ONLY ONE OPTION IS CORRECT

Q.1

I **II**

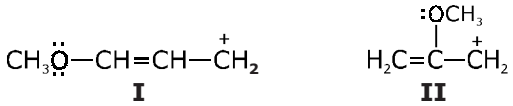
Which of the following statement is correct-

(A) I is more stable than II
(B) II is more stable than I
(C) Both are equally stable
(D) It's stupid to ask such questions.

Q.2 Protonation of 1, 2-butadiene gives carbocation A, and protonation of 2-butyne yields carbocation B. In both cases the most stable carbocation possible is produced, but not carbocation rearrangements take place (no hydride or alkyl shifts). Which of the two carbocations (A or B) is more stable and why?

(A) A is more stable because it is a terminal carbocation, according to Markovnikov's rule.
(B) A is more stable because it is stabilized by resonance and hyperconjugation.
(C) B is more stable because it has two methyl groups that can provide extra stabilization by hyperconjugation and inductive effects.
(D) B is more stable because it is a secondary vinyl cation.

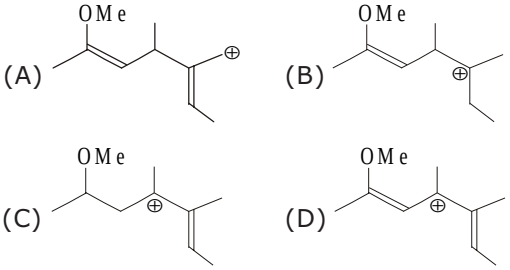
Q.3 Which of the following carbocations is more stable?



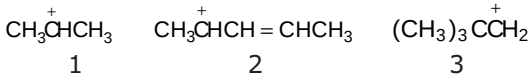
I **II**

(A) I > II (B) II > I
(C) I = II (D) None of these

Q.4 Which of the following is the most stabilized carbocation ?



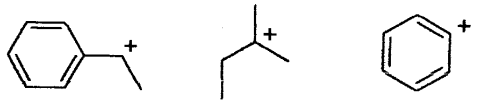
Q.5 Rank the following carbocations in order of increasing stability (least → most) :



1 2 3

(A) 1 < 2 < 3 (B) 2 < 3 < 1
(C) 3 < 1 < 2 (D) 2 < 1 < 3

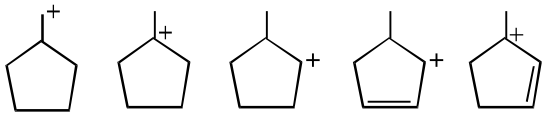
Q.6 The relative stability of the following carbocations :



i ii iii

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

Q.7 Arrange the following carbocations in order of their decreasing stabiltiy (most stable first).



A **B** **C** **D** **E**

(A) A > C > D > B > E (B) E > B > D > C > A
(C) A > C > B > D > E (D) E > D > B > C > A

Q.8 Most stable carbonium ion is :

(A) $CH_3 - \overset{+}{C}H_2$ (B) $\overset{+}{C}H_2CHCl_2$

(C) $\overset{+}{C}H_2CH_2Cl$ (D) $\overset{+}{C}H_2 - CH_2NO_2$

Q.9 Which of the following statement is correct ?

(A) Ally carbonium ion ($CH_2 = CH - \overset{+}{C}H_2$) is more stable than propyl carbonium ion.
(B) Propyl carbonium ion is more stable than allyl carbonium ion.
(C) Both are equally stable.
(D) None of these

Q.10 The shape of a methyl carbonium ion is likely to be

(A) Linear (B) Planar
(C) Pyramidal (D) Tetrahedral

ANSWER KEY

	A	B	C	D		A	B	C	D		A	B	C	D
1	○	○	○	○	5	○	○	○	○	9	○	○	○	○
2	○	○	○	○	6	○	○	○	○	10	○	○	○	○
3	○	○	○	○	7	○	○	○	○					
4	○	○	○	○	8	○	○	○	○					