

Topic : General Organic Chemistry

Type of Questions

M.M., Min.

Single choice Objective ('-1' negative marking) Q.1 to Q.5

(3 marks, 3 min.)

[15, 15]

Assertion and Reason (no negative marking) Q.6

(3 marks, 3 min.)

[3, 3]

Match the Following (no negative marking) Q.7

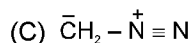
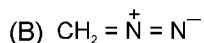
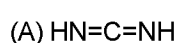
(8 marks, 10 min.)

[8, 10]

Subjective Questions ('-1' negative marking) Q.8

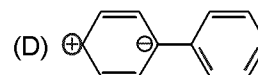
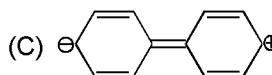
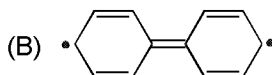
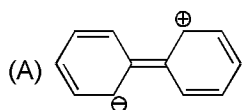
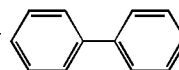
(4 marks, 5 min.)

[4, 5]

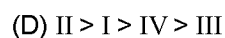
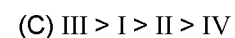
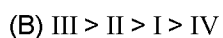
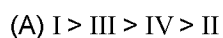
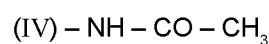
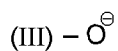
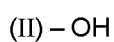
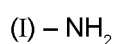
1. Which of the following is/are resonating structures of diazomethane (CH_2N_2).

(D) all of these

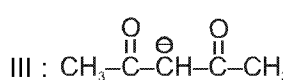
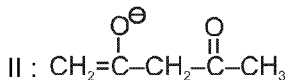
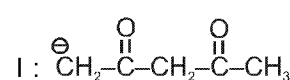
2. Which of the following does not represent the resonating structure of



3. Decreasing + m-power of given group is :

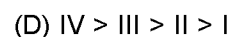
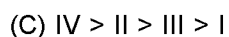
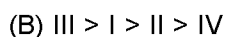
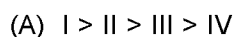
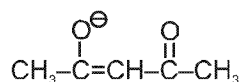


4. The stability order of the following species is :



IV

:

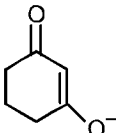


5. Identify the correct statements

(i) All C – C bonds in  are equal.

(ii) All C – C bonds in $\text{CH}_2 = \text{CH} - \text{CH} = \text{CH}_2$ are equal.

(iii) All C – O bonds in $\text{CH}_3 - \text{C} \begin{matrix} \text{O} \\ \parallel \\ \text{O}^- \end{matrix}$ are equal.

(iv) All C – O bond in  are equal.

(A) i, ii, iii, iv

(B) i, iii, iv

(C) i, ii, iii

(D) ii, iii, iv

6. **STATEMENT -1** : Bond length of double bond in benzene is more than the bond length of double bond in buta-1,3-diene.

STATEMENT -2 : Increase in delocalisation of π electrons increases the bond length of double bond.

(A) Statement-1 is True, Statement-2 is True; Statement-2 is a correct explanation for Statement-1.

(B) Statement-1 is True, Statement-2 is True; Statement-2 is NOT a correct explanation for Statement-1

(C) Statement-1 is True, Statement-2 is False

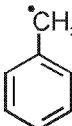
(D) Statement-1 is False, Statement-2 is True

7. Match the column :

Column-I

(A) $\text{CH}_2^+ - \text{CH} = \text{CH}_2$

(B) $\text{H}_2\text{N} - \text{CH} = \text{CH}_2$

(C) 

(D) $\text{H}_2\text{N} - \text{C}(\text{NH}) = \text{NH}_2$

Column-II

(p) Resonance possible

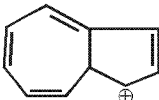
(q) Even number of p-electrons

(r) localized lone pair of e^- .

(s) Delocalized lone pair of e^- .

(t) $2 e^-$ in p orbitals

8. Find the total number of carbon where positive charge can be delocalised by true resonance [Including the given structure] :

(a) 

(b) $\text{CH}_3 - \text{CH}^+ - \text{CH} = \text{CH} - \text{C}(\text{CH}_2) = \text{C}_6\text{H}_5$

Answer Key

DPP No. # 13

1. (B) 2. (B) 3. (C) 4. (D) 5. (B)
 6. (A) 7. (A) – p,q,t ; (B) – p,q,s (C) – p (D) – p,q,r,s 8. (a) 5 (b) 3

Hints & Solutions

DPP No. # 13

1. Self explanatory
 2. **(Moderate)** There are unpaired electrons, others have no unpaired electrons.
 3. $-\text{O}^\ominus > -\text{NH}_2 > -\text{OH} > -\text{NH} - \text{CO} - \text{CH}_3$
 6. Due to delocalization of π electron in benzene.

