DPP-01

Q1. Which of the following statement is/are incorrect

(A) Positively charged carbocation has only 6 electrons in the outermost shell.

(B) Carbocations are sp^3 hybridised.

(C) Carbocations are formed in polar solvent.

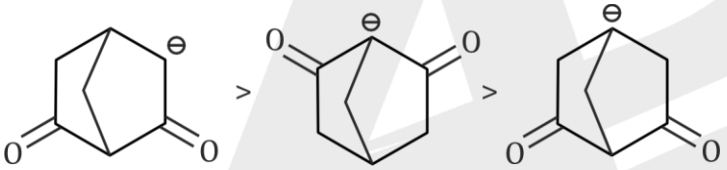
(D) Due to planar structure carbocation leads racemization in stereogenic conditions.

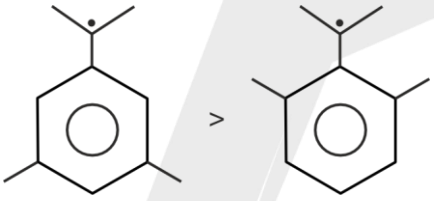
(E) Carbanion is diamagnetic in character because all eight electrons are paired.

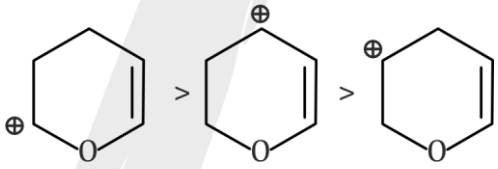
(F) Free radicals are neutral electrophiles.

Q2. Choice the correct order of stability of given intermediates is/are:

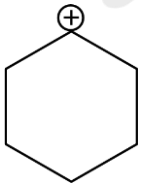
(A) 

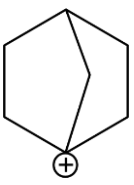
(B) 

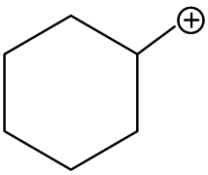
(C) 

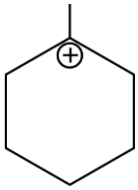
(D) 

Q3. Which of the following carbocation intermediate is least stable

(A) 

(B) 

(C) 

(D) 

Q4. Which of the following order of stability of free radical intermediates is correct:-

1. $(CH_3)_3\dot{C} > (CH_3)_2\dot{C}H > CH_3\dot{C}H_2 > \dot{C}H_3$

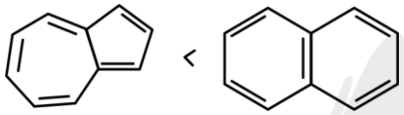
2. $CH_3-\dot{C}H_2 > Br-CH_2-\dot{C}H_2 > Cl-CH_2-\dot{C}H_2 > F-CH_2-\dot{C}H_2$

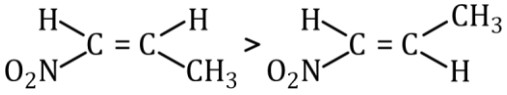
3. $CH_3-\dot{C}H_2 > \underset{F}{CH_2}-\dot{C}H_2 > \underset{CN}{CH_2}-\dot{C}H_2 > \underset{NO_2}{CH_2}-\dot{C}H_2$

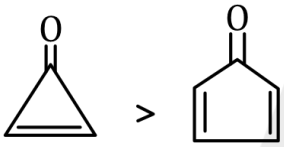
(A) only 1 & 2 are Correct (B) only 1 & 3 are Correct

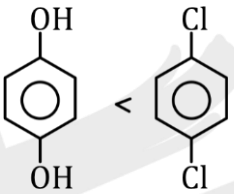
(C) only 3 & 2 are Correct (D) only 1, 2 & 3 are Correct

Q5. Correct order of dipole moment is:

(A) 

(B) 

(C) 

(D) 

Q6.

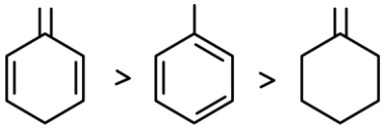
Select correct order of bond length of above bond P, Q, R & S:

(A) P > R > S > Q (B) Q > R = S > P

(C) S > Q > R > P (D) None of these

Q.7 Select correct order among following:

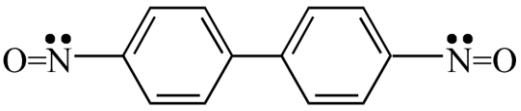
(A) $MeO-\overset{O}{\overset{\|}{C}}-CH=CH-\overset{O}{\overset{\|}{C}}-OMe > MeO-\overset{O}{\overset{\|}{C}}-CH=CH-O-\overset{O}{\overset{\|}{C}}-Me$ (C=C rotational energy barier)

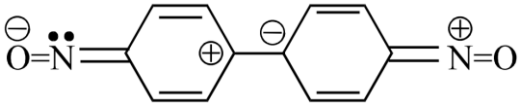
(B)  (Heat of hydrogenation)

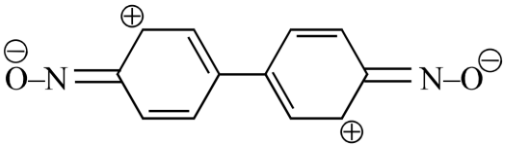
(C) $-NH_2 > -OH > -O-\overset{O}{\overset{\|}{C}}-CH_3$ (+M effect)

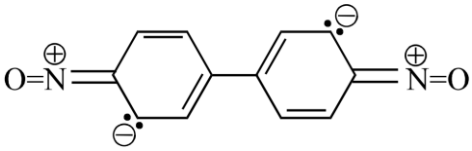
(D) $-\overset{\oplus}{N}H_3 > -\overset{\oplus}{N}(CH_3)_3 > -NO_2$ (-I effect)

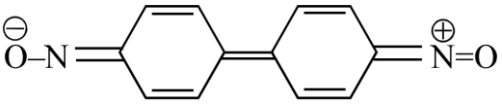
Q8. The most stable resonating structure of following compound is:



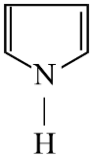
(A) 

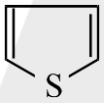
(B) 

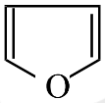
(C) 

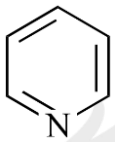
(D) 

Q9. Arrange the following compounds in order of resonance energy:

(a) 

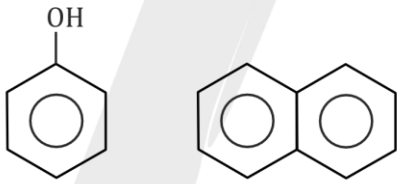
(b) 

(c) 

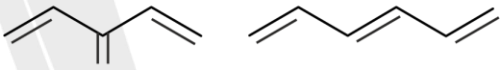
(d) 

(A) b > c > a > d (B) a > b > c > d (C) d > b > a > c (D) d > a > b > c

Q10. Which compound has higher resonance energy in the following pairs

(A) 

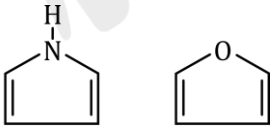
(I) (II)

(B) 

(I) (II)

(C) $CH_2 = CH - F$ $CH_2 = CH - Br$

(I) (II)

(D) 

(I) (II)

ANSKEY KEY

1.	**(B)**	**2.**	**(BC)**	**3.**	**(B)**	**4.**	**(ABC)**	**5.**	**(C)**	**6.**	**(B)**
7.	**(ABC)**	**8.**	**(D)**	**9.**	**(C)**						

10. (A→ II > I) (B→ II > I) (C→ II > I) (D→ I > II)