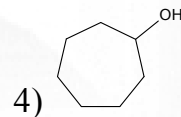
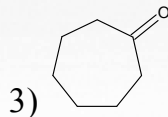
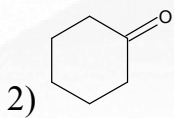
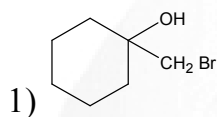
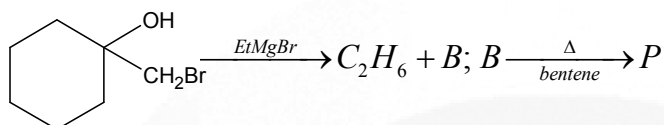
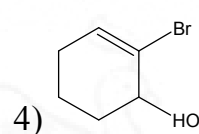
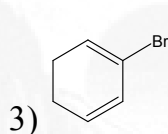
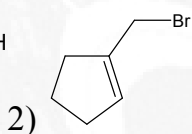
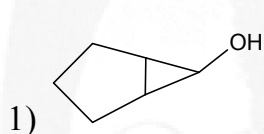
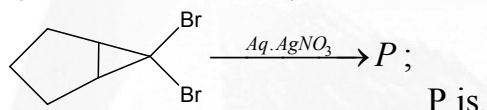


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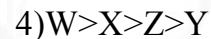
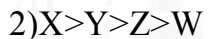
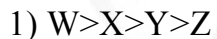
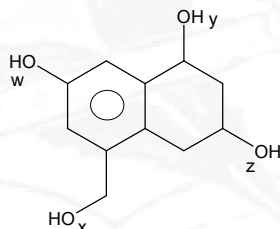
31. What is 'P' in the following Reaction?



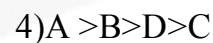
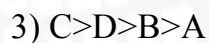
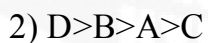
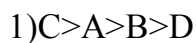
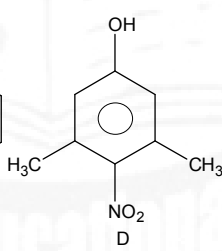
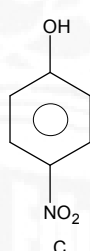
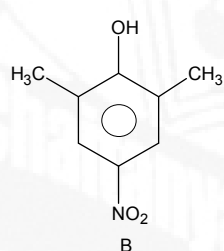
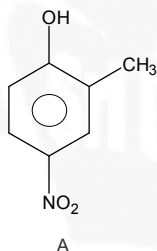
32.



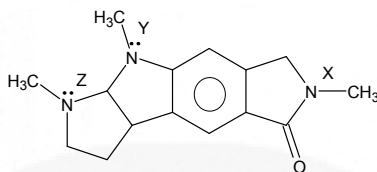
33. The correct order of acidic strength of following groups in the given compound is,



34. Arrange the following compounds in decreasing order of pKa values

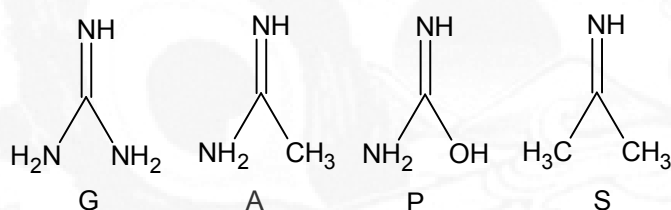


35. The correct order of decreasing basic strength in the following compound is,



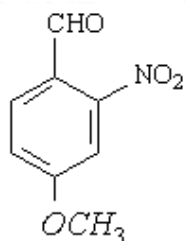
- 1) $X > Z > Y$ 2) $X > Y > Z$ 3) $Z > X > Y$ 4) $Y > X > Z$

36. Decreasing order of basic strength of following compounds is,



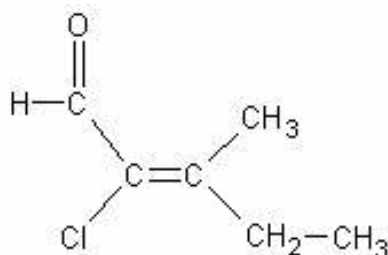
- 1) $S > P > A > G$ 2) $G > A > P > S$ 3) $S > A > P > G$ 4) $G > P > A > S$

37. The correct IUPAC name of the compound given below:



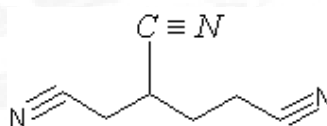
- 1) 2-formyl-5-methoxynitrobenzene 2) 4-formyl-2-nitroanisole
3) 4-methoxy-2-nitrobenzaldehyde 4) 4-methoxy-6-nitrobenzaldehyde

38. Let us consider the following compound :



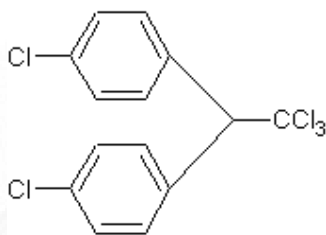
- 1) It is cis-2-Chloro-3-methylpent-2-enal
- 2) It is (E)-2-Chloro-3-methylpent-2-enal
- 3) It is (Z)- 2- Chloro- 3- methylpent-2- enal
- 4) It is trans- 2- Chloro- 3- methylpent-2-enal

39. The IUPAC name of compound



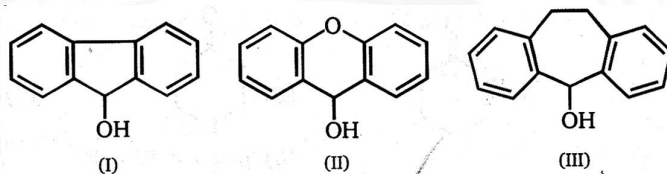
- | | |
|----------------------------------|----------------------------------|
| 1) Hexane-1,2,5-tricarbonitrile | 2) Hexane-1,3,6 tricarbonitrile |
| 3) Butane 1,2,4- tricarbonitrile | 4) Butane 1,3,4- tricarbonitrile |

40. Correct IUPAC name of



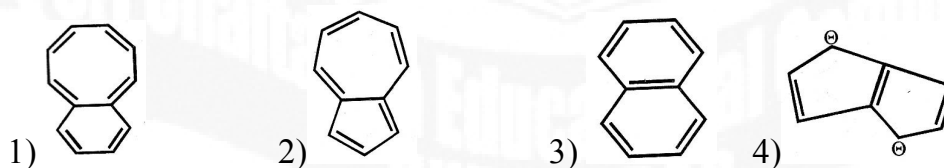
- 1) Gammexene
- 2) dichloro diphenyl trichloro ethane
- 3) diparachloro phenyl trichloro ethane
- 4) 1,1,1-trichloro-2,2-bis (4-chlorophenyl) ethane

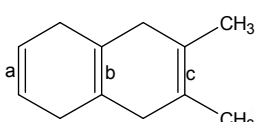
41. Arrange the following alcohols in decreasing order of the ease of ionization under acidic conditions.

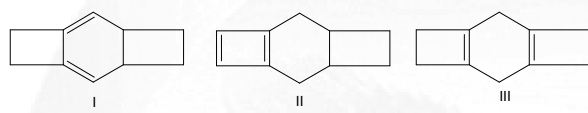


- 1) I > III > II
- 2) I > II > III
- 3) II > III > I
- 4) II > I > III

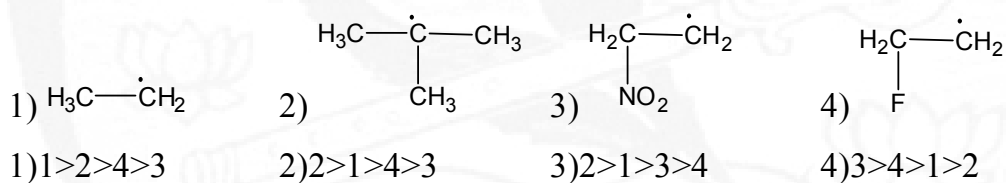
42. Which of the following is most polar?



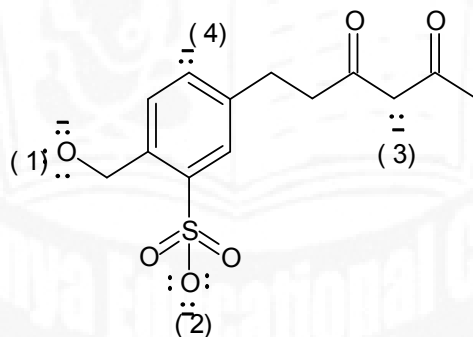
43.  a, b and c are the length of these C=C bonds, now, which of the following orders is correct?
- 1) $a=b=c$ 2) $a>b>c$ 3) $c>b>a$ 4) $b>c>a$

44.  Which of the following orders is correct for heat of hydrogenation of these compounds?
- 1) $I>II>III$ 2) $III>II>I$ 3) $II>III>I$ 4) $I>III>II$

45. Write the stability order for the following free radicals

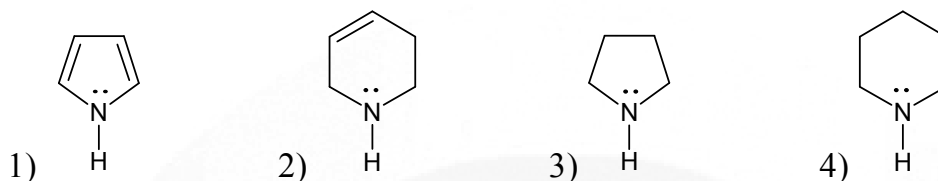


46. Which of the following is the strongest nucleophilic site in the following species ?

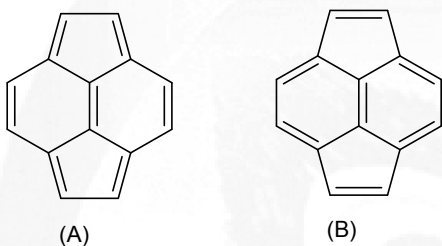


- 1) 1 2) 2 3) 3 4) 4

47. In which of the following cases, protonation of nitrogen will change its hybridization



48.

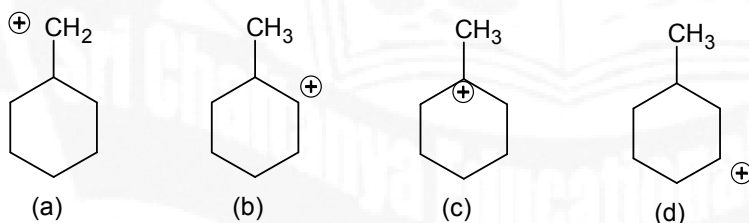


S-I : Structure B is more stable than structure A.

S-II : The most stable resonating structure for a polycyclic aromatic hydrocarbon is the one which has the greatest number of rings that corresponds to Kekule formulation of Benzene.

- 1) S-I and S-II are correct and S-II is the correct explanation of S-I.
 2) S-I and S-II are correct and S-II is not the correct explanation of S-I.
 3) S-I is correct and S-II is incorrect 4) S-I is incorrect and S-II is correct

49. Which of the following carbocation would you expect to rearrange?

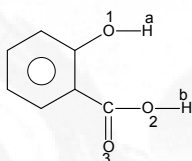


- 1) All 2) a, b 3) a, c 4) a, b, d

50. Which of the following is the most stable resonance structure?

- 1) $\text{CH}_2=\text{CH}-\overset{\oplus}{\text{C}}(\text{OH})-\text{CH}=\text{CHNH}_2$
- 2) $\overset{\oplus}{\text{CH}_2}-\text{CH}=\text{C}(\text{OH})-\text{CH}=\text{CHNH}_2$
- 3) $\text{CH}_2=\text{CH}-\overset{\oplus}{\text{C}}(\text{OH})=\text{CH}-\text{CHNH}_2$
- 4) $\text{CH}_2=\text{CH}-\text{C}(\text{OH})=\text{HC}-\text{CH}=\overset{\oplus}{\text{N}}\text{H}_2$

51. Strongest H-bonding in this molecule will be formed between

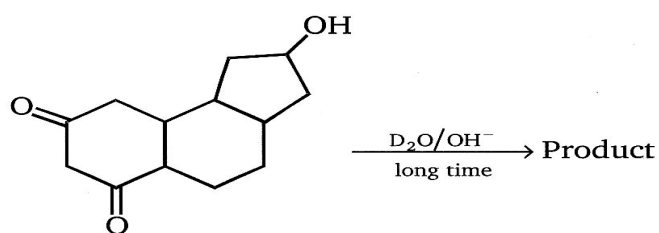


- 1) O_1 & H_b 2) O_2 & H_a 3) O_3 & H_a
- 4) any one can be formed as they are of same strength.

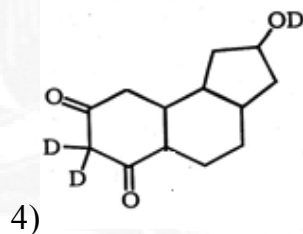
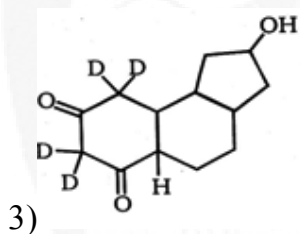
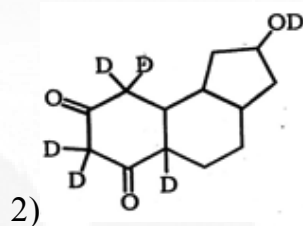
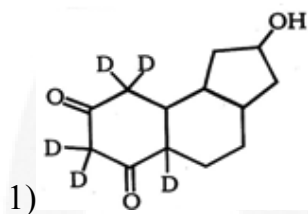
52. Which of the following statement is correct ?

- 1) All bases are nucleophiles and all nucleophiles are also bases
- 2) Nucleophilicity implies that how well a species is able to share its lone pair of electrons with H^+
- 3) Basicity implies that how fast a species can attack on the electron deficient carbon atom of a molecule.
- 4) All of these

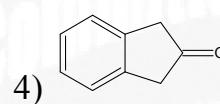
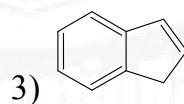
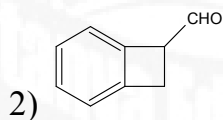
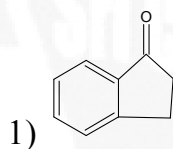
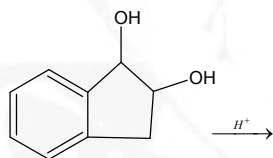
53.

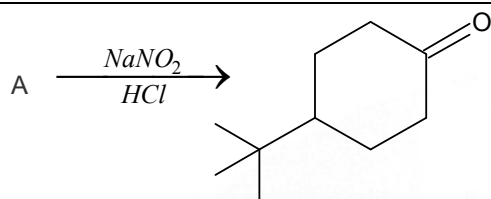


Identify the product formed in the above reaction.

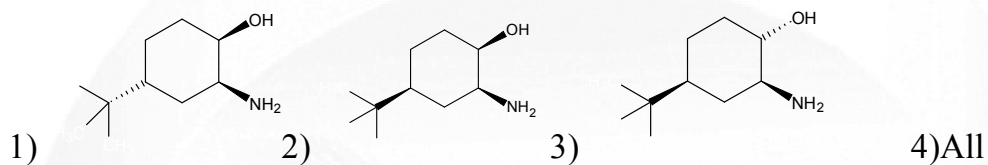


54. Product in the following reaction is;

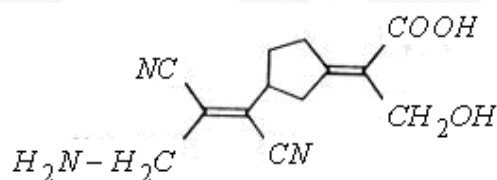




55. ; Then A will be

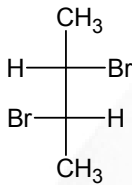
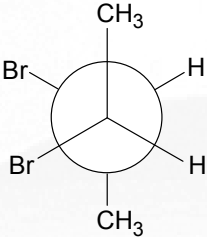
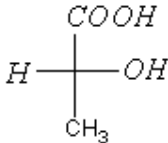
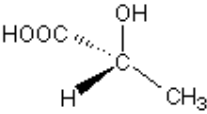
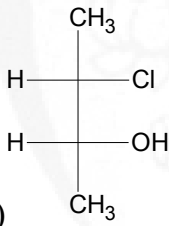
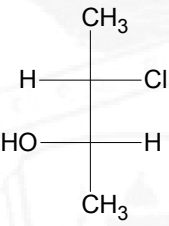



56. Identify the correct option for the given compound :

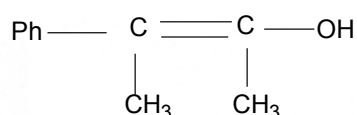


- 1) There could be four possible stereo isomers
- 2) It is sufficient to assign cis – trans notations to name the isomers.
- 3) There are three stereogenic centers in the compound.
- 4) Net dipole moment of one of the isomers is zero.

57. Identify the pair which is wrongly matched

- 1)  and  are enantiomers
- 2)  and  are two representations of the same compound
- 3)  and  are erythro and threo forms
- 4) $\text{H}_2\text{C}=\text{CH}-\text{CH}=\text{CH}_2$ and  are ring chain isomers

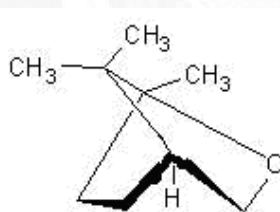
58. An organic compound is represented as



Identify the correct statement.

- 1) The cis form is most stable
- 2) The trans form is most stable
- 3) The compound cannot show functional isomerism
- 4) The most stable form is optically active

59. The number of chiral centres and stereo isomers present in the following compound?



- | | |
|---------|-----------------------------------|
| 1) 2, 4 | 2) 1, 2 |
| 3) 2, 2 | 4) Compound is optically inactive |

60. How many number of meso forms are possible for 1,2,3,4,5,6 – hexachloro cyclohexane ?

- | | | | |
|------|------|------|------|
| 1) 4 | 2) 5 | 3) 6 | 4) 7 |
|------|------|------|------|