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# IIT - ORGANIC CHEMISTRY

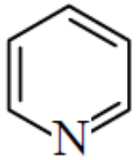
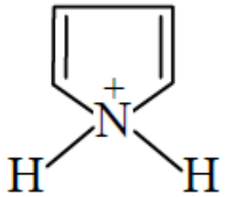
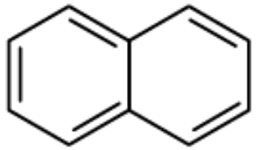
## NURTURE

Corporate Office: NAIVEDHYAM, Plot No. SP-11, Old INOX, Indra Vihar,
Kota (Raj.) 324005

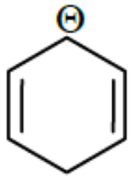
DPP # 09

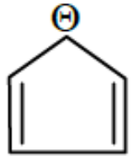
Time : 30 Min.

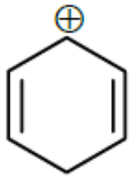
**1.** Match the column:

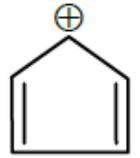
| | **Column I (Compounds)** | | **Column II (Properties)** |
|---|---|---|---|
| (A) |  | (P) | Aromatic |
| (B) |  | (Q) | Nonaromatic |
| (C) |  | (R) | Heterocyclic |
| (D) |  | (S) | Even number of p-bond |
| | | (T) | Odd number of s-bond |

**2.** Which of the following is aromatic compound?

(A) 

(B) 

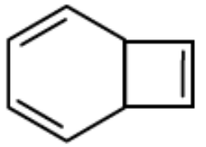
(C) 

(D) 

**3.** Which of the following is anti-aromatic compound.

(A) 

(B) 

(C) 

(D) None of these

**4.** $HO_2C–CH=CH–OH$, the direction of electron movement would be :

(A) toward –OH group

(B) neither –OH nor towards $–CO_2H$

(C) toward $–CO_2H$ group

(D) at low temperature –OH group and at high temperature toward $–CO_2H$ group

**5.** Polarisation of electron in acrolein ($CH_2=CH–CH=O$) or R.H. can be written as :

(A) $\overset{\partial^+}{C}H_2 \cdots CH \cdots CH \cdots \overset{\partial^-}{O}$

(B) $\overset{\partial^-}{C}H_2 \cdots CH \cdots CH \cdots \overset{\partial^+}{O}$

(C) $\overset{\partial^-}{C}H_2 \cdots CH — CH \cdots \overset{\partial^-}{O}$

(D) $\overset{\partial^+}{C}H_2 \cdots CH \cdots CH \cdots \overset{\partial^+}{O}$

***Paragraph for Q.06 to Q.08***

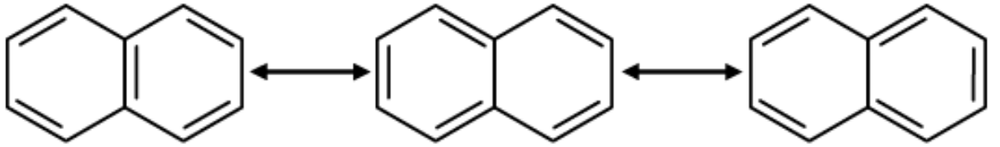
Determine the stability of resonating structure, the following points are considered

(i) Resonating structure with complete octet is more stable than resonating structure similar with incomplete octet.

(ii) Resonating structure with negative charge on more electronegative element is more stable with respect to resonating structure with negative charge on less electronegative elements.

(iii) Resonating structure with benzonoid structure is more stable with respect to resonating structure with non-benzonoid structure

**6.**



A B C

The correct order of stability -

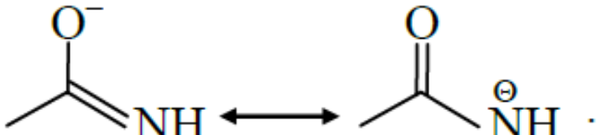
(A) A > B > C (B) A < B < C (C) A = B = C (D) A > B = C

**7.** $H_3C-\overset{+}{C}=O \longleftrightarrow H_3C-\overset{+}{C}=O$ ; $H_2C-\overset{+}{O}-CH_3 \longleftrightarrow CH_2=\overset{+}{O}=CH_3$

I I' II II'

The correct order of stability -

(A) I = I' , II = II' (B) I > I' , II > II' (C) I > I' , II' > II (D) I' > I , II' > II

**8.**  ; $CH_2=CH-O^- \longleftrightarrow \overset{\ominus}{C}H_2-CH=O$

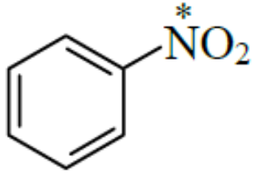
I II I' II'

The correct order of stability -

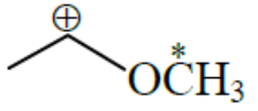
(A) I > II , I' > II' (B) I < II , I' < II' (C) I = II , I' = II' (D) I > II , II' > I'

**9.** How many compounds having * marked group show both –I & + R / + M effects.

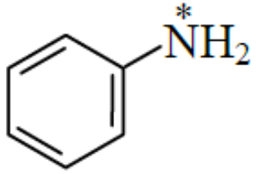
(a) $CH_3–CH=CH—\overset{*}{C}HO$

(b) 

(c) $H_2C=CH–\overset{*}{F}$

(d) 

(e) $H_3C–CH=CH–\overset{*}{C}H_3$

(f) 

**10.** Number of p electrons in conjugation.