

NEET : CHAPTER WISE TEST-9

SUBJECT :- CHEMISTRY

CLASS :- 11th

CHAPTER :- GOC

DATE.....

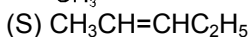
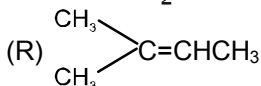
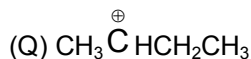
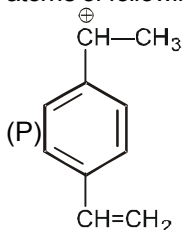
NAME.....

SECTION.....

(SECTION-A)

1. Select the correct statement ?
 (A) All canonical forms always contribute equally to the resonance hybrid.
 (B) In both ethanamine and ethenamine nitrogen is sp^3 hybridised.
 (C) All 'C-O' bond length in carbonate dianion are equal.
 (D) $CH_2=C=O$ does not exhibit resonance because it is not a conjugated system.

2. The number of hyperconjugable hydrogen atoms of following species are respectively :



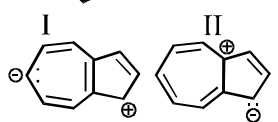
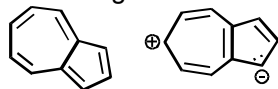
(A) 3, 5, 9, 8

(B) 3, 5, 9, 5

(C) 5, 5, 3, 5

(D) 5, 2, 6, 5

3. The most stable and the least stable resonating structures are respectively ?



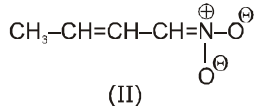
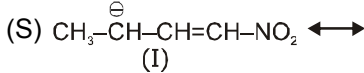
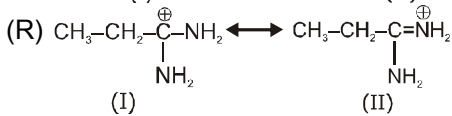
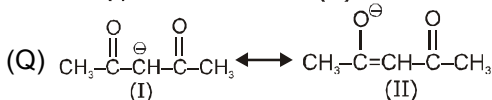
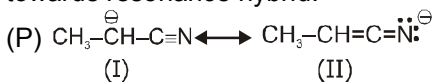
(A) I and IV

(B) I and III

(C) II and III

(D) III and II

4. In the following sets of resonating structure, label the major contributors towards resonance hybrid.



(A) II, II, I, II

(B) II, II, II, I

(C) II, II, II, II

(D) I, I, II, I

5. The most Carbocations, carbanions, free radicals and radical cation are reactive carbon intermediates. Their hybrid orbitals respectively are

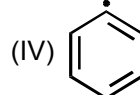
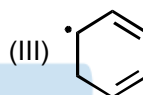
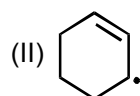
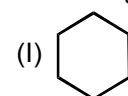
(A) sp^2, sp^2, sp^3, sp^3

(B) sp^2, sp^2, sp, sp^3

(C) sp^2, sp^3, sp^2, sp

(D) sp^3, sp^2, sp, sp^2

6. Rank the following radicals in order of decreasing stability.



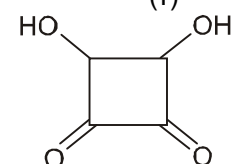
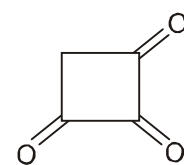
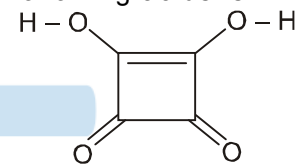
(A) III > II > I > IV

(B) III > II < I < IV

(C) II > III > II > IV

(D) III < II < I < IV

7. The correct pK_a order of the following acids is



(III)

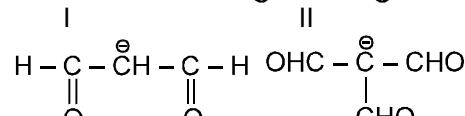
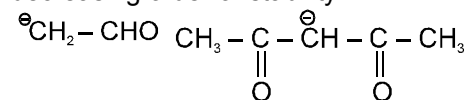
(A) I > II > III

(B) I > III > II

(C) III > II > I

(D) III > I > II

8. Arrange the following carbanions in decreasing order of stability :



(A) IV > III > I > II

(B) IV > II > III > I

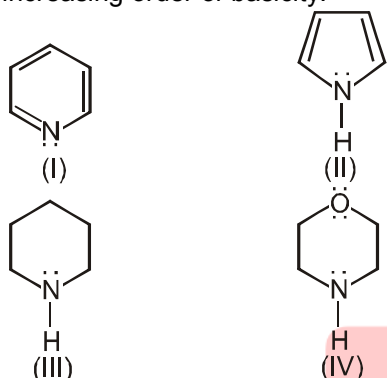
(C) IV > III > II > I

(D) III > IV > II > I

9. Which of the following compounds will show tautomerism :
 (A) 2, 2-Dimethyl propanal
 (B) Benzaldehyde
 (C) Acetyl acetone
 (D) Benzophenone

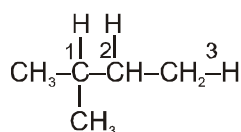
10. In which pairs first compound is stronger acid than the second ?
 (A) Adipic acid, succinic acid
 (B) Fumaric acid, maleic acid
 (C) Phthalic acid, terephthalic acid
 (D) o-toluic acid, Salicylic acid

11. Arrange the following compounds in the increasing order of basicity.



- (A) III > I > IV > II
 (B) III > IV > I > II
 (C) II > I > IV > III
 (D) I > II > III > IV

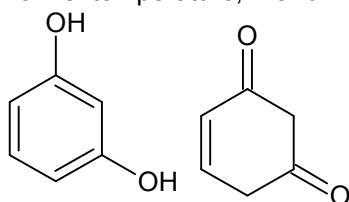
12.



in C_1-H , C_2-H and C_3-H the homolytic bond dissociation energy order is :

- (A) $C_2-H > C_3-H > C_1-H$
 (B) $C_2-H > C_3-H > C_1-H$
 (C) $C_2-H > C_3-H > C_1-H$
 (D) $C_3-H > C_2-H > C_1-H$

13. At normal temperature, X and Y are

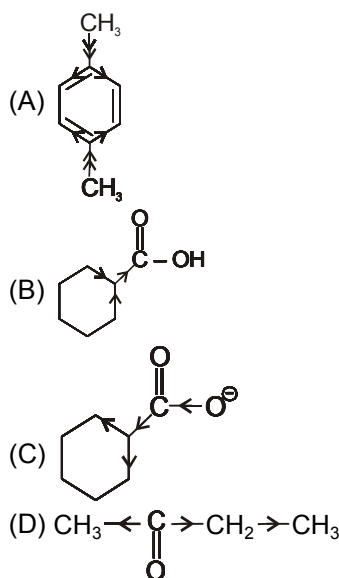


- (A) resonance structures
 (B) tautomers
 (C) functional isomers
 (D) positional isomers

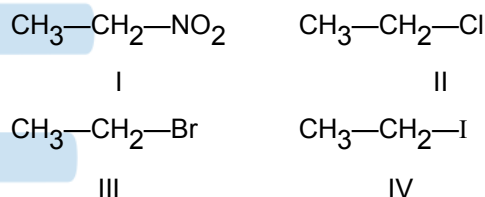
14.

- Inductive effect involves :
 (A) delocalisation of σ -electrons
 (B) delocalisation of π -electrons
 (C) displacement of σ -electrons
 (D) displacement of π -electrons

15. Which of the following has incorrect direction of Inductive effect.



16. Arrange following compounds in decreasing order of their dipole moment.



- (A) IV > III > I > II
 (B) IV > I > III > II
 (C) I > III > IV > II
 (D) I > II > III > IV

17. In which of the following delocalisation of π -electron is possible.

- (A) $CH_2 = CH - CH_2 - CHO$
 (B) $CH_2 = CH - CH = O$
 (C) $CH_3 - \underset{\substack{| \\ OH}}{CH} - CH_3$
 (D) $CH_2 = CH - CH_2 - CH = CH_2$

18. In which compound delocalisation is not possible :

- (A) 2-Butene (B) 1, 3-Butadiene
 (C) 1, 3, 5-Hexatriene (D) Benzene

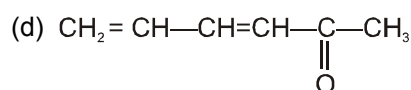
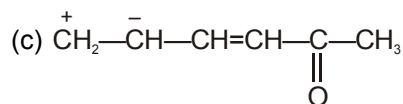
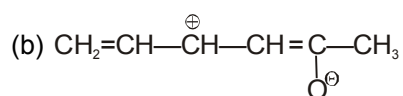
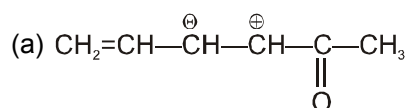
19. How many equally stable resonating structures are possible for



(tropylium cation) ?

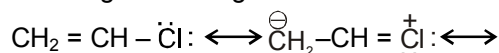
- (A) 2 (B) 4 (C) 5 (D) 7

20. The least and most stable resonating structure respectively are :



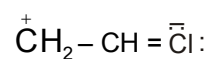
- (A) a, d (B) b, c
(C) d, a (D) c, b

21. The decreasing order of stability of the following resonating structures is :



(I)

(II)



(III)

- (A) I > II > III (B) II > III > I
(C) III > II < I (D) I > III > II

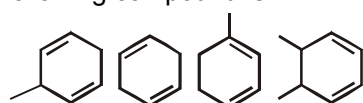
22. Arrange the following groups in order of decreasing -m effect.

- (i) NO_2 (ii) COOH
(iii) CN (iv) CHO
(A) i > iii > ii > iv (B) i > ii > iii > iv
(C) i > iii > iv > ii (D) iv > iii > ii > i

23. Hyperconjugation is possible in which of the following species ?

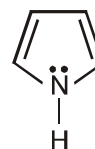
- (A) $\text{CH}_3-\overset{\ominus}{\text{C}}\text{H}_2$ (B) $\text{C}_6\text{H}_5-\text{CH}_3$
(C) $\text{CH}_2 = \text{CH}_2$ (D) $\text{CH}_3-\overset{\text{CH}_3}{\underset{\text{CH}_3}{\text{C}}}-\text{CH}=\text{CH}_2$

24. The order of heat of hydrogenation in following compound is :



- (I) (II) (III) (IV)
(A) I < II < IV < III (B) III < IV < II < I
(C) II < III < I < IV (D) II < IV < I < III

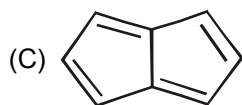
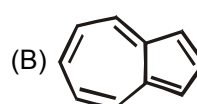
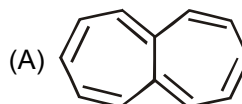
25. The hybridisation of nitrogen in



(pyrrole) is :

- (A) sp^3
(B) sp^2
(C) sp
(D) Can't be predicted

26. Identify the aromatic compound ?



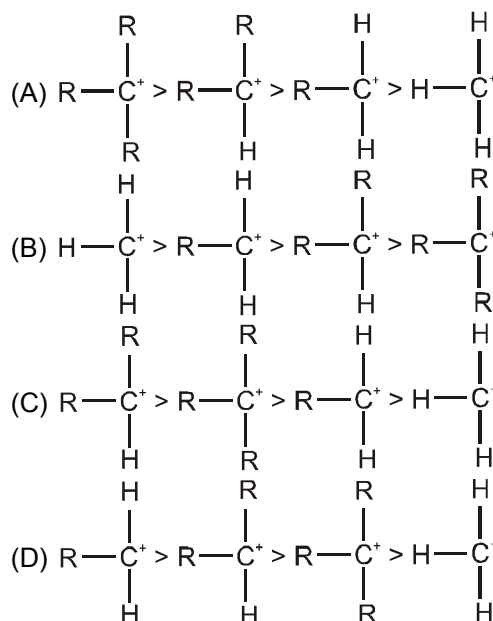
27. In $\text{CH}_3\text{CH}_2\text{OH}$, the bond that undergoes heterolytic cleavage most readily is :

- (A) C—C (B) C—O
(C) C—H (D) O—H

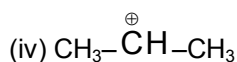
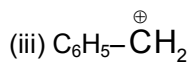
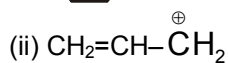
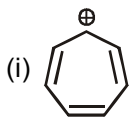
28. The geometry of a methyl carbocation and methyl carbanion is likely to be respectively :

- (A) Octahedral & linear
(B) Tetrahedral & planar
(C) Planar & tetrahedral
(D) Linear & tetrahedral

29. The decreasing order of stability of alkyl carbonium ion is in the order of : (R = C_2H_5)

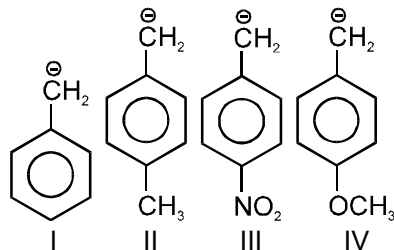


30. Decreasing order of stability of given carbocations is as :



- (A) iii > ii > iv > i (B) i > iii > iv > ii
(C) i > iii > ii > iv (D) iii > ii > i > iv

31. Arrange the following carbanions in decreasing order of stability :



- (A) III > I > IV > II
(B) III > II > I > IV
(C) I > III > II > IV
(D) III > I > II > IV

32. Tautomerism will be exhibited by :

- (A) $(\text{CH}_3)_2\text{NH}$ (B) $(\text{CH}_3)_3\text{CNO}$
(C) R_3CNO_2 (D) RCH_2NO_2

33. The enolic form of acetone contains :

- (A) 9 σ bonds, 1 π bond and 2 lone pairs
(B) 8 σ bond, 2 π bond and 2 lone pairs
(C) 10 σ bond, 1 π bond and 1 lone pair
(D) 9 σ bond, 2 π bond and 1 lone pair

34. Which of the following option shows the correct order of decreasing acidity :

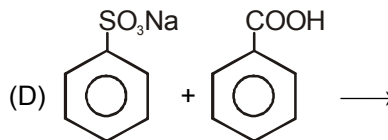
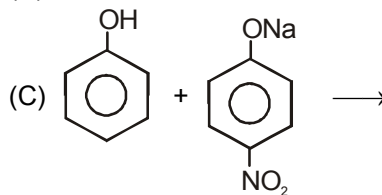
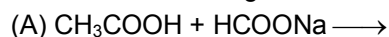
- (A) $\text{PhCO}_2\text{H} > \text{PhSO}_3\text{H} > \text{PhCH}_2\text{OH} > \text{PhOH}$
(B) $\text{PhSO}_3\text{H} > \text{PhOH} > \text{PhCH}_2\text{OH} > \text{PhCH}_2\text{OH}$
(C) $\text{PhCO}_2\text{H} > \text{PhOH} > \text{PhCH}_2\text{OH} > \text{PhSO}_3\text{H}$
(D) $\text{PhSO}_3\text{H} > \text{PhCO}_2\text{H} > \text{PhOH} > \text{PhCH}_2\text{OH}$

35. Which one of the following carboxylic acid is most acidic.

- (A) o-Methyl benzoic acid
(B) m-Methyl benzoic acid
(C) p-Methyl benzoic acid
(D) Benzoic acid

(SECTION-B)

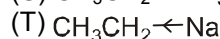
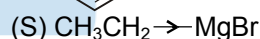
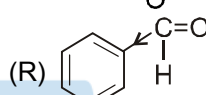
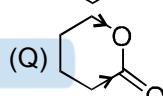
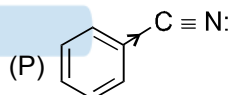
36. Which of the following reactions is feasible ?



37. Which of the following shows the correct order of decreasing basicity in gas phase ?

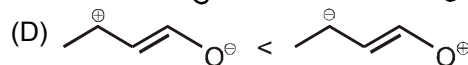
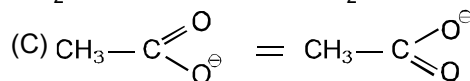
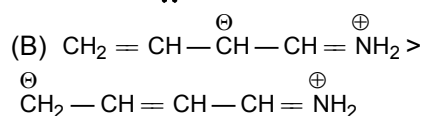
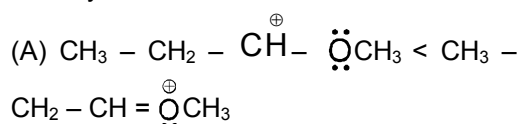
- (A) $(\text{CH}_3)_3\text{N} > (\text{CH}_3)_2\text{NH} > \text{CH}_3\text{NH}_2 > \text{NH}_3$
(B) $(\text{CH}_3)_2\text{NH} > (\text{CH}_3)_3\text{N} > \text{CH}_3\text{NH}_2 > \text{NH}_3$
(C) $(\text{CH}_3)_2\text{NH} > \text{CH}_3\text{NH}_2 > (\text{CH}_3)_3\text{N} > \text{NH}_3$
(D) $(\text{CH}_3)_2\text{NH} > \text{CH}_3\text{NH}_2 > \text{NH}_3 > (\text{CH}_3)_3\text{N}$

38. Which of the following cases have correct direction of I effect ?



- (A) PQS (B) PQR
(C) PST (D) PQT

39. Which of the following resonance structures does not represent the correct stability order :

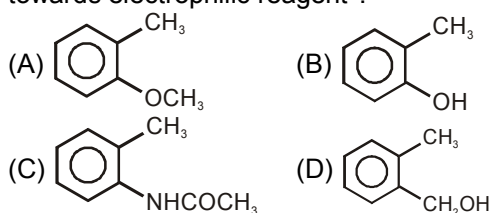


40. Which of the following group can exert both + m and - I effect ?

- (A) -CHO (B) -NO₂
(C) -Cl (D) -CH₃

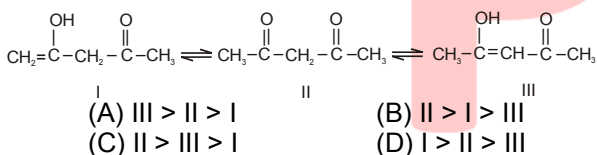
41. **Assertion** : pK_{a1} of fumaric acid is more than maleic acid.
Reason : Conjugate base of fumaric acid is stabilised by intramolecular H-bonding.
 (A) If both assertion and reason are true and reason is a correct explanation of assertion.
 (B) If both assertion and reason are true but reason is not a correct explanation of assertion.
 (C) If assertion is true but reason is false.
 (D) If assertion and reason both are false.

42. Which one of the following is most reactive towards electrophilic reagent ?

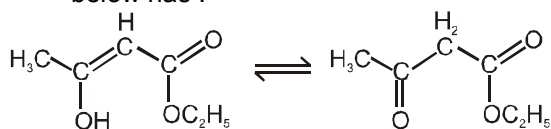


43. The correct order of increasing bond length of C-H, C-O, C-C and C=C is :
 (A) C-H < C=C < C-O < C-C
 (B) C-C < C=C < C-O < C-H
 (C) C-O < C-H < C-C < C=C
 (D) C-H < C-O < C-C < C=C

44. The order of stability of the following tautomeric compounds is :

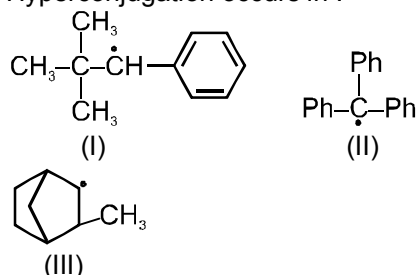


45. The enolic form of ethyl acetoacetate as below has :



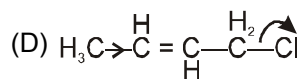
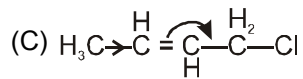
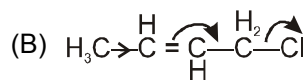
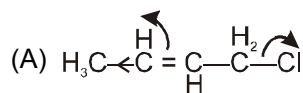
- (A) 16 sigma bonds and 1 pi-bond
 (B) 9 sigma bonds and 2 pi-bond
 (C) 9 sigma bonds and 1 pi-bond
 (D) 18 sigma bonds and 2 pi-bond

46. Consider the following compound. Hyperconjugation occurs in :

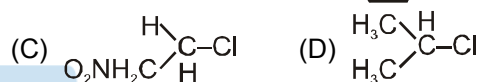
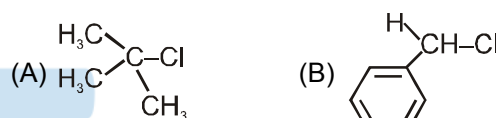


- (A) II only (B) III only
 (C) I and III (D) I only

47. Which of the following is the most correct electron displacement for a nucleophilic reaction to take place ?



48. In which of the following compounds, the C-Cl bond ionisation shall give most stable carbonium ion ?



49. The correct statement regarding the basicity of arylamines is :

- (A) Arylamines are generally more basic than alkylamines, because the nitrogen atom in arylamines is sp-hybridized.

(B) Arylamines are generally less basic than alkylamines because the nitrogen lone pair electrons are delocalized by interaction with the aromatic ring π electrons system.

(C) Arylamines are generally more basic than alkylamines because the nitrogen lone pair electrons are not delocalized by interaction with the aromatic ring π electron system.

(D) Arylamines are generally more basic than alkylamines because of aryl group

50. The pair of electron in the given carbanion, $\text{CH}_3\text{C} \equiv \text{C}^\ominus$, is present in which of the following orbitals?

- (A) sp (B) 2p
 (C) sp^3 (D) sp^2