ORGANIC CHEMISTRY

DPP

DAILY PRACTICE PROBLEMS

DPP No. 5

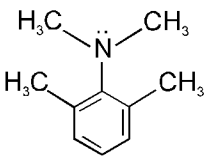
Total Marks : 32

Max. Time : 35 min.

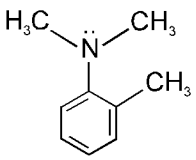
Topic : General Organic Chemistry

Type of Questions		M.M., Min.
Single choice Objective ('–1' negative marking) Q.1 to Q.4	(3 marks, 3 min.)	[12, 12]
Multiple choice objective ('–1' negative marking) Q.5 to Q.6	(4 marks, 4 min.)	[8, 8]
Subjective Questions ('–1' negative marking) Q.7	(4 marks 5 min.)	[4, 5]
Match the Following (no negative marking) Q.8	(8 marks, 10 min.)	[8, 10]

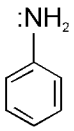
1. The benzene rings with the most and the least π-electron density respectively :



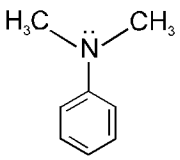
(1)



(2)



(3)

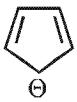


(4)

(A) 3, 1 (B) 3, 2 (C) 1, 2 (D) 1, 4

2. Identify the aromatic compound ?

(A) 

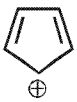
(B) 

(C) 

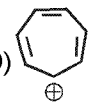
(D) 

3. Among the following the anti aromatic compound is :

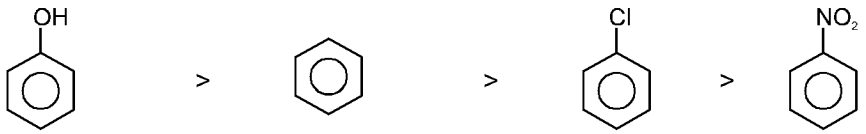
(A) 

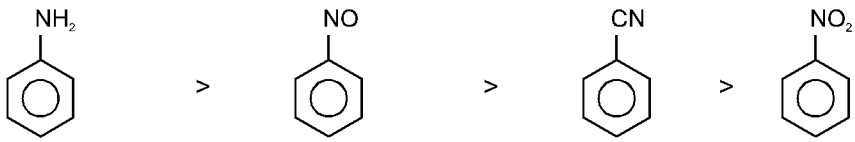
(B) 

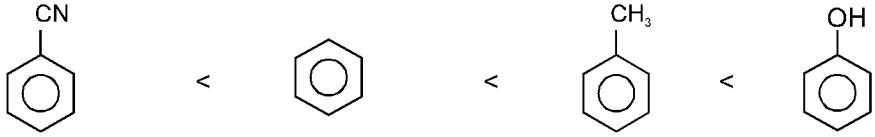
(C) 

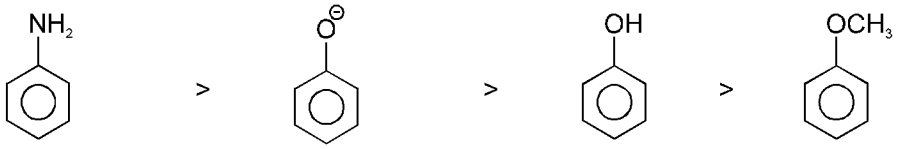
(D) 

4. Which is the incorrect order of electron density in aromatic ring ?

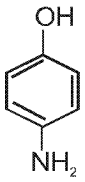
(A) 

(B) 

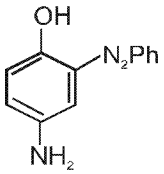
(C) 

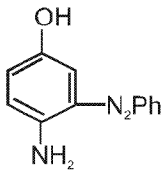
(D) 

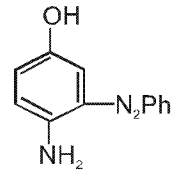
5. Which statement is right among these
(A) Aromatic compound will always show resonance.
(B) Aliphatic compound will always show resonance.
(C) Conjugated compound will always show resonance.
(D) Resonance is a property of both organic and inorganic molecules.

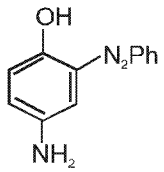
6. Y (major product) $\xleftarrow{\text{Ph=4~7}}$  + Ph – $\overset{+}{N}_2$ $\xrightarrow{\text{(pH=9–11)}}$ X (major product)

X & Y are :

(A) X is 

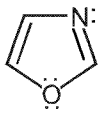
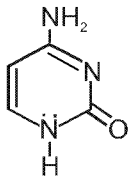
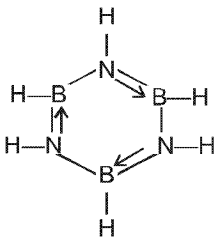
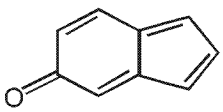
(B) Y is 

(C) X is 

(D) Y is 

7. How many equally stable resonating structures are possible for tropylium cation. (Report only those structure which are most stable).

8. Match the following

Column – I	**Column – II**
(A) 	(p) Aromatic
(B) 	(q) Non aromatic
(C) 	(r) Anti aromatic
(D) 	(s) Heterocyclic

Answer Key

DPP No. # 5

1.	(A)	**2.**	(B)	**3.**	(B)	**4.**	(D)	**5.**	(A,C,D)
6.	(A,B)	**7.**	7	**8.**	(A - p,s) ; (B - p,s) ; (C - p,s) ; (D - q)				

Hints & Solutions

DPP No. # 5

1. In compound (A) due to SIR benzene ring has least π-electron density while in compound (C) +M of $-NH_2$ group makes aromatic ring most electron rich.

3. Those compounds are anti aromatic which are cyclic, planar having 4n π electrons

4π electron (anti aromatic)

4. On the basis of electronic effect.

6. Phenol prefer coupling in sligtly basic medium.

7. 7 including the given structure in which every C will recieve a positive charge.

8. Aromatic $\rightarrow$ planar, cyclic , $(4n+2)\ \pi e^{\ominus}$, complete conjugation
Antiaromatic $\rightarrow$ planar, cyclic , $(4n)\ \pi e^{\ominus}$, complete conjugation
Non aromatic– cyclic structure with non-planar geometry with any hybridization