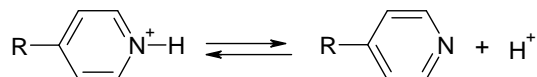


Single Correct Answer Type

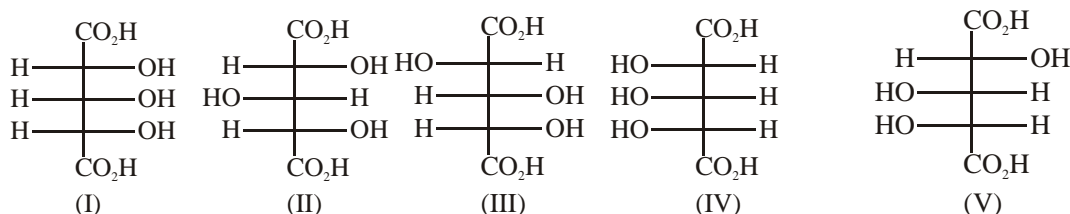
1. $\bar{\text{C}}\text{H}_3$, $\bar{\text{N}}\text{H}_2$, $\bar{\text{O}}\text{H}$ and $\bar{\text{F}}$ in increasing pK_b values are
- (A) $\bar{\text{C}}\text{H}_3 < \bar{\text{N}}\text{H}_2 < \bar{\text{O}}\text{H} < \bar{\text{F}}$ (B) $\bar{\text{F}} < \bar{\text{O}}\text{H} < \bar{\text{N}}\text{H}_2 < \bar{\text{C}}\text{H}_3$
 (C) $\bar{\text{O}}\text{H} < \bar{\text{N}}\text{H}_2 < \bar{\text{C}}\text{H}_3 < \bar{\text{F}}$ (D) None of these is correct

2. In the following case



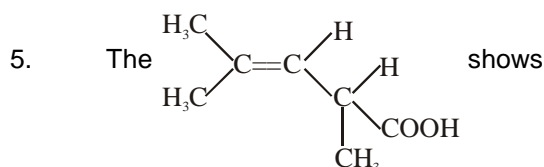
pK_a is maximum when R is

- (A) H (B) NH_2 (C) CN (D) CH_3
3. Observe the given compounds and answer the following questions.



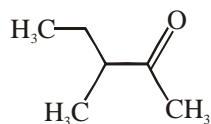
Which of the above formulae represent identical compounds?

- (A) I and II (B) I and IV (C) II and IV (D) III and IV
4. A pure sample of 2-chloro butane shows rotation of PPL by 30° in standard conditions. When above sample is made impure by mixing its opposite form, so that the composition of the mixture becomes 87.5% d-form and 12.5% l-form, then what will be observed rotation for the mixture
- (A) -22.5° (B) $+22.5^\circ$ (C) $+7.5^\circ$ (D) -7.5°

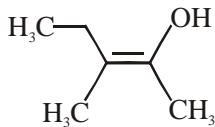


- (A) Geometrical isomerism (B) Optical isomerism
 (C) Geometrical and optical isomerism (D) Tautomerism
6. How many optically active stereoisomers are possible for butane-2, 3-diol?
- (A) 1 (B) 2 (C) 3 (D) 4
7. The number of possible enantiomeric pairs that can be produced during monochlorination of 2-methyl butane is
- (A) 2 (B) 3 (C) 4 (D) 1
8. The number of isomers for the compound with molecular formula C_2BrClFI is
- (A) 3 (B) 4 (C) 5 (D) 6

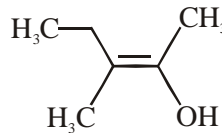
9. The Incorrect statement(s) concerning the structures E, F and G is(are)



(E)



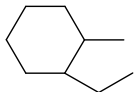
(F)



(G)

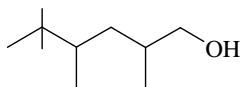
- (A) E, F and G are resonance structures
 (B) E, F and E, G are tautomers
 (C) F and G are geometrical isomers
 (D) F and G are diastereomers

10. IUPAC name of the following compound is



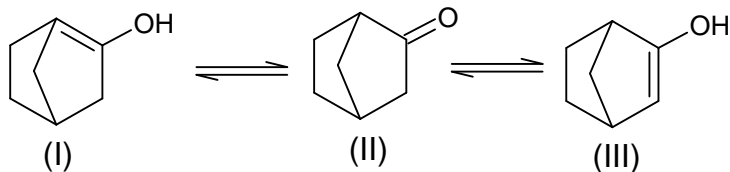
- (A) 1-ethyl-2-methylcyclohexane
 (B) 2-ethyl-1-methylcyclohexane
 (C) 6-ethyl-1-methylcyclohexane
 (D) 1-ethyl-6-methylcyclohexane

11. Number of primary, secondary and tertiary hydrogen in the following are respectively



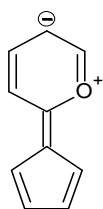
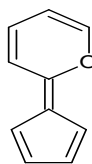
	1 ^o	2 ^o	3 ^o
(A)	18	2	2
(B)	16	4	2
(C)	17	2	2
(D)	17	2	1

12. Correct stability order of the given tautomers is

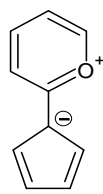


- (A) I > II > III
 (B) III > II > I
 (C) II > III > I
 (D) II > I > III

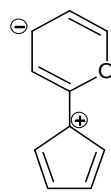
13. The most stable canonical structure of this molecule is



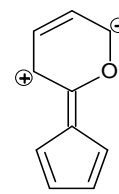
(A)



(B)

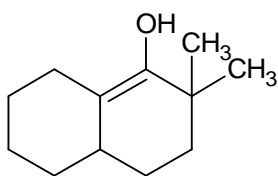


(C)

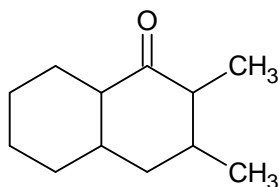


(D)

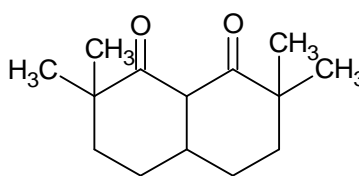
14. Identify the compound which cannot exhibit tautomerism



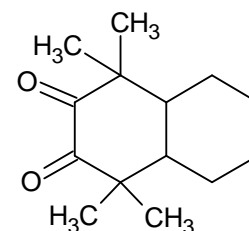
(A)



(B)

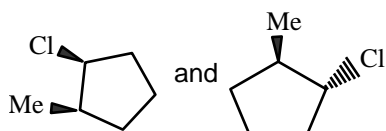


(C)



(D)

15. The following compounds are two distinct species except with respect to -

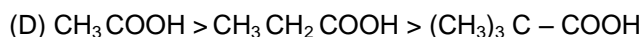
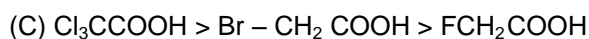
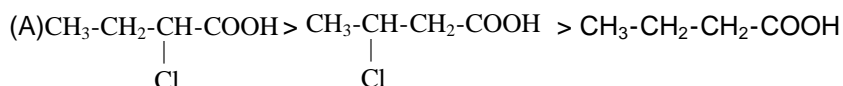


- (A) Melting point
 (B) Boiling point
 (C) IUPAC name
 (D) Molecular composition and connectivity order of atoms

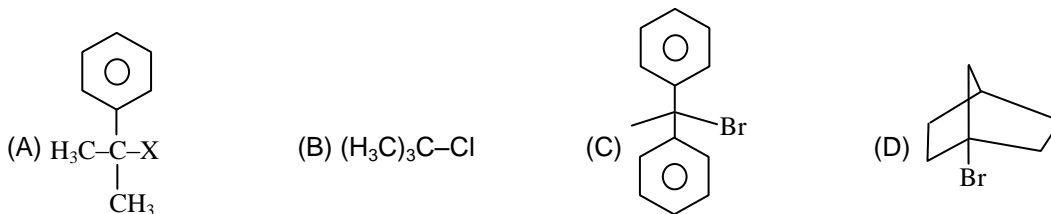
16. Which of the following compound has the lowest barrier of rotation about the indicated bond



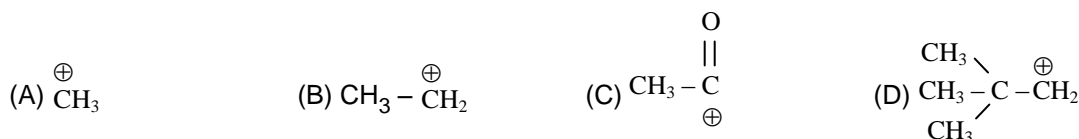
17. Which one is incorrect -



18. Which one of the following tert. halide will not give $\text{S}_\text{N}1$ reaction ?



19. Which of the following is most stable carbocations -

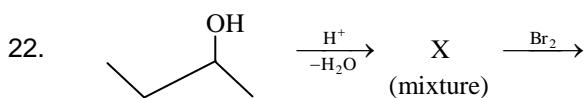
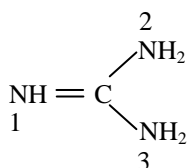


20. Select the most stable carbocation :



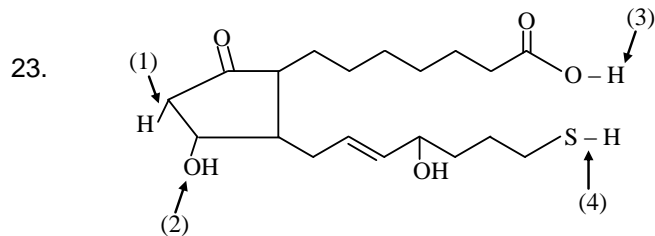
Numerical based

21. Which nitrogen is protonated readily in the guanidine ?



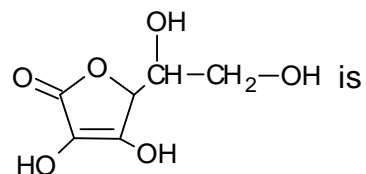
5 compounds of molecular formula $\text{C}_4\text{H}_8\text{Br}_2$.

No. of compounds in X will be :



Which is most acidic hydrogen

24. Number of chiral centres in the vitamin 'C'



25. The number of structural isomers for C_6H_{14} is –

KEY

1.	A	2.	B	3.	B	4.	B	5.	B
6.	B	7.	A	8.	D	9.	A	10.	B
11.	C	12.	C	13.	B	14.	D	15.	D
16.	C	17.	C	18.	D	19.	C	20.	D
21.	1	22.	3	23.	3	24.	2	25.	2

** Wish You all the Best **