

ORGANIC CHEMISTRY

NEET / AIIMS

CRASH COURSE

GENERAL ORGANIC CHEMISTRY

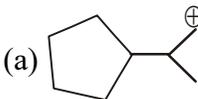
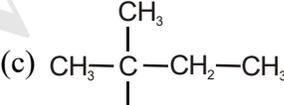
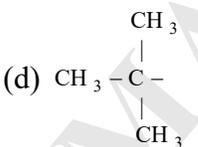
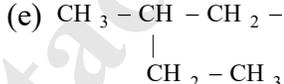
SMART ACHIEVERS
JEE | NEET | FOUNDATION

587, Nitikhand-1, Indirapuram, Gzb.

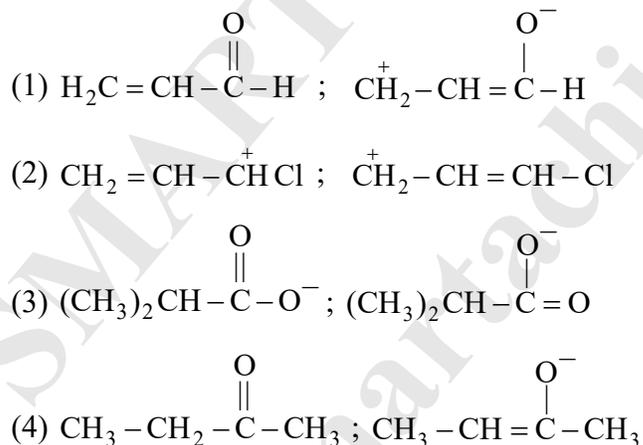
7292077839 / 7292047839 | smartachievers.online

A Unit of SMARTACHIEVERS LEARNING Pvt. Ltd., Delhi

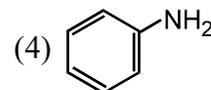
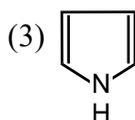
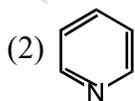
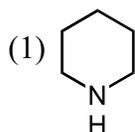
GENERAL ORGANIC CHEMISTRY

- Q.1 The shape of CH_3^+ cation is likely to be:
 (1) pyramidal (2) tetrahedral (3) linear (4) planar
- Q.2 Zero inductive effect is exerted by:
 (1) C_6H_5- (2) $\text{H}-$ (3) CH_3- (4) $\text{Cl}-$
- Q.3 The inductive effect:
 (1) implies the atom's ability to cause bond polarization
 (2) increases with increase of distance
 (3) implies the transfer of lone pair of electrons from more electronegative atom to the lesser electronegative atom in a molecule
 (4) implies the transfer of lone pair of electrons from lesser electronegative atom to the more electronegative atom in a molecule
- Q.4 Which is the correct stability order of following intermediates:
 (a)  (b)  (c) 
 (1) $a > b > c$ (2) $a > c > b$ (3) $c > b > a$ (4) $b > c > a$
- Q.5 Express in decreasing order of (+I) -
 (a) $\text{CH}_3\text{CH}_2 - \text{CH}_2 -$ (b) $\text{CH}_3 -$ (c) 
 (d)  (e) 
 Correct answer is -
 (1) $(c) > (d) > (e) > (a) > (b)$ (2) $(d) > (a) > (b) > (c) > (e)$
 (3) $(a) > (b) > (c) > (d) > (e)$ (4) $(a) > (b) > (c) > (e) > (d)$
- Q.6 Which among the given acid has lowest pK_a value -
 (1) Chloroacetic acid (2) Bromoacetic acid (3) Nitroacetic acid (4) Cyanoacetic acid
- Q.7 Strongest acid out of the following:
 (1) CH_3COOH (2) ClCH_2COOH (3) $\text{CH}_3\text{CH}_2\text{COOH}$ (4) $(\text{CH}_3)_2\text{CHCOOH}$

- Q.8 Which of the following orders of acid strength is correct ?
 (1) $\text{RCOOH} > \text{ROH} > \text{HOH} > \text{HC} \equiv \text{CH}$ (2) $\text{RCOOH} > \text{HOH} > \text{ROH} > \text{HC} \equiv \text{CH}$
 (3) $\text{RCOOH} > \text{HOH} > \text{HC} \equiv \text{CH} > \text{ROH}$ (4) $\text{RCOOH} > \text{HC} \equiv \text{CH} > \text{HOH} > \text{ROH}$
- Q.9 Which of the following orders is correct regarding the -I effect of the substituents ?
 (1) $-\text{NR}_2 > -\text{OR} > -\text{F}$ (2) $-\text{NR}_2 < -\text{OR} < -\text{F}$
 (3) $-\text{NR}_2 > -\text{OR} < -\text{F}$ (4) $-\text{NH}_2 < -\text{OR} > -\text{F}$
- Q.10 Which of the following statement is incorrect ?
 (1) Contributing structures contributes to the resonance hybrid in proportion of their energies.
 (2) Equivalent contributing structure make the resonance very important.
 (3) Contributing structures represent hypothetical molecules having no real existence.
 (4) Contributing structures are less stable than the resonance hybrid.
- Q.11 Point out incorrect statement about resonance-
 (1) Resonance structures should not have equal energy
 (2) In resonance structures, the constituent atoms should be in the same position.
 (3) In resonance structures there should not be the same number of unshared electron pairs.
 (4) Resonance structures should differ only in the location of electrons around the constituent atoms.
- Q.12 Resonance energy will be less if
 (1) canonical structures are equivalent. (2) canonical structures are non-equivalent.
 (3) molecule is aromatic (4) resonating structures are more
- Q.13 Which one of the following pairs of structures does not represent the phenomenon of resonance?



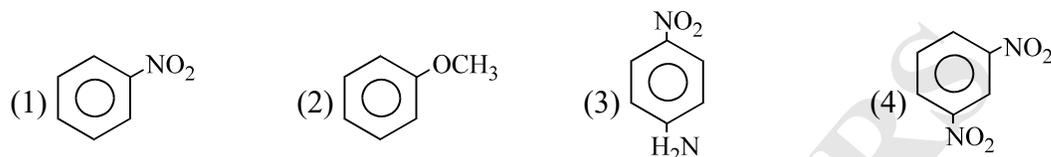
- Q.14 Which of the following is the strongest base -



Q.15 Among the following molecules, the correct order of C–C bond length is

- (1) $C_2H_6 > C_2H_4 > C_6H_6 > C_2H_2$ (2) $C_2H_6 > C_6H_6 > C_2H_4 > C_2H_2$ (C_6H_6 is benzene)
 (3) $C_2H_4 > C_2H_6 > C_2H_2 > C_6H_6$ (4) $C_2H_6 > C_2H_4 > C_2H_2 > C_6H_6$

Q.16 In which of the following molecules π -electron density in ring is minimum :



Q.17 In which of the following molecules π -electron density in ring is maximum :



Q.18 $CH_2 = CH - CH = CH - CH_3$ is more stable than $CH_3 - CH = C = CH - CH_3$ because

(I) (II)

- (1) there is resonance in I but not in II (2) there is tautomerism in I but not in II
 (3) there is hyperconjugation in I but not in II (4) II has more canonical structures than I.

Q.19 Select the least stable resonating structure among following carbocation.

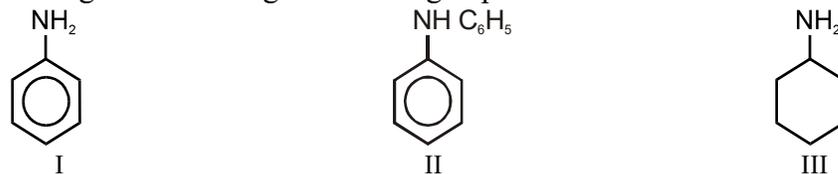


Q.20 Rank the following radicals in order of Decreasing stability



- (1) III > II > I > IV (2) III > II < I < IV (3) II > III > II > IV (4) III < II < I < IV

Q.21 Arrange the following in increasing of pH value



- (1) II < I < III (2) III < I < II (3) III < II < I (4) II < III < I

- Q.22 Which of the following substituents will decrease the acidity of phenol -
 (1) $-\text{NO}_2$ (2) $-\text{CN}$ (3) $-\text{CH}_3$ (4) $-\text{CHO}$
- Q.23 The most stable carbonium ion is
 (1) $\text{CH}_3\overset{\oplus}{\text{C}}\text{H}_2$ (2) $\text{C}_6\text{H}_5\overset{\oplus}{\text{C}}\text{H}_2$
 (3) $\text{C}_6\text{H}_5\overset{\oplus}{\text{C}}\text{HC}_6\text{H}_5$ (4) $\text{C}_6\text{H}_5\text{CH}_2\overset{\oplus}{\text{C}}\text{H}_2$
- Q.24 The kind of delocalization involving sigma bond orbitals is called :
 (1) Hybridization (2) Conjugation (3) Hyperconjugation (4) Conformation
- Q.25 An electrophilic reagent is :
 (1) Electron rich species (2) Electron deficient species
 (3) A Lewis base (4) Negatively charged species
- Q.26 A nucleophile is :
 (1) Electron - rich species (2) Electron deficient species
 (3) A Lewis acid (4) Positively charged species
- Q.27 Which of the following is an electrophilic reagent ?
 (1) H_2O (2) OH^- (3) NO_2^+ (4) None
- Q.28 Which of the following is not an electrophile :
 (1) AlBr_3 (2) BF_3 (3) SnCl_4 (4) NH_3
- Q.29 Which among the following is not a Lewis acid
 (1) BF_3 (2) AlCl_3 (3) NH_3 (4) Hg^{2+}
- Q.30 Which of the following is an electrophile
 (1) NH_3 (2) ROH (3) $-\text{OR}$ (4) BCl_3
- Q.31 What is the decreasing order of strength of the bases OH^- (I), NH_2^- (II), $\text{H}-\text{C}\equiv\text{C}^-$ (III), CH_3CH_2^- (IV) ?
 (1) $\text{IV} > \text{II} > \text{III} > \text{I}$ (2) $\text{III} > \text{IV} > \text{II} > \text{I}$
 (3) $\text{I} > \text{II} > \text{III} > \text{IV}$ (4) $\text{II} > \text{III} > \text{I} > \text{IV}$
- Q.32 Which one of the following compounds is most acidic ?
 (1) Phenol (2) Trichloro acetaldehyde
 (3) Trichloro acetic acid (4) Benzoic acid

Q.33 The order of stability of the following carbanion is :

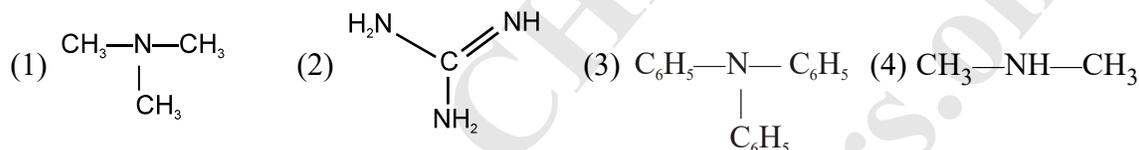


- (1) I > II > III > IV (2) I > III > II > IV
 (3) IV > III > II > I (4) III > IV > I > II

Q.34 Amongst the following, the most basic compound is-

- (1) Benzylamine (2) Aniline (3) Acetanilide (4) p-Nitroaniline

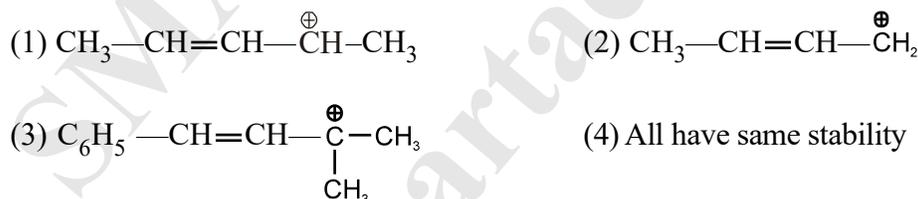
Q.35 The strongest base is-



Q.36 Increasing order of basic strength of following compounds is

- (I) $\text{C}_6\text{H}_5\text{NH}_2$, (II) $(\text{CH}_3)_3\text{N}$, (III) $(\text{C}_6\text{H}_5)_2\text{NH}$, (IV) $\text{C}_6\text{H}_5\text{NHCH}_3$
 (1) III < IV < I < II (2) III < I < IV < II (3) I < III < II < IV (4) II < IV < III < I

Q.37 Which allylic carbocation is the most stable carbocation :



Q.38 The pair(s) of groups in which first has +R while other has -R effect-

- (1) -Cl, -OH (2) -NO₂, -OH (3) -CN, -CHO (4) -NH₂, -NO₂

Q.39 Which of the following orders of relative strength of acids is correct ?

- (1) $\text{CH}_3\text{COOH} > \text{HCN} > \text{H}_2\text{O} > \text{C}_2\text{H}_5\text{OH}$ (2) $\text{CH}_3\text{COOH} < \text{HCN} < \text{H}_2\text{O} < \text{C}_2\text{H}_5\text{OH}$
 (3) $\text{CH}_3\text{COOH} > \text{HCN} < \text{H}_2\text{O} < \text{C}_2\text{H}_5\text{OH}$ (4) $\text{CH}_3\text{COOH} < \text{HCN} < \text{H}_2\text{O} > \text{C}_2\text{H}_5\text{OH}$

- Q.40 Which of the following order is correct regarding the acidity of carboxylic group ?
- (1) $\text{CH}_3\text{CH}_2\text{CH}(\text{Cl})\text{COOH} > \text{CH}_3\text{CH}(\text{Cl})\text{CH}_2\text{COOH} > \text{ClCH}_2\text{CH}_2\text{CH}_2\text{COOH}$
 - (2) $\text{CH}_3\text{CH}_2\text{CH}(\text{Cl})\text{COOH} < \text{CH}_3\text{CH}(\text{Cl})\text{CH}_2\text{COOH} < \text{ClCH}_2\text{CH}_2\text{CH}_2\text{COOH}$
 - (3) $\text{CH}_3\text{CH}_2\text{CH}(\text{Cl})\text{COOH} > \text{CH}_3\text{CH}(\text{Cl})\text{CH}_2\text{COOH} < \text{ClCH}_2\text{CH}_2\text{CH}_2\text{COOH}$
 - (4) $\text{CH}_3\text{CH}_2\text{CH}(\text{Cl})\text{COOH} < \text{CH}_3\text{CH}(\text{Cl})\text{CH}_2\text{COOH} > \text{ClCH}_2\text{CH}_2\text{CH}_2\text{COOH}$

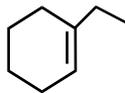
- Q.41 Arrange the following in increasing order of their Stability :



I



II



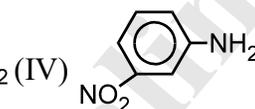
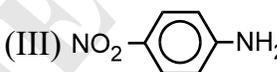
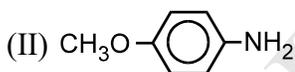
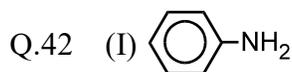
III

(1) $\text{I} < \text{II} < \text{III}$

(2) $\text{II} < \text{I} < \text{III}$

(3) $\text{I} < \text{III} < \text{II}$

(4) $\text{II} < \text{III} < \text{I}$



The correct order of decreasing basicity of the above compound is -

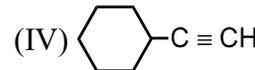
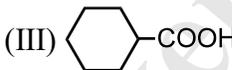
(1) $\text{I} > \text{II} > \text{III} > \text{IV}$

(2) $\text{II} > \text{I} > \text{IV} > \text{III}$

(3) $\text{III} > \text{IV} > \text{II} > \text{I}$

(4) $\text{II} > \text{I} > \text{III} > \text{IV}$

- Q.43 Give the correct order of increasing acidity of the following compounds -



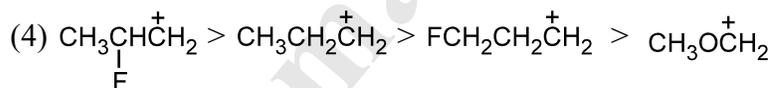
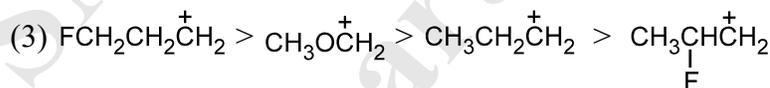
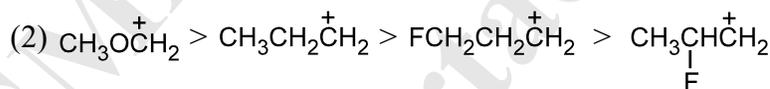
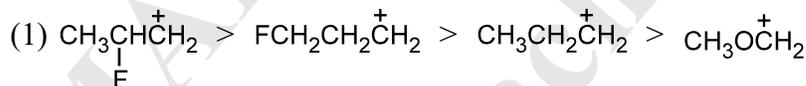
(1) $\text{II} < \text{I} < \text{IV} < \text{III}$

(2) $\text{IV} < \text{II} < \text{I} < \text{III}$

(3) $\text{I} < \text{II} < \text{IV} < \text{III}$

(4) $\text{IV} < \text{I} < \text{II} < \text{III}$

- Q.44 The correct order of decreasing stability of the following carbocations is -



- Q.45 Which is the correct order of inductive effect ?

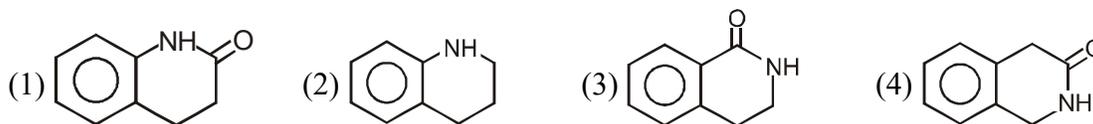
(1) $-\text{NH}_2 > -\text{OR} > -\text{F}$

(2) $-\text{F} > -\text{OR} > -\text{NH}_2$

(3) $-\text{NH}_2 > -\text{F} > -\text{OR}$

(4) $-\text{OR} > -\text{F} > -\text{NH}_2$

Q.53 In which of the following molecule, the mesomeric effect is not with the benzene nucleus ?



Q.54 Hyperconjugation is possible in which of the following species ?



Q.55 Which of the following alkenes will show maximum number of hyperconjugation forms ?



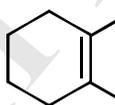
Q.56 The C-C bond length in propene is little shorter (1.49 \AA) than the C-C bond length (1.54 \AA) in ethane. This is due to

- (1) +I effect of CH_3 (2) Mesomeric effect
 (3) Resonance effect (4) Hyperconjugation effect

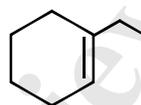
Q.57 Arrange in the stability order of following : निम्न को स्थायित्व के क्रम में व्यवस्थित कीजिए :



I



II



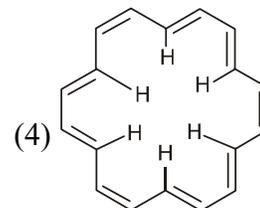
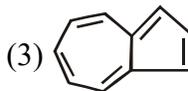
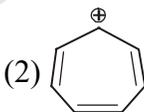
III

(1) $\text{I} < \text{II} < \text{III}$ (2) $\text{II} < \text{I} < \text{III}$ (3) $\text{I} < \text{III} < \text{II}$ (4) $\text{II} < \text{III} < \text{I}$

Q.58 Point out the wrong statement in relation to the structure of benzene

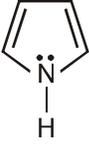
- (1) It is aromatic compound.
 (2) The C - C bond distance in benzene is uniformly 1.397 \AA
 (3) It is a resonance hybrid of a number of canonical forms
 (4) It has three delocalised - molecular orbitals

Q.59 Which of the following compound is not aromatic in nature.



Q.60 Which of the following molecules have all C–C bonds are of equal length?

- (1)  (2)  (3)  (4) All of these

Q.61 The hybridisation of nitrogen in  (pyrrole) is :

- (1) sp^3 (2) sp^2 (3) sp (4) Can't be predicted

Q.62 The geometry of a methyl carbocation and methyl carbanion is likely to be respectively :

- (1) Octahedral & linear (2) Tetrahedral & planar
(3) Planar & tetrahedral (4) Linear & tetrahedral

Q.63 Stability of carbocations can be explained on the basis of?

- (1) Inductive effect (2) Hyperconjugative effect
(3) Resonance effect (4) All the three

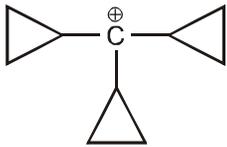
Q.64 The decreasing order of stability of alkyl carbonium ion is in the order of : ($R = C_2H_5$)

- (1) $R-\overset{\overset{R}{|}}{\underset{\underset{R}{|}}{C^+}} > R-\overset{\overset{R}{|}}{\underset{\underset{H}{|}}{C^+}} > R-\overset{\overset{H}{|}}{\underset{\underset{H}{|}}{C^+}} > H-\overset{\overset{H}{|}}{\underset{\underset{H}{|}}{C^+}}$ (2) $H-\overset{\overset{H}{|}}{\underset{\underset{H}{|}}{C^+}} > R-\overset{\overset{H}{|}}{\underset{\underset{H}{|}}{C^+}} > R-\overset{\overset{R}{|}}{\underset{\underset{H}{|}}{C^+}} > R-\overset{\overset{R}{|}}{\underset{\underset{R}{|}}{C^+}}$
(3) $R-\overset{\overset{R}{|}}{\underset{\underset{H}{|}}{C^+}} > R-\overset{\overset{R}{|}}{\underset{\underset{R}{|}}{C^+}} > R-\overset{\overset{H}{|}}{\underset{\underset{H}{|}}{C^+}} > H-\overset{\overset{H}{|}}{\underset{\underset{H}{|}}{C^+}}$ (4) $R-\overset{\overset{H}{|}}{\underset{\underset{H}{|}}{C^+}} > R-\overset{\overset{R}{|}}{\underset{\underset{H}{|}}{C^+}} > R-\overset{\overset{R}{|}}{\underset{\underset{R}{|}}{C^+}} > H-\overset{\overset{H}{|}}{\underset{\underset{H}{|}}{C^+}}$

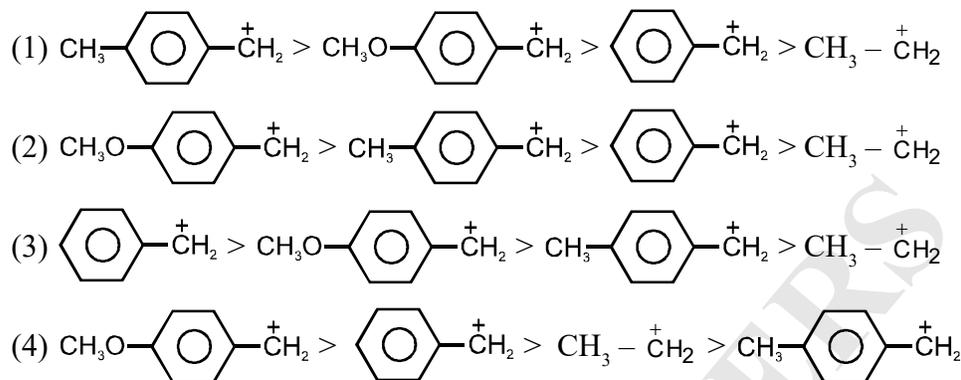
Q.65 Which of the following statement is correct ?

- (1) Allyl carbocation ($H_2C=CH-\overset{+}{C}H_2$) is more stable than propyl carbocation.
(2) Ethyl carbocation is more stable than allyl carbocation.
(3) Vinyl carbocation is more stable than ethyl carbocation.
(4) Benzyl carbocation is more stable than cyclopropyl methyl carbocation.

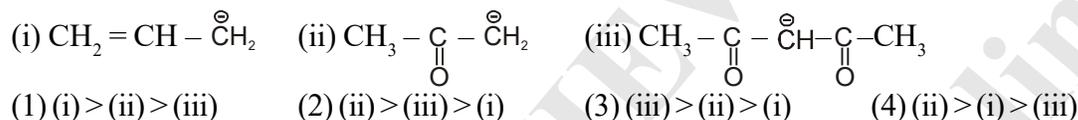
Q.66 Which one of the following carbocations is most stable ?

- (1)  (2) $C_6H_5-\overset{+}{C}H_2$ (3)  (4) $CH_3-\overset{+}{C}H-CH_3$

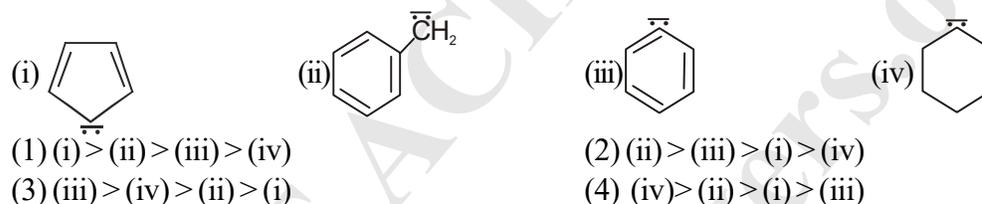
Q.67 Which of the following shows the correct decreasing order of stability ?



Q.68 Arrange the following carbanions in decreasing order of stability :



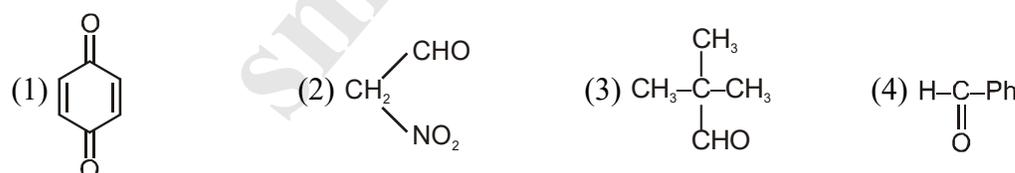
Q.69 Arrange the following carbanions in decreasing order of stability :

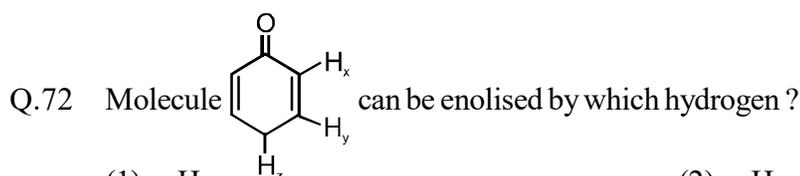


Q.70 Arrange the following carbanions in decreasing order of stability :



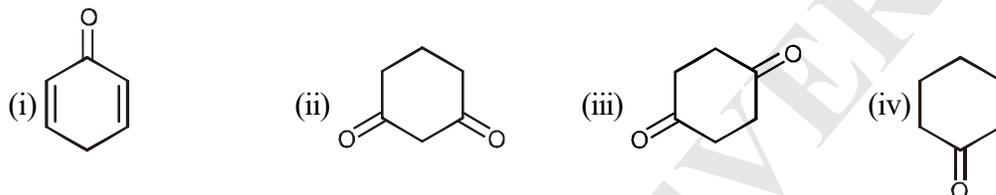
Q.71 Which of the following can show tautomerism ?





- (1) x-H (2) y-H
 (3) z-H (4) None of these

Q.73 Arrange the following in decreasing order of percentage enol content ?



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

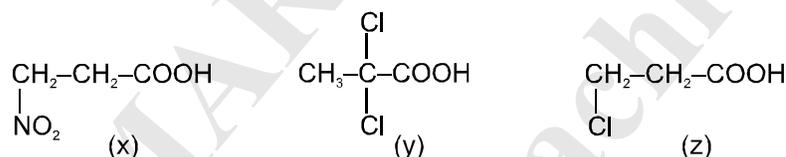
Q.74 Enol content is highest in :



Q.75 Which of the following K_a values, represents the strongest acid ?

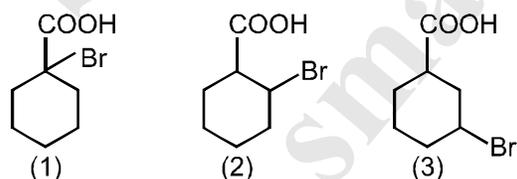
- (1) 10^{-4} (2) 10^{-8} (3) 10^{-5} (4) 10^{-2}

Q.76 What is the correct order of acidic strength in following compounds ?



- (1) $x > y > z$ (2) $y > x > z$ (3) $x > z > y$ (4) $z > y > x$

Q.77 What is the correct order of acidic strength in following compounds ?

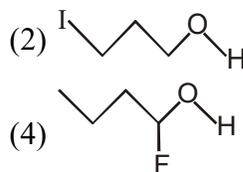
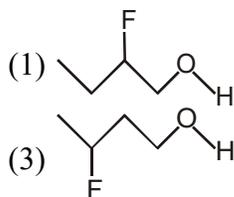


- (1) $1 > 3 > 2$ (2) $1 > 2 > 3$ (3) $3 > 2 > 1$ (4) $3 > 1 > 2$

Q.78 Which of the following option shows the correct order of decreasing acidity :

- (1) $PhCO_2H > PhSO_3H > PhCH_2OH > PhOH$
 (2) $PhSO_3H > PhOH > PhCH_2OH > PhCH_2OH$
 (3) $PhCO_2H > PhOH > PhCH_2OH > PhSO_3H$
 (4) $PhSO_3H > PhCO_2H > PhOH > PhCH_2OH$

Q.79 In which of the following compounds the hydroxylic proton is the most acidic ?



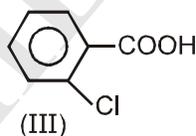
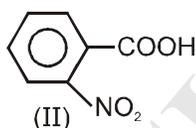
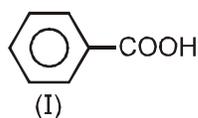
Q.80 Which one of the following carboxylic acid is most acidic.

- (1) o-Methyl benzoic acid (2) m-Methyl benzoic acid
(3) p-Methyl benzoic acid (4) Benzoic acid

Q.81 Phenol is less acidic than :

- (1) p-nitrophenol (2) ethanol (3) cresol (4) benzyl alcohol

Q.82 Increasing value of dissociation constant K_a of



- (1) I < II < III (2) II < III < I (3) III < II < I (4) I < III < II .

Q.83 The basic character of amines can be explained :

- (1) Only in terms of Lowry-Bronsted concept.
(2) Only in terms of Lewis concept.
(3) Both in terms of Arrhenius and Lewis concepts.
(4) Both in terms of Lewis and Lowry-Bronsted concepts.

Q.84 Amines are more basic than :

- (1) Alcohols (2) Ethers (3) Ester (4) All of these

Q.85 Which of the following shows the correct order of decreasing basicity in aqueous medium ?

- (1) $(C_2H_5)_3N > (C_2H_5)_2NH > C_2H_5NH_2 > NH_3$
(2) $(C_2H_5)_2NH > (C_2H_5)_3N > C_2H_5NH_2 > NH_3$
(3) $(C_2H_5)_2NH > C_2H_5NH_2 > (C_2H_5)_3N > NH_3$
(4) $(C_2H_5)_2NH > C_2H_5NH_2 > NH_3 > (C_2H_5)_3N$

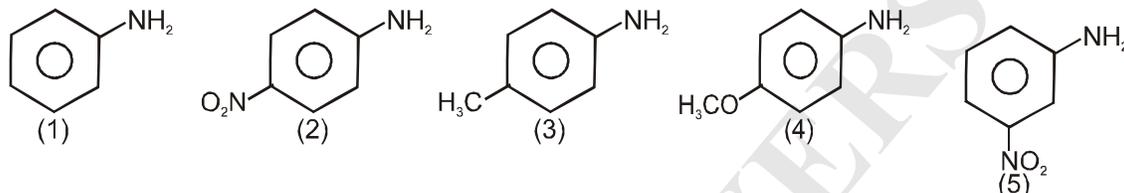
Q.86 The correct basic strength order of following anions is :

- (1) $CH_3-\overset{\ominus}{C}H_2 > \overset{\ominus}{N}H_2 > CH_2=\overset{\ominus}{C}H > CH\equiv\overset{\ominus}{C} > HO\overset{\ominus}{O} > F\overset{\ominus}$
(2) $\overset{\ominus}{N}H_2 > CH_3-\overset{\ominus}{C}H_2 > CH_2=\overset{\ominus}{C}H > CH\equiv\overset{\ominus}{C} > F\overset{\ominus} > HO\overset{\ominus}$
(3) $CH_3-\overset{\ominus}{C}H_2 > CH_2=\overset{\ominus}{C}H > \overset{\ominus}{N}H_2 > CH\equiv\overset{\ominus}{C} > HO\overset{\ominus} > F\overset{\ominus}$
(4) $F\overset{\ominus} > HO\overset{\ominus} > CH\equiv\overset{\ominus}{C} > CH_2=\overset{\ominus}{C}H > \overset{\ominus}{N}H_2 > CH_3-\overset{\ominus}{C}H_2$

Q.87 Decreasing order of basicity is :

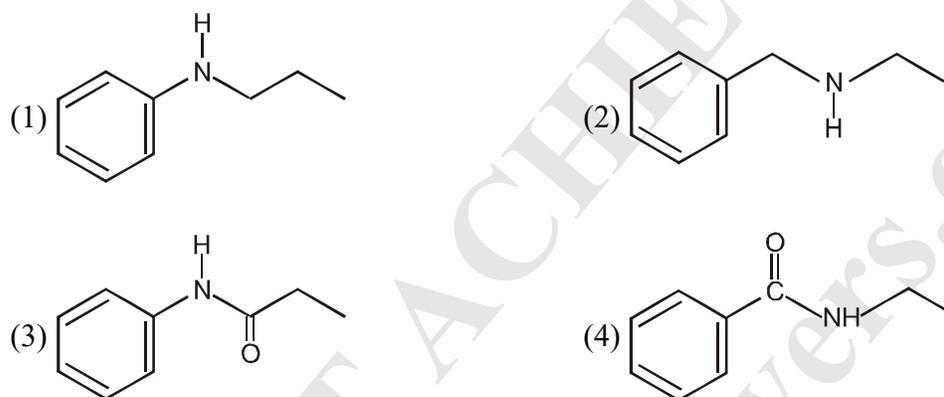
- (i) $C_6H_5-NH_2$ (ii) $C_6H_5-NH-C_6H_5$ (iii) $C_6H_5-N(C_6H_5)_2$ (iv) $CH_3-CH_2-NH_2$
 (1) $i > ii > iii > iv$ (2) $iv > i > ii > iii$ (3) $iii > ii > i > iv$ (4) $iv > iii > ii > i$

Q.88 The correct order of increasing basic nature of the following bases is :



- (1) $2 < 5 < 1 < 3 < 4$ (2) $5 < 2 < 1 < 3 < 4$ (3) $2 < 5 < 1 < 4 < 3$ (4) $5 < 2 < 1 < 4 < 3$

Q.89 Which one of the following compound is most basic ?



Q.90 Among the following the correct order of basicity is:

- (1) $NH_2 > OH^- > RO^- > RCOO^-$ (2) $NH_2 > RO^- > OH^- > RCOO^-$
 (3) $RCOO^- > NH_2 > RO^- > OH^-$ (4) $RCOO^- > RO^- > NH_2 > OH^-$

ASSERTION AND REASON

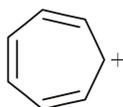
Directions : Each of these questions contains an Assertion followed by reason. Read them carefully and answer the question on the basis of following options. You have to select the one that best describes the two statements.

- (1) If both assertion and reason are true and reason is the correct explanation of assertion.
 (2) If both assertion and reason are true but reason is not the correct explanation of assertion.
 (3) If Assertion is true but reason is false.
 (4) If both assertion and reason are false.

Q.91 **Assertion :** Allyl free radical is more stable than simple alkyl free radical.

Reason : The allyl free radical stabilized by resonance.

- Q.92 **Assertion** : Heterolytic fission involves the breaking of a covalent bond in such a way that both the electrons of the shared pair are carried away by one of the atoms.
Reason : Heterolytic fission occurs readily in polar covalent bonds.
- Q.93 **Assertion** : The P_{K_a} value of acetic acid is lower than that of phenol.
Reason : Phenoxide ion is more resonance stabilized.
- Q.94 **Assertion** : E-cyclopentadecene is having more ΔH_C (Heat of combustion) than Z isomer.
Reason : E-cyclopentadecene is more stable than Z isomer.
- Q.95 **Assertion** : Cyclopentadienyl anion is much more stable than allyl anion.
Reason : Cyclopentadienyl anion is aromatic in character.
- Q.96 **Assertion** : Tropylium cation is aromatic in nature.



Reason : The only property that determines its aromatic behaviour is planar structure.

- Q.97 **Assertion** : Nucleophiles attack the regions of high electron density.
Reason : Nucleophiles act as lewis bases.

ANSWER KEY

Q.1	4	Q.2	2	Q.3	1	Q.4	4	Q.5	1	Q.6	3	Q.7	2
Q.8	2	Q.9	2	Q.10	1	Q.11	3	Q.12	2	Q.13	4	Q.14	1
Q.15	2	Q.16	4	Q.17	2	Q.18	1	Q.19	3	Q.20	1	Q.21	1
Q.22	3	Q.23	3	Q.24	3	Q.25	2	Q.26	1	Q.27	3	Q.28	4
Q.29	3	Q.30	4	Q.31	1	Q.32	3	Q.33	4	Q.34	1	Q.35	2
Q.36	2	Q.37	3	Q.38	4	Q.39	1	Q.40	1	Q.41	3	Q.42	2
Q.43	2	Q.44	2	Q.45	2	Q.46	4	Q.47	4	Q.48	2	Q.49	1
Q.50	3	Q.51	1	Q.52	1	Q.53	4	Q.54	2	Q.55	2	Q.56	4
Q.57	3	Q.58	4	Q.59	1	Q.60	4	Q.61	2	Q.62	3	Q.63	4
Q.64	1	Q.65	1	Q.66	1	Q.67	2	Q.68	3	Q.69	1	Q.70	4
Q.71	2	Q.72	3	Q.73	1	Q.74	1	Q.75	4	Q.76	2	Q.77	2
Q.78	4	Q.79	4	Q.80	1	Q.81	1	Q.82	4	Q.83	4	Q.84	4
Q.85	2	Q.86	3	Q.87	2	Q.88	1	Q.89	2	Q.90	2	Q.91	1
Q.92	2	Q.93	3	Q.94	4	Q.95	1	Q.96	3	Q.97	4		