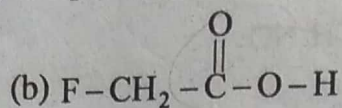
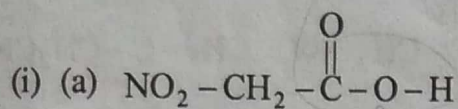
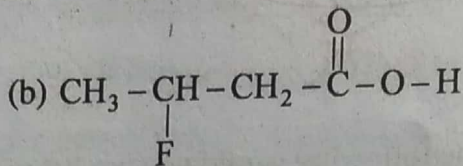
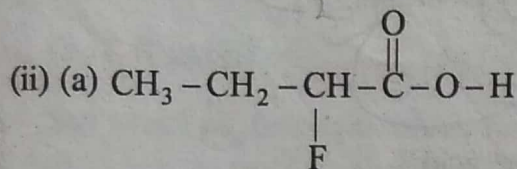
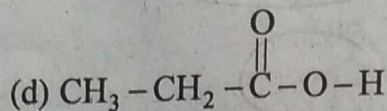
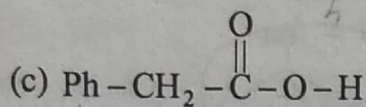


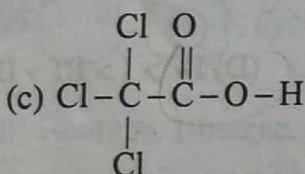
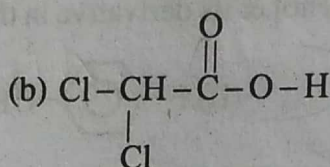
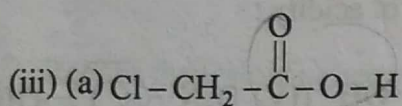
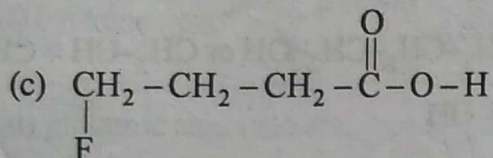
1. Write correct order of acidic strength of following compounds :



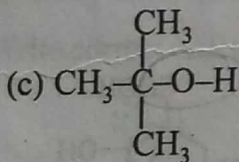
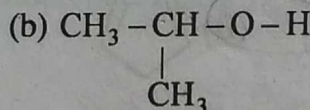
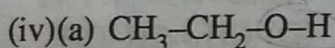
$a > b > c > d$



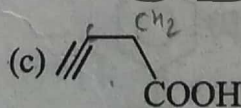
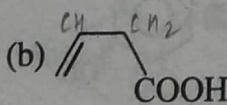
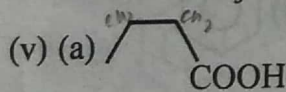
$a > b > c$



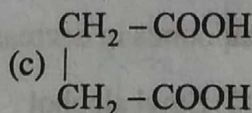
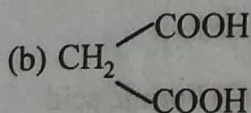
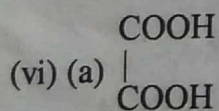
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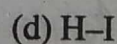
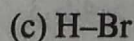
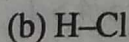
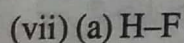
SBG STUDY



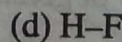
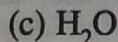
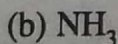
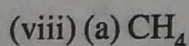
$c > b > a$



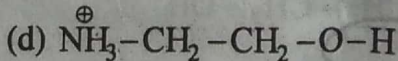
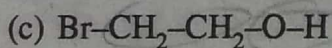
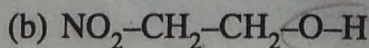
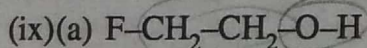
$a > b > c$



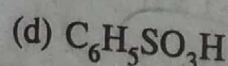
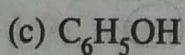
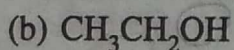
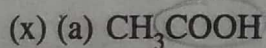
$d > c > b > a$



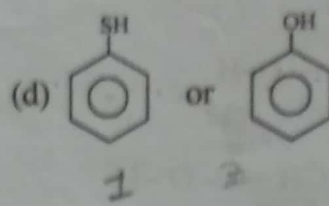
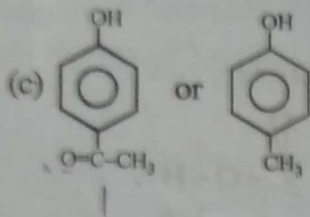
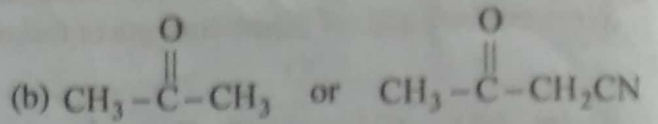
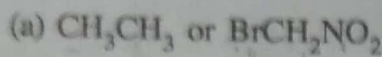
$d > c > b > a$



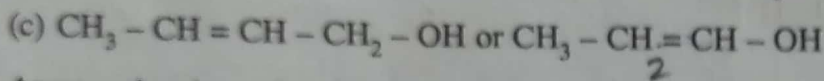
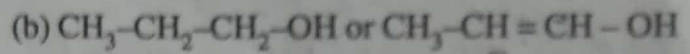
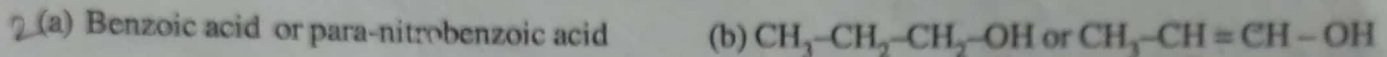
$d > b > a > c$



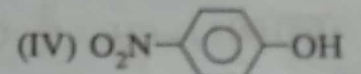
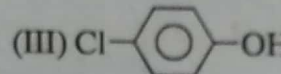
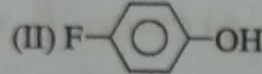
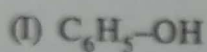
2. Explain which is a stronger acid.



3. Which of the following would you predict to be the stronger acid?

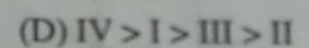
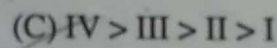
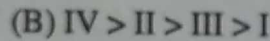
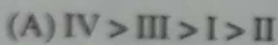


4. Arrange the given phenol & its derivative in their decreasing order of acidity:

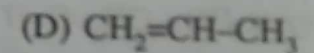
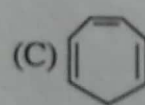
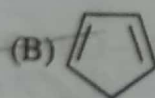
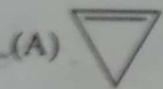


Select the correct answer from the given code:

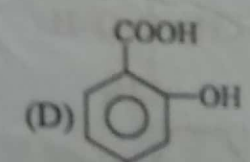
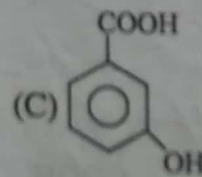
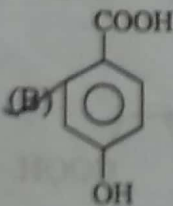
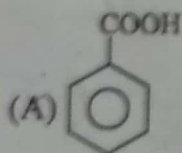
4 > 3 > 2 > 1



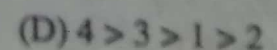
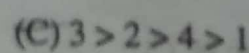
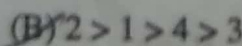
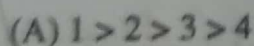
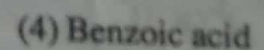
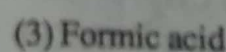
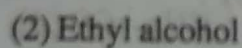
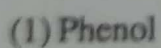
5. Which one of the following is the most acidic?



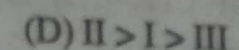
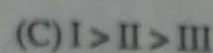
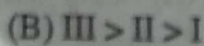
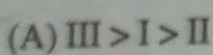
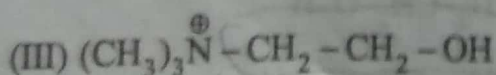
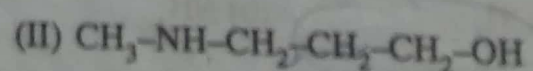
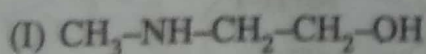
6. Which of the following is weakest acid?



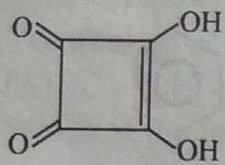
7. Arrange pH of the given compounds in decreasing order:



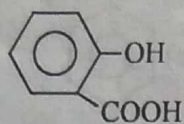
8. Arrange acidity of given compounds in decreasing order:



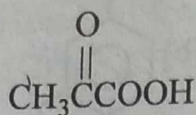
9. Consider the following compound



I



II

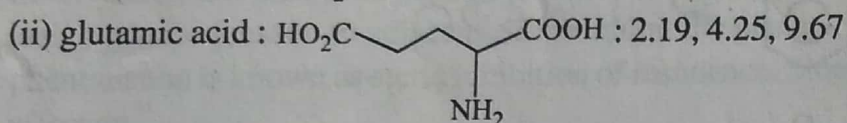
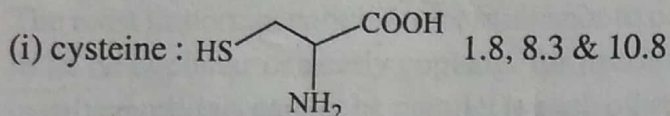


III

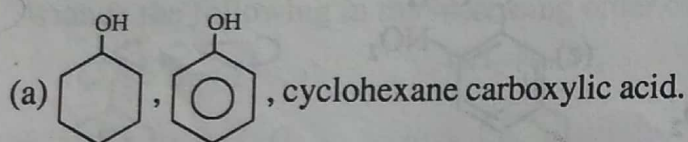
Which of the above compounds reacts with NaHCO_3 giving CO_2

- (A) I, II and III (B) I and III (C) II and III (D) I and II

10. Say which pK_a belong to which functional group in case of following amino acids :



11. Record the following sets of compounds according to increasing pK_a ($= -\log K_a$)



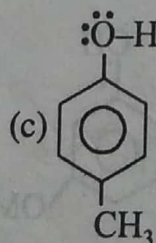
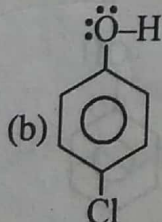
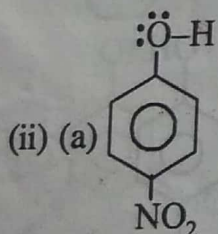
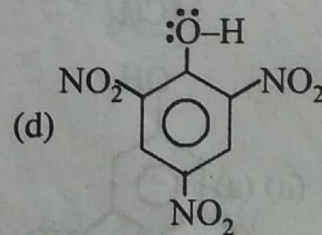
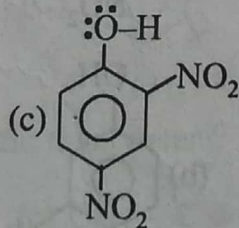
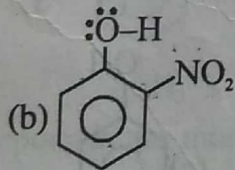
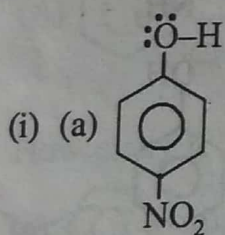
(b) 1-butyne, 1-butene, butane

(c) Propanoic acid, 3-bromopropanoic acid, 2-nitropropanoic acid

(d) Phenol, o-nitrophenol, o-cresol

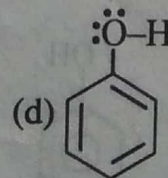
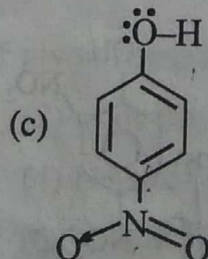
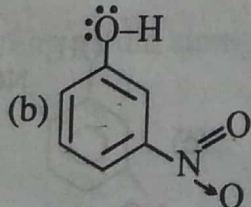
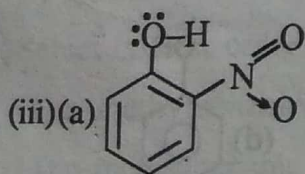
(e) Hexylamine, aniline, methylamine

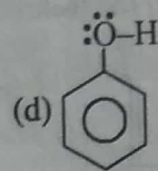
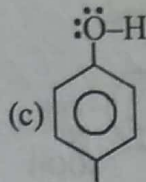
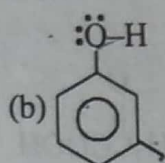
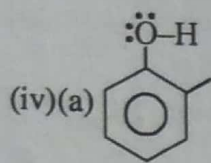
12. Write correct order of acidic strength of following compounds:



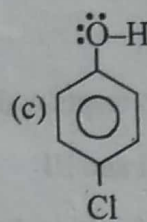
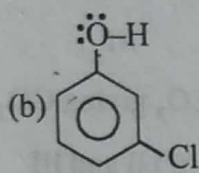
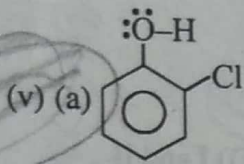
$d > c > a > b$

$a > b > c$

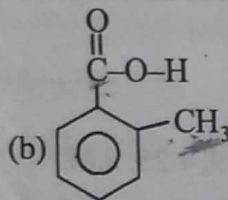
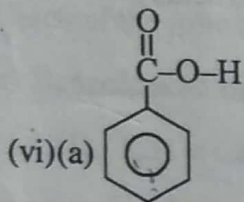




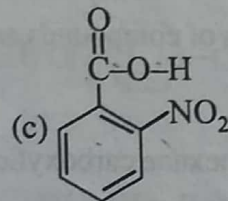
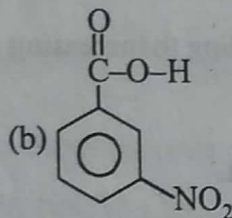
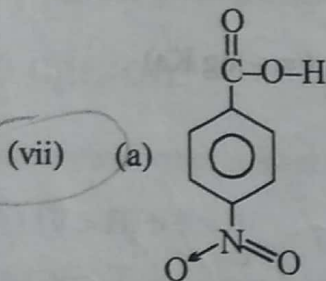
d > b > c > a



a > b > c

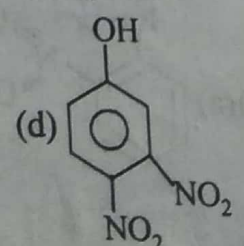
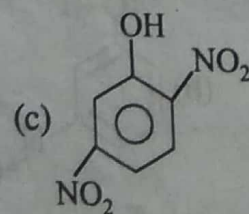
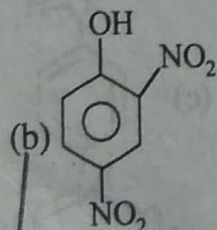
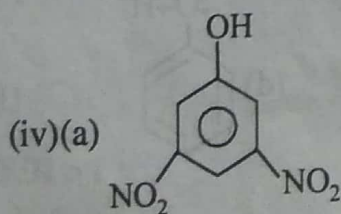
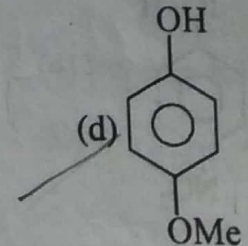
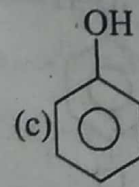
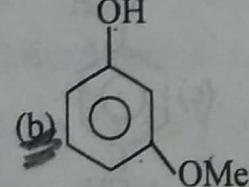
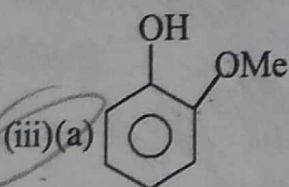
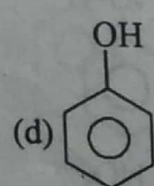
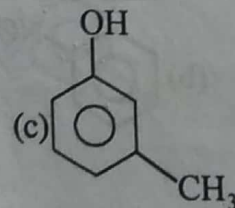
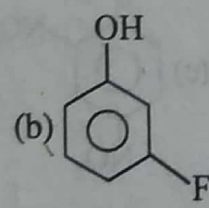
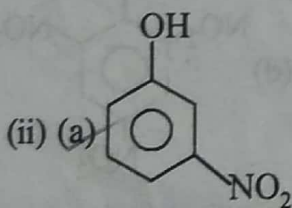
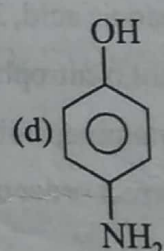
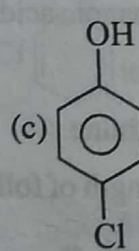
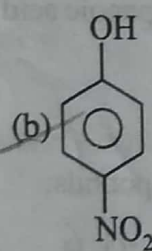
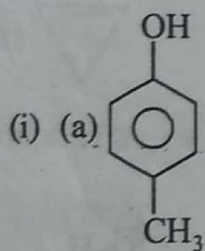


b > a

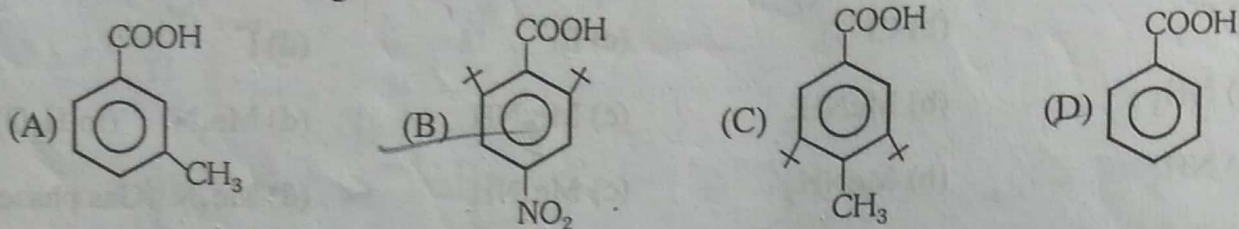


c > a > b

13. Select the strongest acid in each of the following sets :



14. The strongest acid is :
 (A) HF (B) $\text{CH}_3\text{CO}_2\text{H}$ (C) $\text{HF} + \text{SbF}_5$ (D) H_2S
15. The weakest acid (does not show acidic character) is :
 (A) $\text{HC} \equiv \text{CH}$ (B) $\text{CH}_2 = \text{CH}_2$ (C) Me_3CH (D) Ph_3CH
16. Which of the following is most acidic :

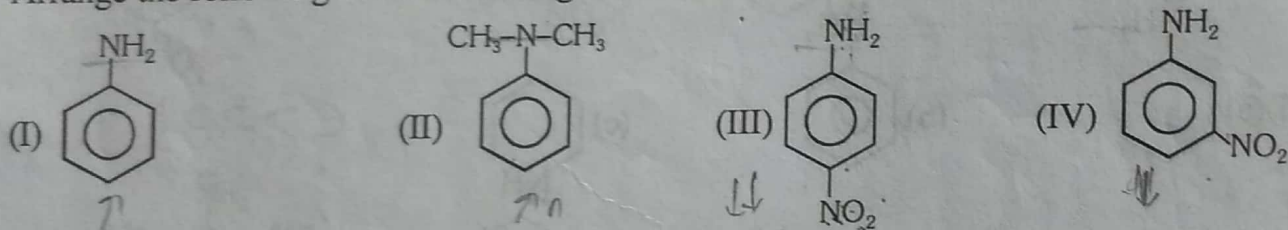


Paragraph for Question 17 to 18

The most important condition for resonance to occur is that the involved atoms in resonating structure must be coplanar or nearly coplanar for maximum delocalisation. If this condition does not fulfil, involved orbitals cannot be parallel to each other and as a consequence delocalisation cannot occur. Bulky groups present on adjacent atoms inhibit the planarity of atoms involved in resonance. This phenomenon is known as steric inhibition of resonance. Steric inhibition of resonance has profound effect on

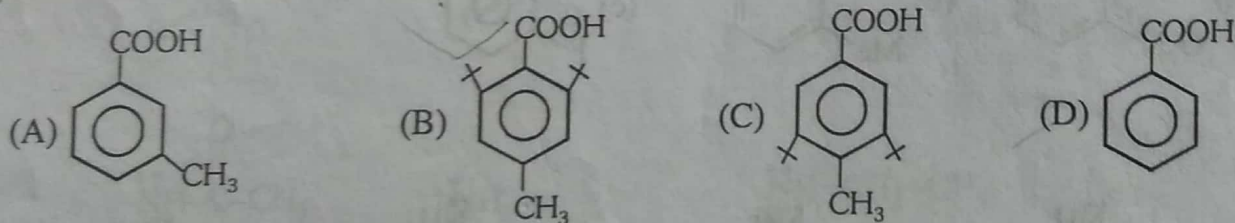
- (1) Physical properties (2) Acidity and basicity (3) Reactivity of organic compounds

17. Arrange the following in the increasing order of basicity :

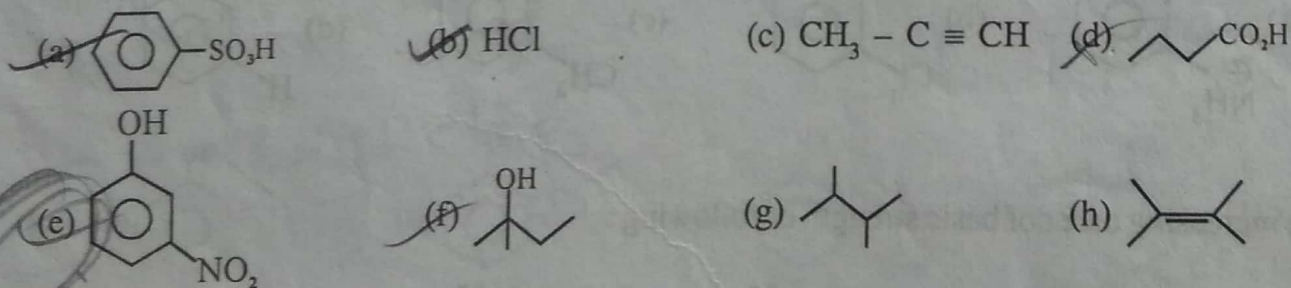


- (A) $\text{I} > \text{II} > \text{III} > \text{IV}$ (B) $\text{IV} > \text{III} > \text{II} > \text{I}$ (C) $\text{II} > \text{I} > \text{IV} > \text{III}$ (D) $\text{I} > \text{IV} > \text{III} > \text{II}$

18. Which of the following is most acidic :



19. How many following compounds are more acidic than water ?



- (i) NaOH

20. Select correct order regarding acidic strength of given compounds :

- (1) o-methylbenzoic acid (2) m-methylbenzoic acid
 (3) p-methylbenzoic acid (4) benzoic acid
 (A) $1 > 2 > 3 > 4$ (B) $4 > 3 > 2 > 1$ (C) $1 > 4 > 2 > 3$ (D) $3 > 2 > 4 > 1$