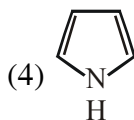
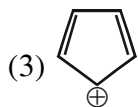
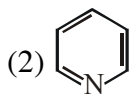
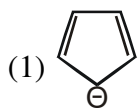
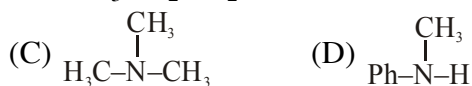
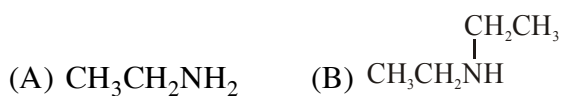


GOC

1. Which of the following compounds is not aromatic ?



2. The increasing basicity order of the following compounds is :

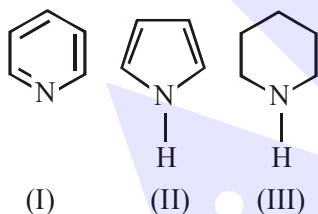


(1) (D) < (C) < (A) < (B) (2) (A) < (B) < (D) < (C)
 (3) (A) < (B) < (C) < (D) (4) (D) < (C) < (B) < (A)

3. Which amongst the following is the strongest acid ?



4. Arrange the following amines in the decreasing order of basicity:

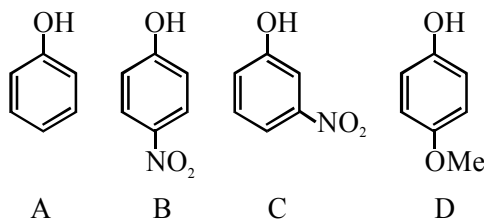


(1) I > II > III (2) III > II > I
 (3) I > III > II (4) III > I > II

5. The correct decreasing order for acid strength is :-

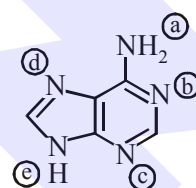
(1) $\text{NO}_2\text{CH}_2\text{COOH} > \text{NCCH}_2\text{COOH} > \text{FCH}_2\text{COOH} > \text{ClCH}_2\text{COOH}$
 (2) $\text{FCH}_2\text{COOH} > \text{NCCH}_2\text{COOH} > \text{NO}_2\text{CHCOOH} > \text{ClCH}_2\text{COOH}$
 (3) $\text{NO}_2\text{CH}_2\text{COOH} > \text{FCH}_2\text{COOH} > \text{CNCH}_2\text{COOH} > \text{ClCH}_2\text{COOH}$
 (4) $\text{CNCH}_2\text{COOH} > \text{O}_2\text{NCH}_2\text{COOH} > \text{FCH}_2\text{COOH} > \text{ClCH}_2\text{COOH}$

6. The increasing order of the pKa values of the following compounds is :



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

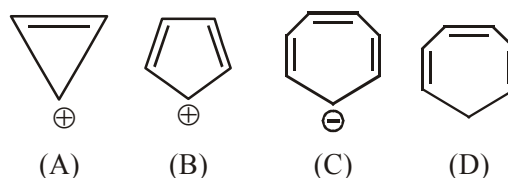
7. In the following compound,



the favourable site/s for protonation is/are :-

(1) (b), (c) and (d)
 (2) (a)
 (3) (a) and (e)
 (4) (a) and (d)

8. Which compound(s) out of the following is/are not aromatic ?



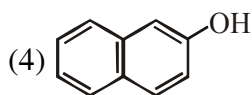
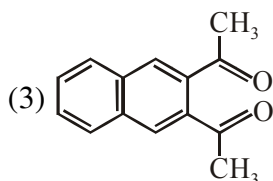
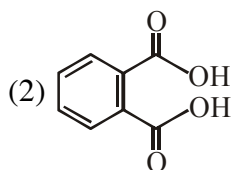
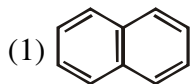
(1) C and D (2) B, C and D
 (3) A and C (4) B

9. The correct order for acid strength of compounds

$\text{CH}\equiv\text{CH}$, $\text{CH}_3\text{-C}\equiv\text{CH}$ and $\text{CH}_2=\text{CH}_2$ is as follows :

(1) $\text{CH}\equiv\text{CH} > \text{CH}_2=\text{CH}_2 > \text{CH}_3\text{-C}\equiv\text{CH}$
 (2) $\text{HC}\equiv\text{CH} > \text{CH}_3\text{-C}\equiv\text{CH} > \text{CH}_2=\text{CH}_2$
 (3) $\text{CH}_3\text{-C}\equiv\text{CH} > \text{CH}_2=\text{CH}_2 > \text{HC}\equiv\text{CH}$
 (4) $\text{CH}_3\text{-C}\equiv\text{CH} > \text{CH}\equiv\text{CH} > \text{CH}_2=\text{CH}_2$

10. Among the following four aromatic compounds, which one will have the lowest melting point ?



11. In the following compounds, the decreasing order of basic strength will be -

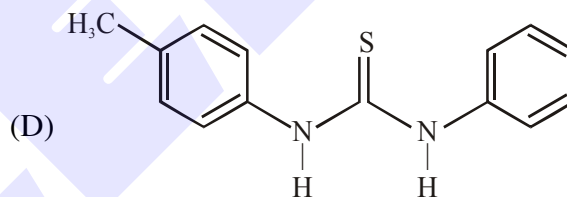
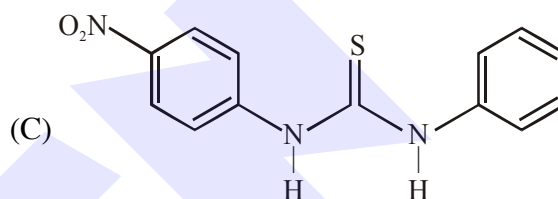
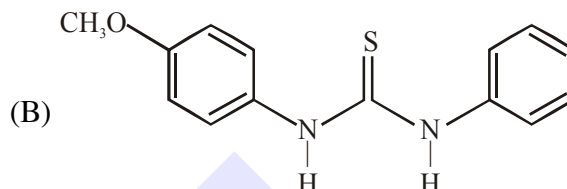
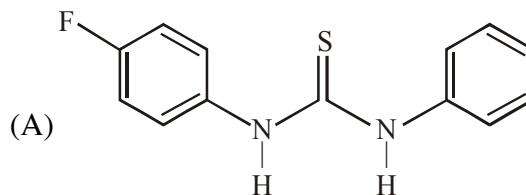
- (1) $(C_2H_5)_2NH > C_2H_5NH_2 > NH_3$
 (2) $(C_2H_5)_2NH > NH_3 > C_2H_5NH_2$
 (3) $NH_3 > C_2H_5NH_2 > (C_2H_5)_2NH$
 (4) $C_2H_5NH_2 > NH_3 > (C_2H_5)_2NH$

12. An organic compound 'X' showing the following solubility profile is -

'X'	water	→ Insoluble
	5% HCl	→ Insoluble
	10% NaOH	→ soluble
	10% $NaHCO_3$	→ Insoluble

- (1) m-Cresol (2) Oleic acid
 (3) o-Toluidine (4) Benzamide

13. The increasing order of the pK_b of the following compound is :



Options :

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

SOLUTION

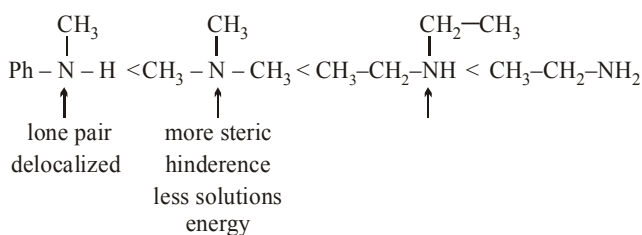
1. Ans. (3)



Do not have $(4n + 2) \pi$ electron It has $4n \pi$ electrons

So it is Anti aromatic.

2. Ans. (1)

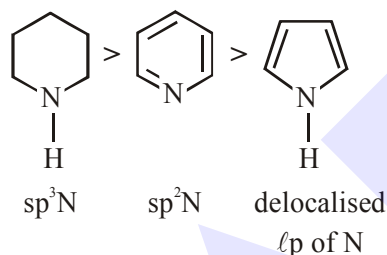


3. Ans. (4)

CN makes anino most stable so answer is $\text{CH}(\text{CN})_3$

4. Ans. (4)

Order of basic strength :

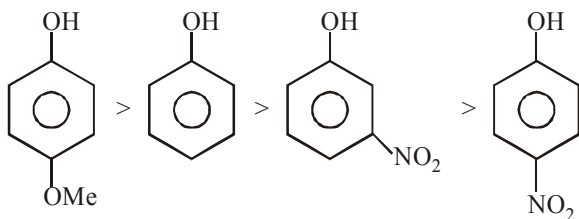


5. Ans. (1)

EWG increase acidic strength
 $\text{NO}_2\text{CH}_2\text{COOH} > \text{NCCH}_2\text{COOH} > \text{FCH}_2\text{COOH} > \text{ClCH}_2\text{COOH}$

6. Ans. (4)

Acidic strength is inversely proportional to pK_a .



7. Ans. (1)

Localised lone pair e^- .

8. Ans. (2)

out of the given options only is aromatic.

Hence (B), (C) and (D) are not aromatic

9. Ans. (2)

$\text{CH}\equiv\text{CH} > \text{CH}_3-\text{C}\equiv\text{CH} > \text{CH}_2=\text{CH}_2$

(Acidic strength order)

10. Ans. (1)

M.P. of Napthalene $\approx 80^\circ\text{C}$

11. Ans. (1)

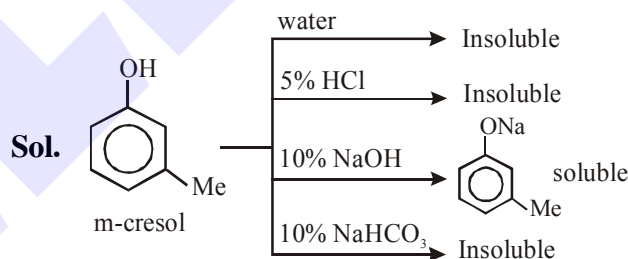
Sol. Basic strength order

$(\text{CH}_3\text{CH}_2)_2\text{NH} > \text{CH}_3\text{CH}_2\text{NH}_2 > \text{NH}_3$

2° amine 1° amine

Correct option : (1)

12. Ans. (1)



* Oleic acid is also soluble in NaHCO_3

* o-toluidine is not soluble in NaOH as well as NaHCO_3

* Benzamide is also not soluble in NaOH & NaHCO_3 .

Correct option : (1)

13. Ans. (2)

Sol. $B < D < A < C$

Basicity $\propto +R \propto \frac{1}{-R}$

$\propto +H \propto \frac{1}{-H}$