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प्रश्नपुस्तिका क्रमांक
Question Booklet No.

O.M.R. Serial No.

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प्रश्नपुस्तिका सीरीज
Question Booklet Series

B

M.Sc Industrial Chemistry (First Semester)

Examination, February/March-2022

MSIC-103

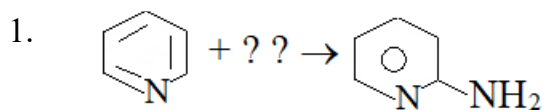
Organic Chemistry

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 भरे, अन्यथा मूल्यांकन में किसी भी प्रकार की विसंगति की दशा में उसकी जिम्मेदारी स्वयं परीक्षार्थी की होगी।
 2. इस प्रश्नपुस्तिका में 100 प्रश्न हैं, जिनमें से केवल 75 प्रश्नों के उत्तर परीक्षार्थियों द्वारा दिये जाने हैं। 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 प्वाइंट 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 जाँच कर देख लें कि प्रश्नपुस्तिका के सभी पृष्ठ भलीभाँति छपे हुए हैं। यदि प्रश्नपुस्तिका में कोई कमी हो, तो कक्ष निरीक्षक को दिखाकर उसी सीरीज की दूसरी प्रश्नपुस्तिका प्राप्त कर लें।



(A) NH_3

(B) NaNH_2

(C) NH_4OH

(D) N_2

2. Which one compound gives the order like chloroform :

(A) Pyridine

(B) Pyrrole

(C) Thiophene

(D) Furans

3. Nicotinamide is used for curing the diseases of :

(A) Fever

(B) T.B.

(C) Cancer

(D) Pellegra

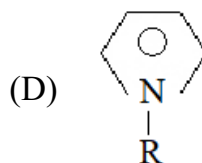
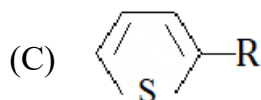
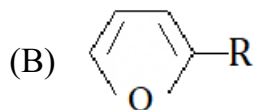
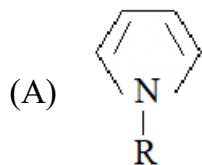
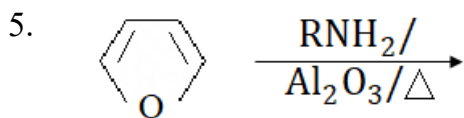
4. The intermolecular hydrogen bond involved in :

(A) Pyrrole

(B) Thiophene

(C) Indole

(D) Pyridine



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

(A) Pyridine

(B) Indole

(C) Pyrrole

(D) None of these

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

(A) Ketonic

(B) Aldehyde

(C) Alcoholic

(D) None of these

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

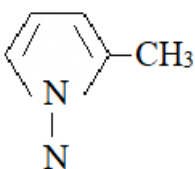
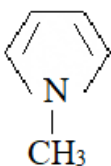
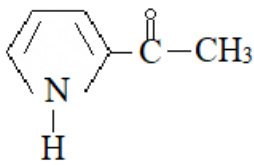
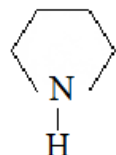
(A) One position

(B) Two position

(C) Five position

(D) Four position

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

- (A) 
- (B) 
- (C) 
- (D) 

10. The compound pyrrolidine is found in :

- (A) Onion
(B) Carrot green
(C) Tomato
(D) Potato

11. The nature of Quinoline is :

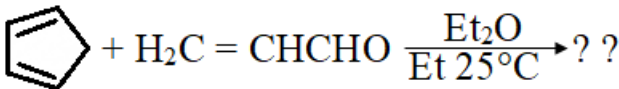
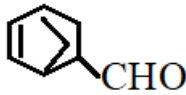
- (A) Inert
(B) Solid
(C) Gas
(D) Hygroscopic colorless liquid

12. Skraup synthesis is used for the preparation of :

- (A) Quinoline
(B) Pyrrole
(C) Pyridine
(D) Thiophene

13. Aniline reacts with β -ketoester, it gives :
- (A) 2-methyl quinoline
 - (B) 4-quinoline
 - (C) 2-methyl-4-quinoline
 - (D) None of these
14. Quinoline $\xrightarrow{\text{Priedl Craft Rx}}$??
- (A) 1- methoxy quinoline
 - (B) 2- methoxy quinoline
 - (C) 4- methoxy quinoline
 - (D) 8- methoxy quinoline
15. On which position nucleophile attack on quinoline :
- (A) 1-position
 - (B) 2-position
 - (C) 3-position
 - (D) None of the above
16. 1,2,3,4- tetrahydro quinoline is prepared by :
- (A) Oxidizing agent
 - (B) Reducing agent
 - (C) Acids
 - (D) Bases
17. Nicotinic acid is prepared with the help of quinoline. What types of agent used :
- (A) Oxidizing
 - (B) Reducing
 - (C) Acidic
 - (D) Basic

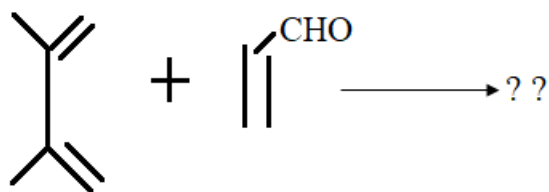
18. Cinchona alkaloids are isolated from :
- (A) Coffee tree
 - (B) Tea tree
 - (C) Cinchona tree
 - (D) Rubber tree
19. The nature of Indole is :
- (A) Solids
 - (B) Liquids
 - (C) Lubricants
 - (D) None of these
20. Phenyl hydrazones of an aldehyde or ketone is used for the preparation of :
- (A) Pyrrole
 - (B) Pyridine
 - (C) Thiophene
 - (D) Indole
21. Acyl-o-toluidine is used for the preparation of :
- (A) Pyrrole
 - (B) Pyridine
 - (C) Furan
 - (D) Indole
22. What will be the product when O-nitro toluene reacts with dimethyl oxalate ?
- (A) Indole
 - (B) Thiophene
 - (C) Pyrrole
 - (D) Pyridine

23. What will be effect of nitration on Indole. The nitro group attack on :
- 1-Position
 - 2-Position
 - 3-Position
 - 4-Position
24. Which types of heterocyclic compounds used for coloring agent ?
- Pyrrole
 - Pyridine
 - Indole
 - Furan
25. What will be product when Ethylene reacts with 1,3-butadiene ?
- Cyclohexane
 - Cyclohexene
 - Cyclohexyne
 - Benzene
26.  ? ?
- 
 - 
 - 
 - None of these
27. Short out the diene in following cyclopentadiene, Isoprene, Butadiene :
- Cyclopentadiene
 - Isoprene
 - Butadiene
 - All of these

28. Short out the dienophile from the following : Maleic anhydride, cyclopentadiene, Benzene, Hexane :

- (A) Maleic acid
- (B) Cyclopentadiene
- (C) Benzene
- (D) Hexane

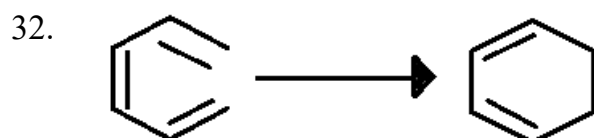
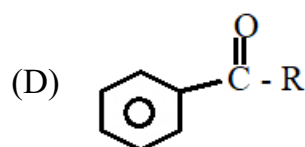
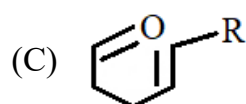
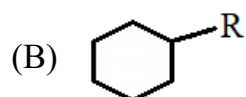
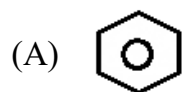
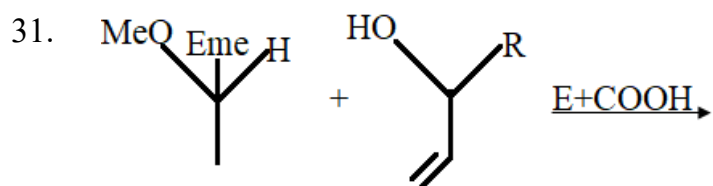
29.



- (A)
- (B)
- (C)
- (D)

30. 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



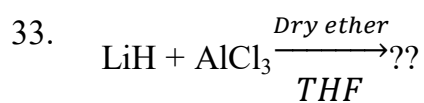
is an example of :

(A) Cyclo addition

(B) Electrocyclic

(C) Sigmatropic

(D) None of these



(A) LiAlH

(B) LiAlH_2

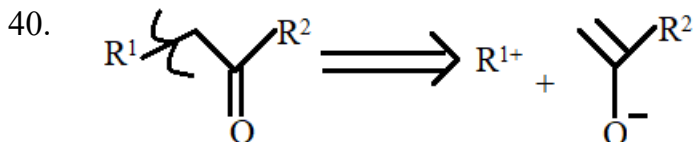
(C) LiAlH_3

(D) LiAlH_4

34. $\text{RCHO} \xrightarrow{\text{LiAlH}_4} ??$
 (A) RCH_2OH
 (B) RCOOH
 (C) R-CH_3
 (D) R-OH
35. $\text{R-N=C=O} \xrightarrow{\text{LiAlH}_4} ??$
 (A) R-CO
 (B) R-NH_2
 (C) R-NH-CH_3
 (D) None of these
36. Aldehyde is converted into glyoxal, what types of reactants used :
 (A) SeO_2
 (B) SeO_4
 (C) OsO_4
 (D) KMnO_4
37. What will be product when acetic acid is reacts with SeO_2
 (A) Malic acid
 (B) Fumeric acid
 (C) Cinamic acid
 (D) Succinic acid
38. $4\text{NaH} + \text{B}(\text{OCH}_3)_3 \xrightarrow{250^\circ\text{C}} ??$
 (A) NaNH_2
 (B) NaBH_4
 (C) NaBH_3
 (D) NaBH_2

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

- (A) NaBH_4
- (B) NaBH_2
- (C) KMnO_4
- (D) SeO_2



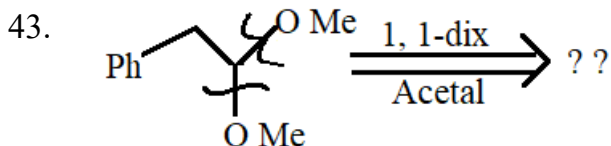
- (A) C-C dis
- (B) C-X dis
- (C) 1,5 dis
- (D) 1,3 dis

41. The weed killer propanil is an example of :

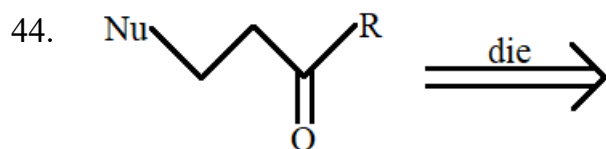
- (A) C-C dis
- (B) $\text{C}_1\text{-C}_2$ dis
- (C) C-X dis
- (D) 1,3 - dis

42. Paracetamol is an example of which disconnection :

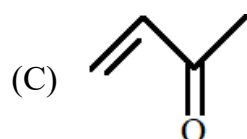
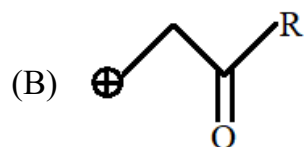
- (A) C-N
- (B) C=N
- (C) $\text{C}\equiv\text{N}$
- (D) None of these



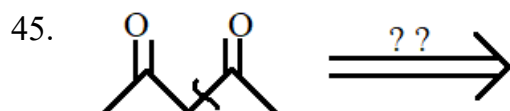
- (A) Ph-CHO
- (B) Ph- CH_2 -CHO
- (C)  CHO
- (D) None of these



(A) $\text{Nu}^{\ominus}$



(D) All of these



(A) 1, 1 die

(B) 1, 2 die

(C) 1, 3 die

(D) 1, 5 die

46. Lithium dimethyl cuprate is also known as :

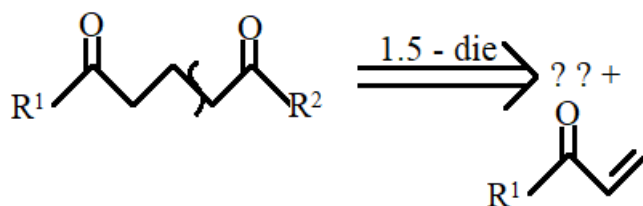
(A) Gilman Reagent

(B) Reducing Agent

(C) Oxidizing Agent

(D) None of these

47.

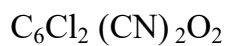


- (A)
- (B)
- (C)
- (D)

48. Gilmann reagent can be prepared with help of :

- (A) Copper Iodide
- (B) Methyl lithium
- (C) Both (A) and (B)
- (D) Tetrahydrofuran

49. The name of compound is :



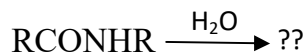
- (A) DDQ
- (B) DDC
- (C) DDT
- (D) None of these

50. Hydroquinone is soluble in :

- (A) Benzene
- (B) Water
- (C) Ethanol
- (D) Acetone

51. Reaction of aldehydes undergo self condensation are called.
- (A) Aldol condensation
 - (B) Perkin reaction
 - (C) Claisen rearrangements
 - (D) None of these
52. Meaning of ALDOLS is :
- (A) Acid plus alcohols
 - (B) Aldehyde plus alcohols
 - (C) Both acids
 - (D) Both bases
53. What are the primary condition of aldol condensation :
- (A) One aldehyde group
 - (B) Two aldehyde group
 - (C) Three aldehyde group
 - (D) All of these
54. The conversion of ketooximes to N-substituted amides is known as.
- (A) Aldol condensation
 - (B) Curtius reaction
 - (C) Lossen rearrangement
 - (D) Beckmann rearrangement
55. The cinnamaldehyde oxime undergoes isomerization, what types of reactions involved in this reaction.
- (A) Beckmann rearrangement
 - (B) Aldol condensation
 - (C) Lossen rearrangement
 - (D) None of these

56. Complete the reaction :

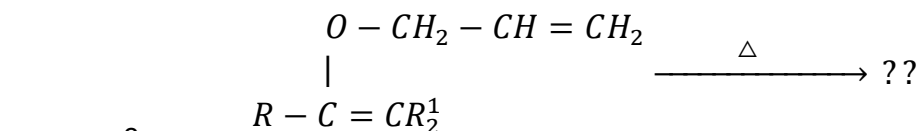


- (A) RNH_2
- (B) RCONH_2
- (C) RCOOH
- (D) R-OH

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

- (A) Wolff rearrangement
- (B) Perkin reaction
- (C) Lossen rearrangement
- (D) Claisen rearrangement

58. Complete the reaction?



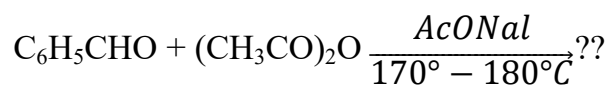
- (A) $\text{R}-\overset{\text{O}}{\parallel}{\text{C}}-\text{CR}_2^1 - \text{CH}_2 - \text{CH} = \text{CH}_2$
- (B) $\text{R}-\text{CH} = \text{CR}_2^1$
- (C) R-COOH
- (D) $\text{CH}_2 = \text{CH}_2$

59. 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

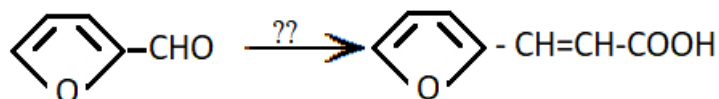
60. The conversion of ethyl phenyl acetate into benzyl amine is called the.
- (A) Application of Perkin
 - (B) Application of Curtius
 - (C) Application of Reimer-Tiemann
 - (D) None of these
61. Complete the reaction and write the name of rearrangement.
- $$\text{C}_6\text{H}_5\text{CH}_2\text{COCH}_2\text{Cl} \xrightarrow{\text{R}\bar{\text{O}}} ??$$
- (A) Favorskii Rearrangement
 - (B) Lossen rearrangement
 - (C) Claisen reaction
 - (D) None of these
62. Complete the reaction and find out the products :
- $$\text{RCONH}_2 + \text{Br}_2 + 4 \text{NaOH} \longrightarrow ??$$
- (A) R-NH_2
 - (B) NaBr
 - (C) Na_2CO_3
 - (D) All of these
63. 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
64. 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

65. Complete the reaction :



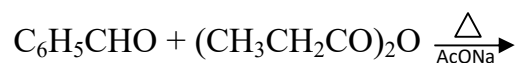
- (A) $\text{C}_6\text{H}_5 - \text{COOH}$
- (B) $\text{C}_6\text{H}_5\text{CHO}$
- (C) $\text{C}_6\text{H}_5 - \text{OH}$
- (D) $\text{C}_6\text{H}_5 \text{CH} = \text{CH} - \text{COOH}$

66. Complete the reaction :



- (A) $(\text{CH}_3\text{CO})_2\text{O}$
- (B) Ac ONa
- (C) Δ
- (D) All of these

67. Complete the reaction



- (A) $\text{C}_6\text{H}_5 - \text{CH} = \text{C}(\text{CH}_3) - \text{COOH}$
- (B) $\text{C}_6\text{H}_5\text{COOH}$
- (C) $\text{CH}_3\text{CH}_2\text{COOH}$
- (D) $\text{C}_6\text{H}_5\text{CHO}$

68. 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

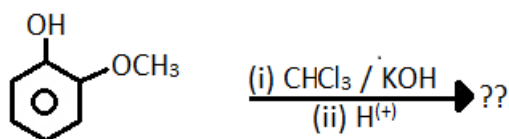
69. When isobutylene is converted into Dimethyl acetaldehyde, what types of reaction involved.

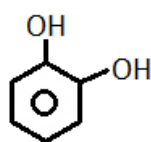
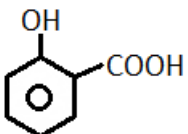
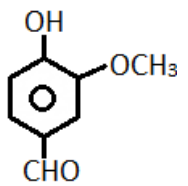
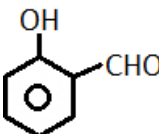
- (A) Application of Stobbe
- (B) Application of Lossen
- (C) Application of pinacol-pinacolone
- (D) None of these

70. Formylation of phenols with chloroform in alkaline solution is known as.

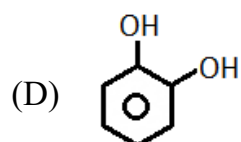
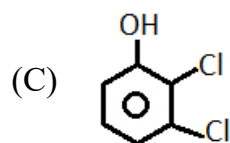
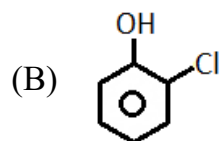
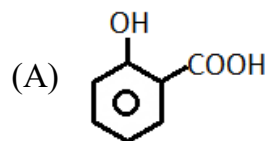
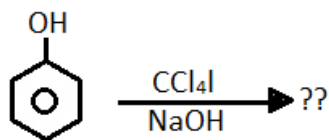
- (A) Reimer-Tiemann Reaction
- (B) Hofmann reaction
- (C) Beckmann rearrangement
- (D) None of these

71. Complete the reaction



- (A) 
Oc1ccccc1O
- (B) 
OC(=O)c1ccccc1O
- (C) 
COc1ccc(O)cc1C=O
- (D) 
O=Cc1ccccc1O

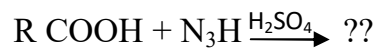
72. Complete the reaction:



73. 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

74. Complete the reaction-

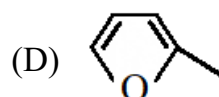
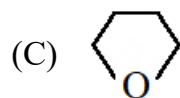
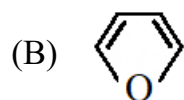
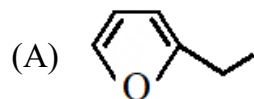
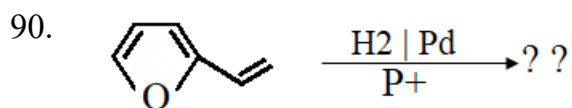


- (A) RCOR
- (B) RCONH_2
- (C) RCONHR
- (D) None of these

75. What types of reaction involved when phenyl-acetic acid is converted benzylamine.
- (A) Lossen rearrangement
 - (B) Curtius reaction
 - (C) Beckmann rearrangement
 - (D) Schmidt reaction
76. When cyclohexanone gives caprolactam. What types of reagent used.
- (A) N_3H
 - (B) H_2SO_4
 - (C) $\text{N}_3\text{H} / \text{H}_2\text{SO}_4$
 - (D) NaOH
77. What types of condensation / Reaction used for the preparation of α, β -unsaturated half ester.
- (A) Stobbe reaction
 - (B) Reimer-Tiemann reaction
 - (C) Pinacol- Pinacolone reaction
 - (D) None of these
78. Ketone is converted into acids, identify the reaction.
- (A) Lossen rearrangement
 - (B) Beckmann rearrangement
 - (C) Reimer-Tiemann Rx
 - (D) Stobbe Rx
79. When neopentyl bromide is hydrolysed under $\text{S}_\text{N}2$ reaction? What types of product is formed?
- (A) Alcohol
 - (B) Acid
 - (C) Base
 - (D) Salt

80. 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
81.
$$\begin{array}{c} \text{R} \\ | \\ \text{R}-\text{C}^{\oplus} \\ | \\ \text{R} \end{array}$$
- (A) Carbanion
 - (B) Carbanion Ion
 - (C) Radiceel
 - (D) None of these
82. Arndt-Eistert homologization utilizes Wolff reaction what types of conversion takes place :
- (A) Acid
 - (B) Base
 - (C) Salt
 - (D) None of these
83. The prefix used for Tc is (regarding Heterocyclic compound) :
- (A) Selen
 - (B) Telen
 - (C) Tellura
 - (D) None of these
84. When the ring size is four (4), the suffix used for saturated N is :
- (A) Etidine
 - (B) Etane
 - (C) Etedene
 - (D) None of these

85. The boiling point of furan is :
(A) 30°C
(B) 32°C
(C) 33°C
(D) 31.5°C
86. The structure of furan would be :
(A) Planer
(B) Tetrahedral
(C) Trigonal
(D) sp^3d^2
87. The cyclization of 1,4-diketone under acidic condition is used for the preparation of:
(A) Furan
(B) Thiophene
(C) Pyridine
(D) Indole
88. The cyclization of Allenals and alkene gives :
(A) Furan derivatives
(B) Thiophene derivatives
(C) Indole derivatives
(D) Pyridine derivatives
89. Dield-Alder Rx is called the :
(A) Sigmatropic
(B) Electrocyclic
(C) Cheletropic
(D) Cycle Addition



91. The colour of thiophene is :

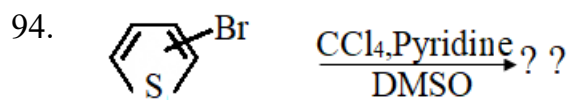
- (A) Coloured
- (B) Colourless
- (C) Yellow
- (D) Red

92. The thiophene can be prepared from :

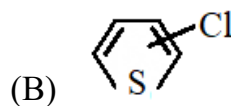
- (A) Na – iodide
- (B) Na – Malic acid
- (C) Na – succinate
- (D) None of these

93. Hinsber method used for the preparation of :

- (A) Thiophene-derivative
- (B) Furan-derivative
- (C) Pyridine-derivative
- (D) Indole derivative



(A) Derivative of thiophene



(C) Both (A) and (B)

(D) None of these

95. 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

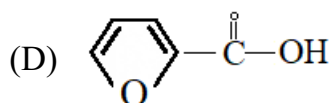
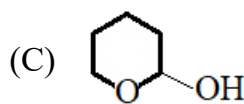
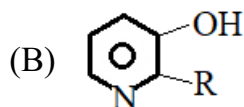
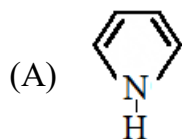
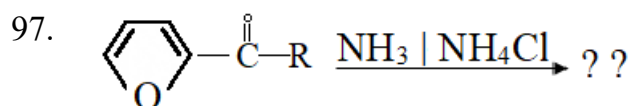
96. What types of Heterocyclic compound can be prepared from 2-methyl anion :

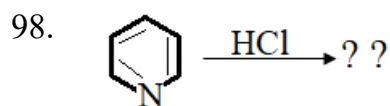
(A) Thiophene

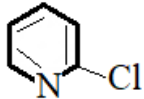
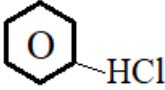
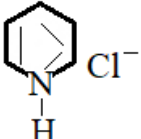
(B) Furan

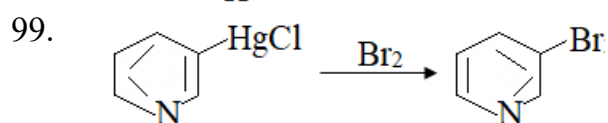
(C) Pyridine

(D) Indole



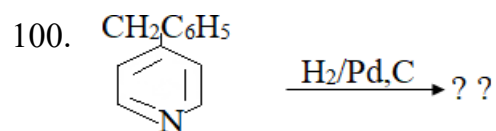


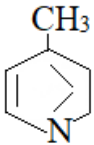
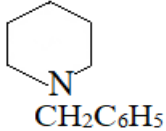
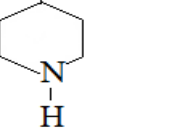
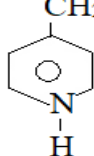
- (A) 
- (B) 
- (C) 
- (D) 



is the properties of :

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



- (A) 
- (B) 
- (C) 
- (D) 

Rough Work / रफ कार्य

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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.**
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