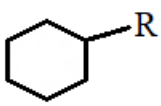
(B) Electrocyclic

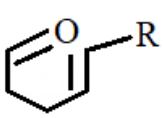
(C) Sigmatropic

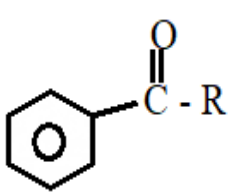
(D) None of these

20. 

(A) 

(B) 

(C) 

(D) 

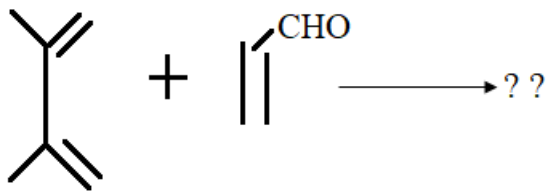
21. The conversion of O-aryl phenol from aryl allyl ether is an example of :

(A) Sigmatropic

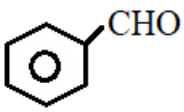
(B) Cyclo addition

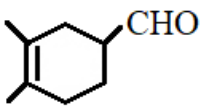
(C) Grignard Reagent

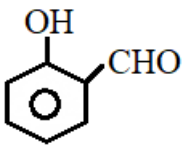
(D) None of these

22. 

(A) 

(B) 

(C) 

(D) 

23. Short out the dienophile from the following : Maleic anhydride, cyclopentodiene, Benzene, Hexane :

(A) Maleic acid

(B) Cyclopentadiene

(C) Benzene

(D) Hexane

24. Short out the diene in following cyclopendine, Isoprene, Butadiene :

(A) Cyclopentadiene

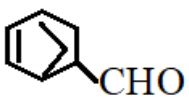
(B) Isoprene

(C) Butadiene

(D) All of these

25. 

(A) 

(B) 

(C) 

(D) None of these

26. What will be product when Ethylene reacts with 1,3-butadiene ?

(A) Cyclohexane

(B) Cyclohexene

(C) Cyclohexyne

(D) Benzene

27. Which types of helerocyclic compounds used for coloring agent ?

(A) Pyrrole

(B) Pyridine

(C) Indole

(D) Furan

28. What will be effect of nitration on Indole. The nitro group attack on :

(A) 1-Position

(B) 2-Position

(C) 3-Position

(D) 4-Position

29. What will be the product when O–nitro toluene reacts with dimethyl oxalate ?

(A) Indole

(B) Thiophene

(C) Pyrrole

(D) Pyridine

30. Acyl-o-toluidine is used for the preparation of :

(A) Pyrrole

(B) Pyridine

(C) Furan

(D) Indole

31. Phenyl hydrazones of an aldehyde or ketone is used for the preparation of :

(A) Pyrrole

(B) Pyridine

(C) Thiophene

(D) Indole

32. The nature of Indole is :

(A) Solids

(B) Liquids

(C) Lubricants

(D) None of these

33. Cinchona alkaloids are isolated from :

(A) Coffee tree

(B) Tea tree

(C) Cinchona tree

(D) Rubber tree

34. Nicotinic acid is prepared with the help of quinoline. What types of agent used :

(A) Oxidizing

(B) Reducing

(C) Acidic

(D) Basic

35. 1,2,3,4- tetrahydro quinoline is prepared by :

(A) Oxidizing agent

(B) Reducing agent

(C) Acids

(D) Bases

36. On which position nucleophile attack on quinoline :

(A) 1-position

(B) 2-position

(C) 3-position

(D) None of the above

37. Quinoline $\xrightarrow{Priedl\ Craft\ Rx}$??

(A) 1- methoxy quinoline

(B) 2- methoxy quinoline

(C) 4- methoxy quinoline

(D) 8- methoxy quinoline

38. Aniline reacts with β-ketoester, it gives :

(A) 2-methyl quinoline

(B) 4-quinoline

(C) 2-methyl-4-quinoline

(D) None of these

39. Skraup synthesis is used for the preparation of :

(A) Quinoline

(B) Pyrrole

(C) Pyridine

(D) Thiophene

40. The nature of Quinoline is :

(A) Inert

(B) Solid

(C) Gas

(D) Hygroscopic colorless liquid

41. The compound pyrrolidine is found in :

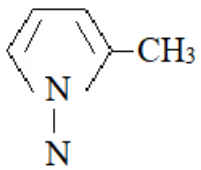
(A) Onion

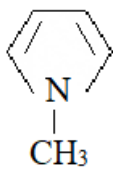
(B) Carrot green

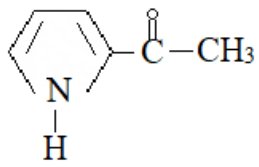
(C) Tomato

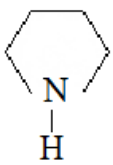
(D) Potato

42. What will be effect of friedel craft reaction on pyrrole is ?

(A) 

(B) 

(C) 

(D) 

43. What will be the effect of electrophilic reaction on pyrrole ?

(A) One position

(B) Two position

(C) Five position

(D) Four position

44. What types of reactants used for the preparation of pyrrole through Paal-Knorr Method ?

(A) Ketonic

(B) Aldehyde

(C) Alcoholic

(D) None of these

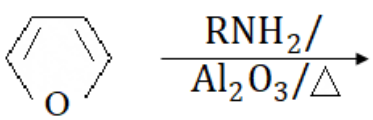
45. What types of Heterocyclic compound can be prepared from ammonium mucate :

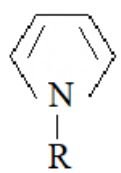
(A) Pyridine

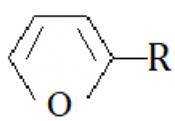
(B) Indole

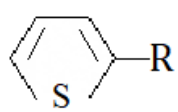
(C) Pyrrole

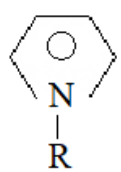
(D) None of these

46. 

(A) 

(B) 

(C) 

(D) 

47. The intermolecular hydrogen bond involved in :

(A) Pyrrole

(B) Thiophene

(C) Indole

(D) Pyridine

48. Nicotinamide is used for curing the diseases of :

(A) Fever

(B) T.B.

(C) Cancer

(D) Pellegra

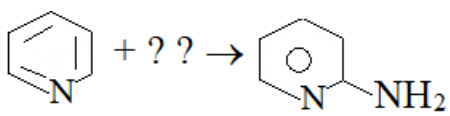
49. Which one compound gives the order like chloroform :

(A) Pyridine

(B) Pyrrole

(C) Thiophene

(D) Furans

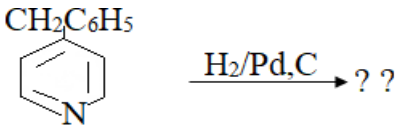
50. 

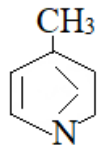
(A) NH_3

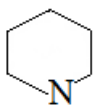
(B) $NaNH_2$

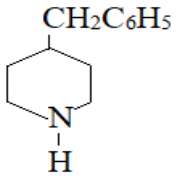
(C) NH_4OH

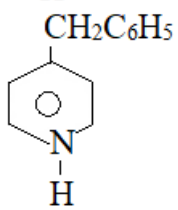
(D) N_2

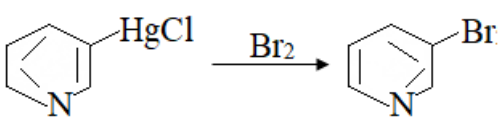
51. 

(A) 

(B) 

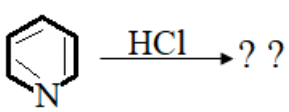
(C) 

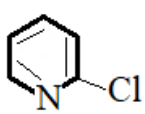
(D) 

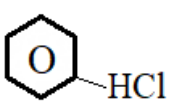
52. 

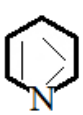
is the properties of :

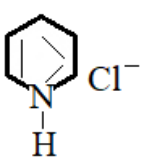
(A) Pyrrole
(B) Pyridine
(C) Thiophene
(D) Furan

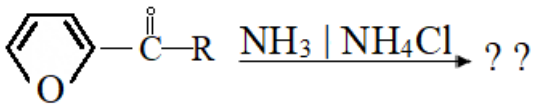
53. 

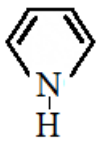
(A) 

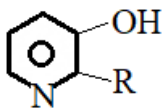
(B) 

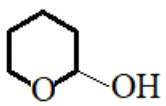
(C) 

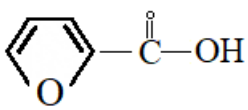
(D) 

54. 

(A) 

(B) 

(C) 

(D) 

55. What types of Heterocyclic compound can be prepared from 2-methyl anion :

(A) Thiophene

(B) Furan

(C) Pyridine

(D) Indole

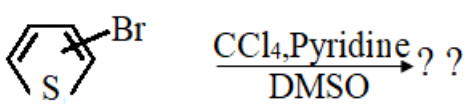
56. Boiling points and freezing point of pyridine are, respectively :

(A) 95°C, - 10°C

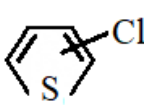
(B) 115°C, −42°C

(C) 105°C,- 40°C

(D) 200°C,-10°C

57. 

(A) Derivative of thiophene

(B) 

(C) Both (A) and (B)

(D) None of these

58. Hinsber method used for the preparation of :

(A) Thiophene-derivative

(B) Furan-derivative

(C) Pyridine-derivative

(D) Indole derivative

59. The thiophene can be prepared from :

(A) Na – iodide

(B) Na – Malic acid

(C) Na – succinate

(D) None of these

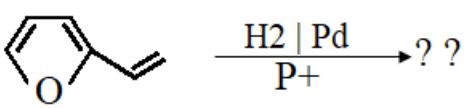
60. The colour of thiophene is :

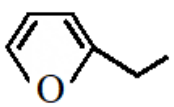
(A) Coloured

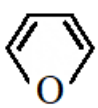
(B) Colourless

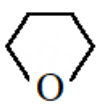
(C) Yellow

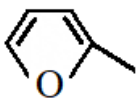
(D) Red

61. 

(A) 

(B) 

(C) 

(D) 

62. Dield-Alder Rx is called the :

(A) Sigmatropic

(B) Electrocyclic

(C) Cheleotropic

(D) Cycle Addition

63. The cyclization of Allenals and alkene gives :

(A) Furan derivatives

(B) Thiophene derivatives

(C) Indole derivatives

(D) Pyridine derivatives

64. The cyclization of 1,4-diketone under acidic condition is used for the preparation of:

(A) Furan

(B) Thiophene

(C) Pyridine

(D) Indole

65. The structure of furan would be :

(A) Planer

(B) Tetrahedral

(C) Trigonal

(D) sp^3d^2

66. The boiling point of furan is :

(A) 30℃

(B) 32℃

(C) 33℃

(D) 31.5℃

67. When the ring size is four (4), the suffix used for saturated N is :

(A) Etidine

(B) Etane

(C) Etedene

(D) None of these

68. The prefix used for Tc is (regarding Helerocydic compound) :

(A) Selen

(B) Telen

(C) Tellura

(D) None of these

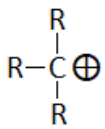
69. Arndt-Eistert homologization utilizes Wolff reaction what types of conversion takes place :

(A) Acid

(B) Base

(C) Salt

(D) None of these

70. 

(A) Carbanion

(B) Carbanion Ion

(C) Radiceel

(D) None of these

71. When neopentyl alcohol gives 2-methyl-but-2-ene and 2-methyl-but-1-ene. What types of reacting involved ?

(A) Wagner-Mearwein Rearrangement

(B) Perkin Reaction

(C) Wolff-Kishner

(D) Lossen Rearrangement

72. When neopentyl bromide is hydrolysed under SN_2 reaction? What types of product is formed?

(A) Alcohol

(B) Acid

(C) Base

(D) Salt

73. Ketone is converted into acids, identify the reaction.

(A) Lossen rearrangement

(B) Beckmann rearrangement

(C) Reimeo-Tiemann Rx

(D) Stobbe Rx

74. What types of condensation / Reaction used for the preparation of α, β- unsatcrated half ester.

(A) Stobbe reaction

(B) Reimer-Tiemann reaction

(C) Pinacole- Pinacolone reaction

(D) None of these

75. When cyclahexanone geves caprolactom. What types of reagent used.

(A) N_3H

(B) H_2SO_4

(C) N_3H / H_2SO_4

(D) NaOH

76. What types of reaction involved when phenyl-acetic acid is converted benzylamine.

(A) Lossen rearrangement

(B) Curtiue reaction

(C) Beckmann rearrangement

(D) Schmidt reaction

77. Complete the reaction-

R COOH + $N_3H \xrightarrow{H_2SO_4}$??

(A) RCOR

(B) $RCONH_2$

(C) RCONHR

(D) None of these

78. What will be the product when carboxylic acid and hydrazoic acid reacts in the presence of H_2SO_4.

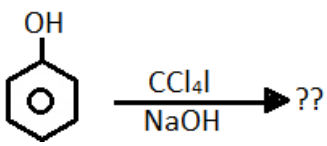
(A) Amine

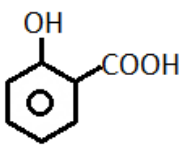
(B) Amide

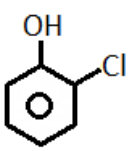
(C) Acid

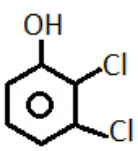
(D) Base

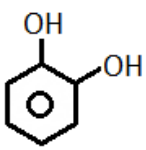
79. Complete the reaction:



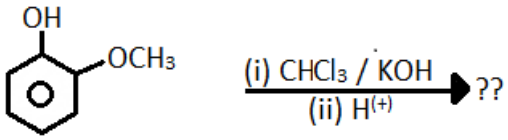
(A) 

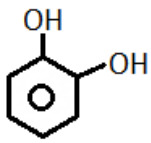
(B) 

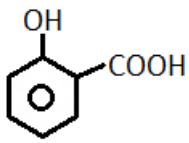
(C) 

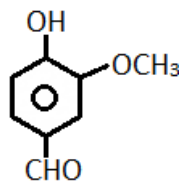
(D) 

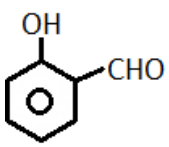
80. Complete the reaction



(A) 

(B) 

(C) 

(D) 

81. Formylation of phenols with chloroform in alkaline solution is know as.

(A) Reimer-Tiemann Reaction

(B) Hofmann reaction

(C) Beckmann rearrangement

(D) None of these

82. When isobutylene is converted into Dimethyl acetaldehyde, what types of reaction involved.

(A) Application of Stobbe

(B) Application of Lossen

(C) Application of pinacol-pinacolone

(D) None of these

83. What types of reactions involved when diols are converted into ketone (or) aldehyde.

(A) Curtius reaction

(B) Schmidt reaction

(C) Lossen rearrangement

(D) Pinacol-pinacotone rearrangement

84. Complete the reaction

$C_6H_5CHO + (CH_3CH_2CO)_2O \xrightarrow[AcONa]{\triangle}$

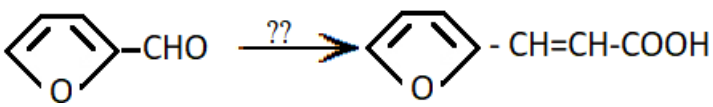
(A) $C_6H_5 - CH = C(CH_3) - COOH$

(B) $C_6H_5\,COOH$

(C) $CH_3CH_2\,COOH$

(D) $C_6H_5\,CHO$

85. Complete the reaction :



(A) $(CH_3CO)_2O$

(B) Ac ONa

(C) Δ

(D) All of these

86. Complete the reaction :

$C_6H_5CHO + (CH_3CO)_2O \xrightarrow[170° - 180°C]{AcONal}$??

(A) C_6H_5 - COOH

(B) C_6H_5CHO

(C) C_6H_5 - OH

(D) C_6H_5 CH= CH - COOH

87. The Nicotinamide is converted into α- aminopyridine. What types of reaction involved in this conversion?

(A) Hofmann rearrangement

(B) Schmidt rearrangement

(C) Lossen rearrangement

(D) Perkin rearrangement

88. Amides are converted into amines, what types of reaction involved in this conversion.

(A) Wagner-Meerwein Rearrangement

(B) Wolff-Kichner Rearrangement

(C) Hofmann Reaction

(D) None of these

89. Complete the reaction and find out the products :

$RCONH_2 + Br_2 + 4\ NaoH \longrightarrow$??

(A) R-NH_2

(B) NaBr

(C) Na_2CO_3

(D) All of these

90. Complete the reaction and write the name of rearrangement.

$C_6H_5CH_2COCH_2Cl \xrightarrow{R\bar{O}}$??

(A) Favorskii Rearrangement

(B) Lossen rearrangement

(C) Claisen reaction

(D) None of these

91. The conversion of ethyl phenyl acetate into benzyl amine is called the.

(A) Application of Perkin

(B) Application of curtius

(C) Application of Reimer-Tiemann

(D) None of these

92. The decomposition of acylazides gives isocyanates in the presence of inert solvent is called.

(A) Lossen rearrangement

(B) Perkin reaction

(C) Both (A) and (B)

(D) Curtius rearrangement

93. Complete the reaction?

$$\begin{array}{l} O - CH_2 - CH = CH_2 \\ | \\ R - C = CR_2^1 \end{array} \xrightarrow{\triangle} ??$$

(A) R-$\overset{O}{\overset{\|}{C}}$-$CR_2^1$ – CH_2 – CH = CH_2

(B) R-CH = CR_2^1

(C) R-COOH

(D) $CH_2 = CH_2$

94. The shift of group from oxygen to carbon is called.

(A) Wolff rearrangement

(B) Perkin reaction

(C) Lossen rearrangement

(D) Claisen rearrangement

95. Complete the reaction :

RCONHR $\xrightarrow{H_2O}$??

(A) RNH_2

(B) $RCONH_2$

(C) RCOOH

(D) R-OH

96. The einnamaldehyde oxime undergoes isoquinoline, what types of reactions involved in this reaction.

(A) Beckmann rearrangement

(B) Aldol condensation

(C) Lossen rearrangement

(D) None of these

97. The conversion of ketooximes toN-substituted amides is known as.

(A) Aldol condensation

(B) Curtius reaction

(C) Lossen rearrangement

(D) Beckmann rearrangement

98. What are the primary condition of aldol condensation :

(A) One aldehyde group

(B) Two aldehyde group

(C) Three aldehyde group

(D) All of these

99. Meaning of ALDOLS is :

(A) Acid plus alcohols

(B) Aldehyde plus alcohols

(C) Both acids

(D) Both bases

100. Reaction of aldehydes undergo self condensation are called.

(A) Aldol condensation

(B) Perkin reaction

(C) Claisenrearrangements

(D) None of these

******

Rough Work / रफ कार्य

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1. Examinee should enter his / her roll number, subject and Question Booklet Series correctly in the O.M.R. sheet, the examinee will be responsible for the error he / she has made.
2. **This Question Booklet contains 100 questions, out of which only 75 Question are to be Answered by the examinee. Every question has 4 options and only one of them is correct. The answer which seems correct to you, darken that option number in your Answer Booklet (O.M.R ANSWER SHEET) completely with black or blue ball point pen. If any examinee will mark more than one answer of a particular question, then the first most option will be considered valid.**
3. Every question has same marks. Every question you attempt correctly, marks will be given according to that.
4. Every answer should be marked only on Answer Booklet **(O.M.R ANSWER SHEET).**Answer marked anywhere else other than the determined place will not be considered valid.
5. Please read all the instructions carefully before attempting anything on Answer Booklet**(O.M.R ANSWER SHEET).**
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