

Topic : General Organic Chemistry

Type of Questions

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

Multiple choice objective ('-1' negative marking) Q.6 to Q.7

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

Match the Following (no negative marking) Q.9

(3 marks, 3 min.)

(4 marks, 4 min.)

(4 marks 5 min.)

(8 marks, 10 min.)

M.M., Min.

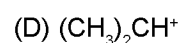
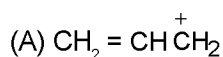
[15, 15]

[8, 8]

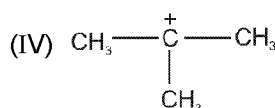
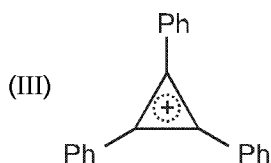
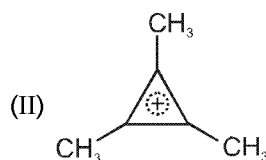
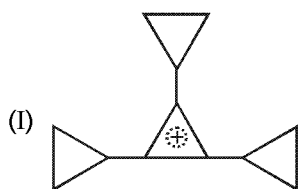
[4, 5]

[8, 10]

1. Which carbonium ion is highly stable ?



2. The correct order of stability of following carbocation is :



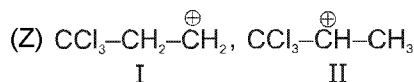
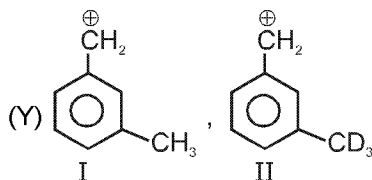
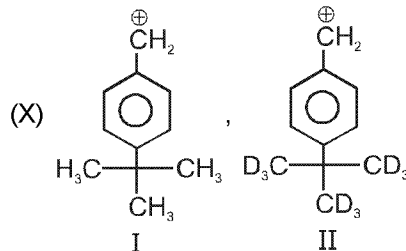
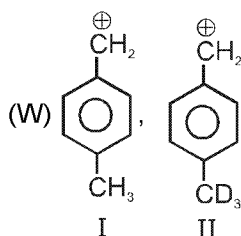
(A) (III) > (II) > (I) > (IV)

(B) (II) > (III) > (I) > (IV)

(C) (I) > (III) > (IV) > (II)

(D) (I) > (III) > (II) > (IV)

3. Observe each pair of cations. In which case (s) first is more stable than the second :



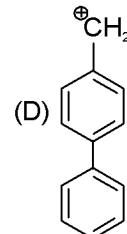
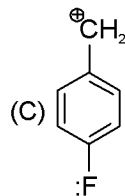
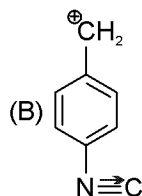
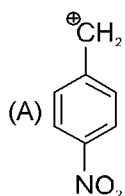
(A) Only in W

(B) Only in X and Y

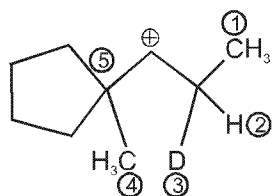
(C) Only in Z

(D) Only in W and Z

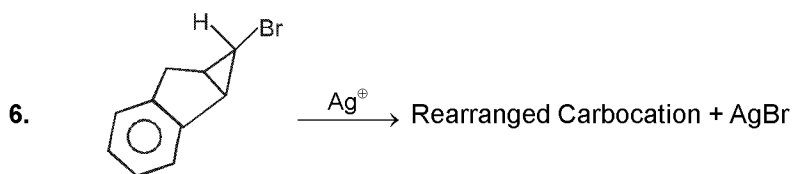
4. The most stable carbocation is :



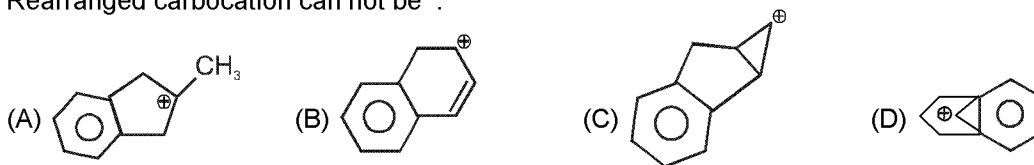
5. In the following carbocation; the most stable rearranged carbocation is formed by migration of group.



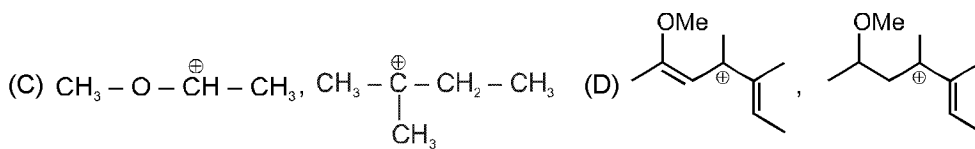
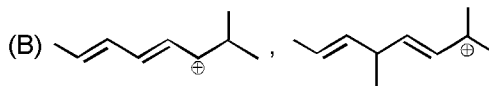
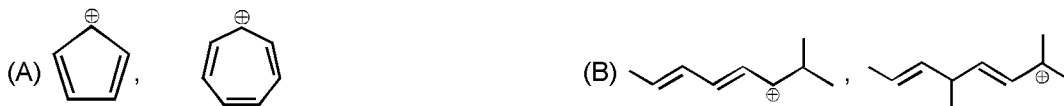
- (A) CH₃ (1) (B) CH₃ (4) (C) C—C bond (5) (D) D (3)



Rearranged carbocation can not be :



7. In which of the following first carbocation is more stable than second one ?



8. How many carbocations given below are more stable than sec. butyl carbocation
 t-butyl carbocation Benzyl carbocation Allyl carbocation
 Cyclopropenyl cation Tropylium cation n-butyl carbocation
 cyclopropylmethyl carbocation

9. Match the carbocation (I) with the most stable rearranged carbocation (II).

| (I) | (II) |
|-----|------|
| (A) | (p) |
| (B) | (q) |
| (C) | (r) |
| (D) | (s) |

Answer Key

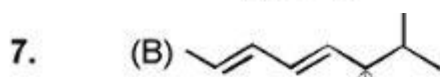
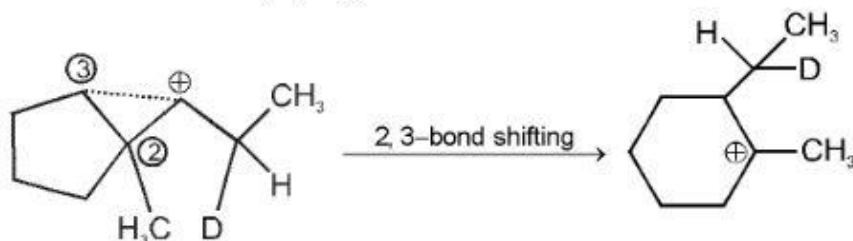
DPP No. # 6

1. (C) 2. (D) 3. (D) 4. (D) 5. (C)
 6. (ACD) 7. (BCD) 8. 6 9. (A-s) ; (B-r) ; (C-q) ; (D-p)

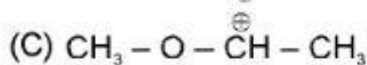
Hints & Solutions

DPP No. # 6

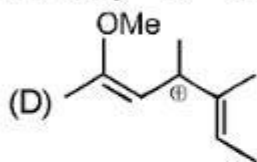
2. (I) > (III) > (II) > (IV)
3. In (W) since C-H bond is weaker than C-D bond so hyperconjugation stability is more in I.
 In (X) only +I effect is present which is more for $-C(CD_3)$.
 In (Y) only +I which is more for $-CD_3$
 In (Z) -I effect of $-CCl_3$ group will make II cation highly unstable.
4. e^- with drawing group decreases stability
5. Due to C-C bond (5) migration it would be converted into 6-membered ring.



has extended conjugation.



has +M effect of $-OCH_3$.



after delocalisation gets +M effect of $-OMe$.

