

**JEE MAIN : CHAPTER WISE TEST-10**

**SUBJECT :- CHEMISTRY**

**CLASS :- 11<sup>th</sup>**

**CHAPTER :- GOC**

**DATE.....**

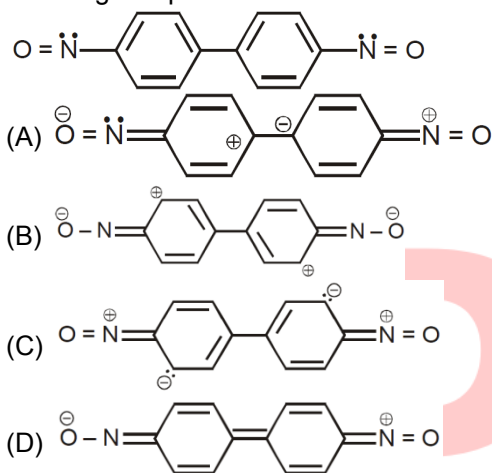
**NAME.....**

**SECTION.....**

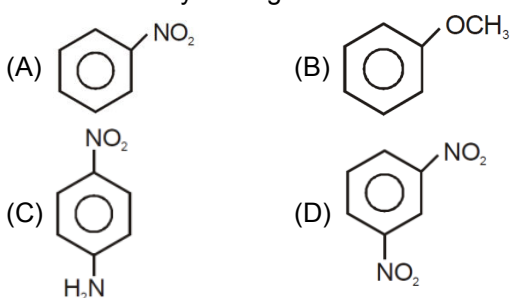
**(SECTION A)**

1. Arrange in decreasing  $pK_a$   
 (a)  $F - CH_2CH_2 - COOH$   
 (b)  $Cl - \overset{\overset{Cl}{|}}{C}H - CH - COOH$   
 (c)  $F - CH_2 - COOH$   
 (d)  $Br - CH_2 - CH_2 - COOH$   
 Correct answer is :  
 (A)  $b > d > a > c$                       (B)  $a > c > d > b$   
 (C)  $d > a > b > c$                       (D)  $d > b > a > c$

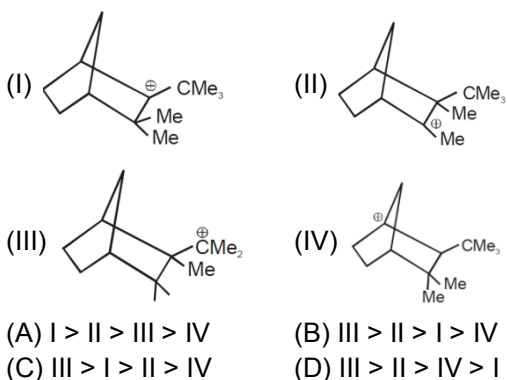
2. The most stable resonating structure of following compound is :



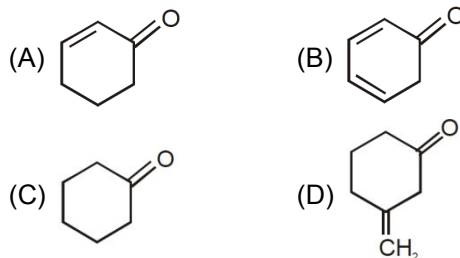
3. In which of the following molecules  $\pi$ -electron density on ring is minimum?



4. Write correct order of stability of following carbocations:

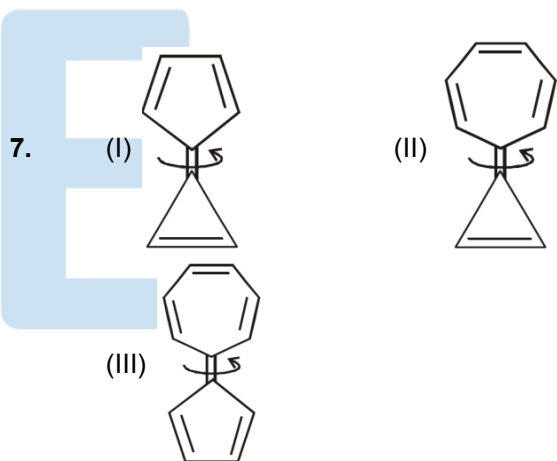


5. Which of the following has longest C – O bond?



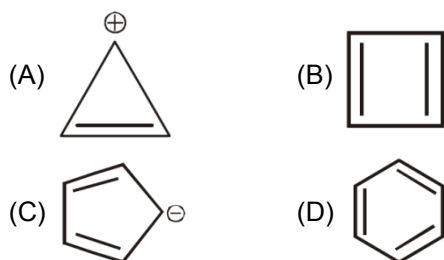
6. (I) (II) (III)

- Which of these species is antiaromatic ?  
 (A) I only                                      (B) II only  
 (C) III only                                    (D) both II and III

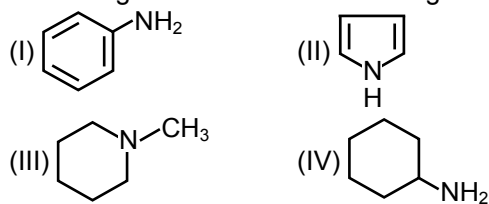


- The barrier for rotation about the indicated bonds will be maximum in which of these three compounds ?  
 (A) I    (B) II  
 (C) III    (D) same in all

8. Identify the odd species. Which of the species among the following is different from others ?

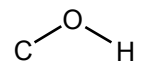


9. Among the following compounds, the increasing order of their basic strength is :

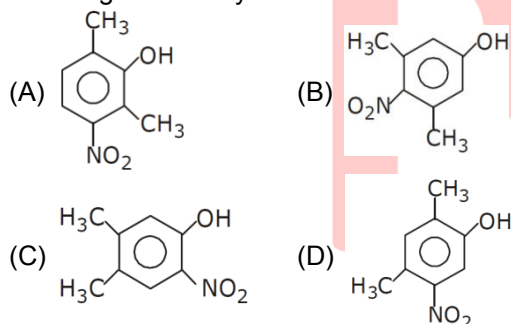


- (A) (I) < (II) < (III) < (IV)  
 (B) (I) < (II) < (IV) < (III)  
 (C) (II) < (I) < (III) < (IV)  
 (D) (II) < (I) < (IV) < (III)

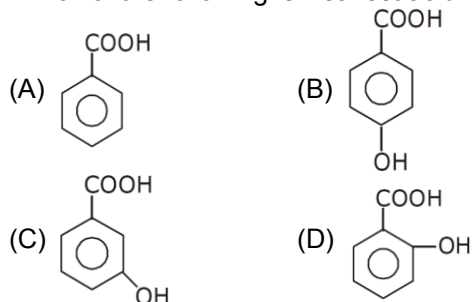
10. Which one of the following statements is **not** correct ?

- (A) Alcohols are weaker acids than water.  
 (B) Acid strength of alcohols decreases in the following order  $RCH_2OH > R_2CHOH > R_3COH$ .  
 (C) Carbon-oxygen bond length in methanol,  $CH_3OH$  is shorter than that of C-O bond length in phenol.  
 (D) The bond angle  in methanol is  $108.9^\circ$ .

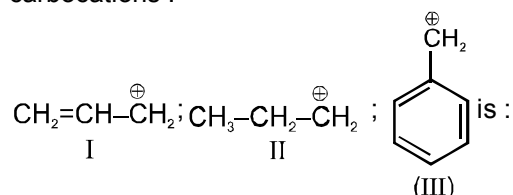
11. Which one of the following phenols will show highest acidity?



12. Which of the following is weakest acid?

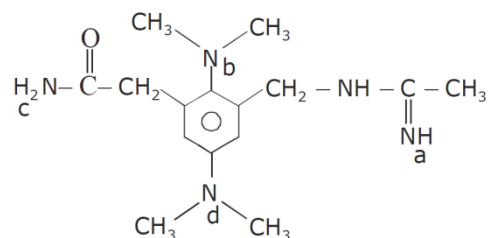


13. The order of stability of the following carbocations :



- (A) III > II > I (B) II > III > I  
 (C) I > II > III (D) III > I > II

14. Basicity order in following compound is :



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

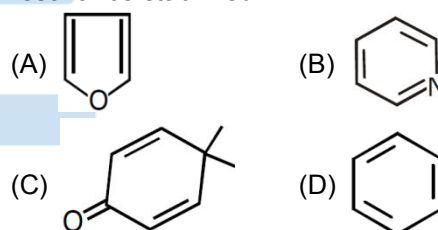
15. Presence of a nitro group in a benzene ring :

- (A) Activates the ring towards electrophilic substitution  
 (B) Renders the ring basic  
 (C) Deactivates the ring towards nucleophilic substitution  
 (D) Deactivates the ring towards electrophilic substitution

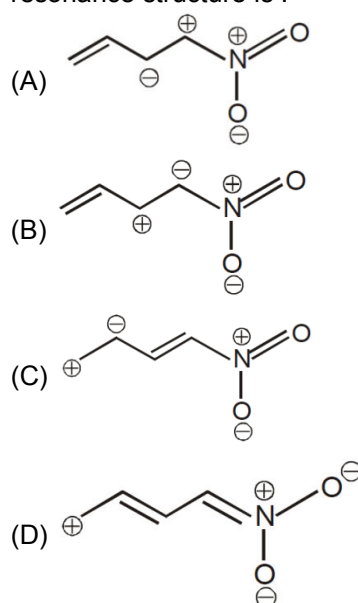
16. Considering the basic strength of amines in aqueous solution, which one has the smallest  $pK_b$  value?

- (A)  $(CH_3)_3N$  (B)  $C_6H_5NH_2$   
 (C)  $(CH_3)_2NH$  (D)  $CH_3NH_2$

17. Which of the following molecules is least resonance stabilized ?

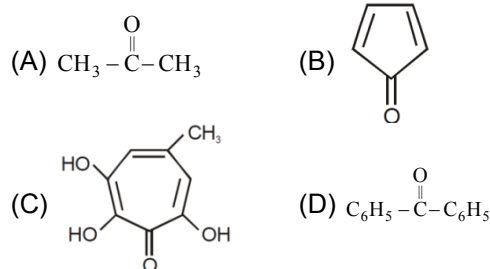


18. Among the following, the least stable resonance structure is :



19. Consider the following carbanions
- (i)  $\text{CH}_3 - \overset{\ominus}{\text{C}}\text{H}$                       (ii)  $\text{CH}_2 = \overset{\ominus}{\text{C}}\text{H}$
- (iii)  $\text{CH} \equiv \overset{\ominus}{\text{C}}$
- Correct order of stability of these carbanions in decreasing order is :
- (A)  $i > ii > iii$                       (B)  $ii > i > iii$
- (C)  $iii > ii > i$                       (D)  $iii > i > ii$

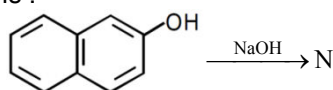
20. Which one of the following carbonyl compound when treated with dilute acid forms the more stable carbocation ?



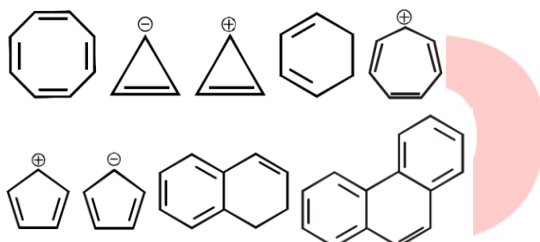
(SECTION B)

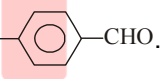
21. Total sum of  $\sigma$  and  $\pi$ -bonds are in naphthalene is:

22. The number of resonating structures of N is :

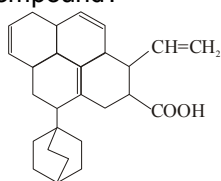


23. Among the following the number of aromatic compound(s) are :

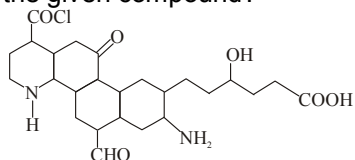


24. Double bond equivalent Ph--CHO.

25. What is the degree of unsaturation of given compound?



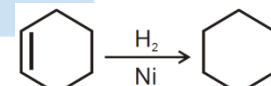
26. How many functional groups are present in the given compound?



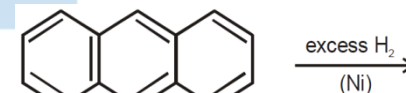
27. Number of  $\alpha$  hydrogens present in alkene formed by dehydration of 2-methylethyl cyclohexan-1-ol are

28. Cyclohexane 1,4-dione has dipole moment 2 D. If mole fraction of its chair form is 0.75 then what will be the dipole moment of twist boat form ?

29. Use the following data to answer the questions below:



$\Delta H = - 28.6 \text{ kcal mol}^{-1}$



$\Delta H = - 116.2 \text{ kcal mol}^{-1}$  Anthracene  
Calculate the resonance energy of Anthracene in kcal/mol.

30. Amongst the following, the total number of compounds soluble in aqueous NaOH is

