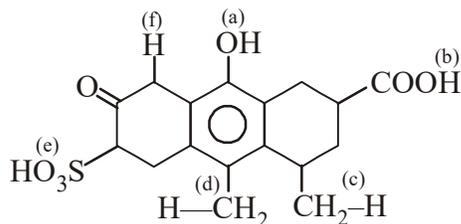


Single correct :

Q.1 Arrange the following in increasing order of acid strength.



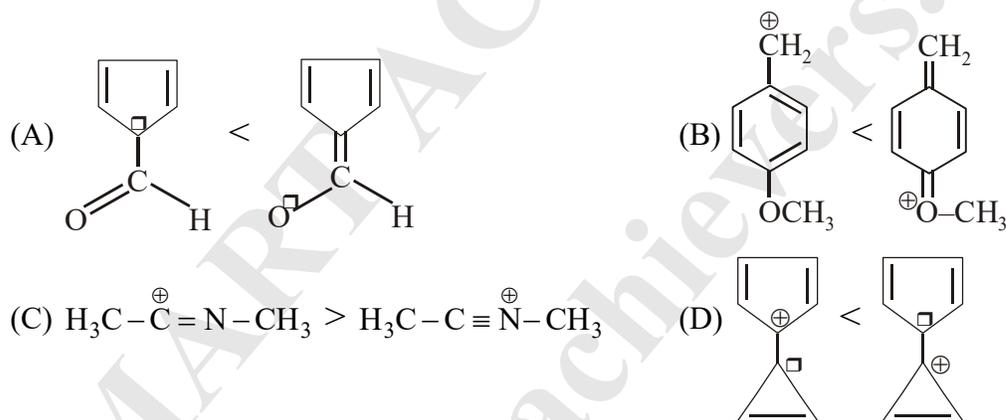
- (A) $c < f < d < a < b < e$
 (C) $f < c < d < b < e < a$

- (B) $f < d < c < b < e < a$
 (D) $c < d < f < a < b < e$

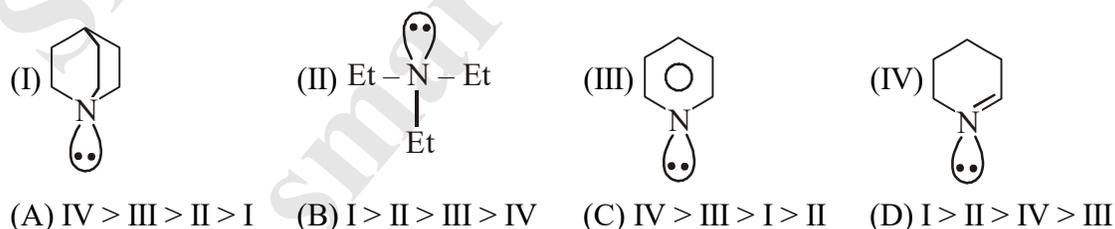
Q.2 Which order is incorrect for nucleophilicity?

- (A) Nucleophilicity of \square SH in H₂O > Nucleophilicity of \square SH in 18-Crown-6
 (B) Nucleophilicity of \square OH in DMSO > Nucleophilicity of \square OH in MeOH
 (C) Nucleophilicity of I \square in H₂O > Nucleophilicity of F \square in H₂O
 (D) Nucleophilicity of F \square in DMF > Nucleophilicity of F \square in H₂O

Q.3 Which order is not correct for stability of resonating structures..



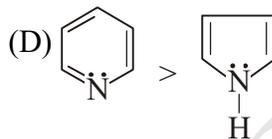
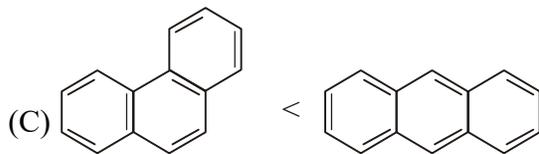
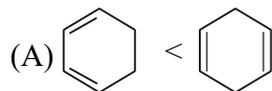
Q.4 Correct order of decreasing basic strength of the given compound is.



Q.5 Maximum heat of combustion will be

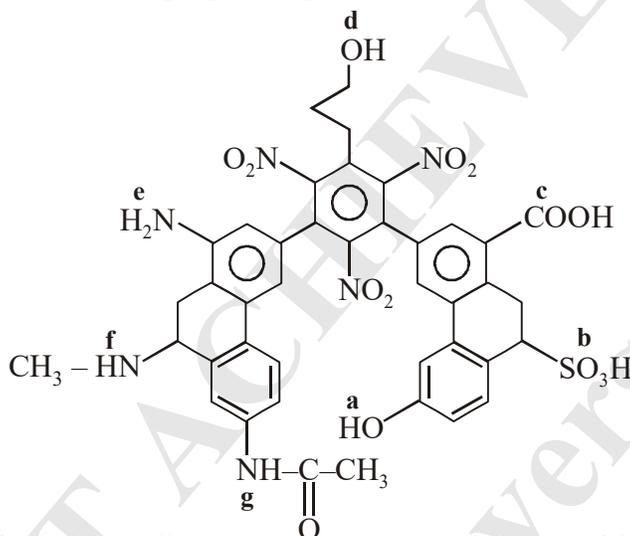
- (A) CH₃-CH₂-CH₂-CH₂-CH=CH₂ (B) CH₃-CH₂-CH₂-CH=CH-CH₃
 (C) CH₃-CH₂-CH=CH-CH₂-CH₃ (D) CH₃-C(CH₃)=C(CH₃)-CH₂-CH₃

Q.6 Which of the following is correct order of resonance energy?



Comprehension

Paragraph for question nos. 7 & 8

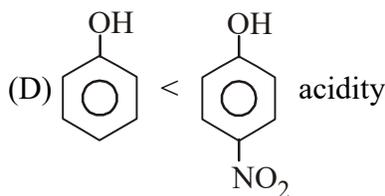
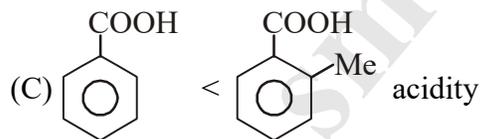
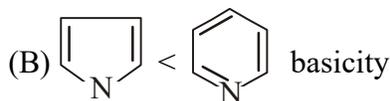
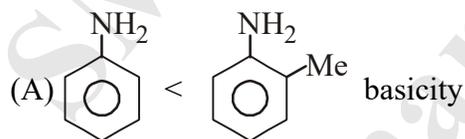


Q.7 How many moles of NaHCO_3 will consume on reaction with 1 mole of this compound?
 (A) 2 (B) 3 (C) 4 (D) 1

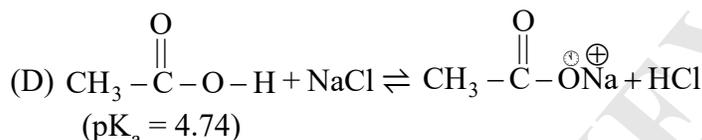
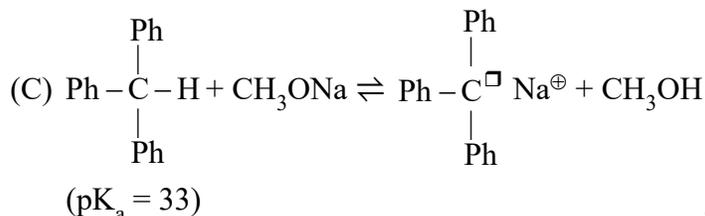
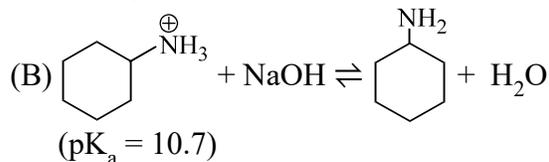
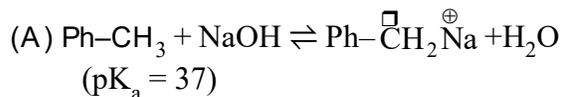
Q.8 What is the correct order of basic strength of the following?
 (A) $e > f > g$ (B) $f > e > g$ (C) $g > e > f$ (D) $e > g > f$

More than one may be correct

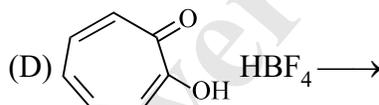
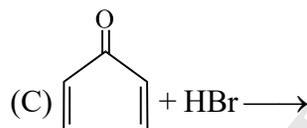
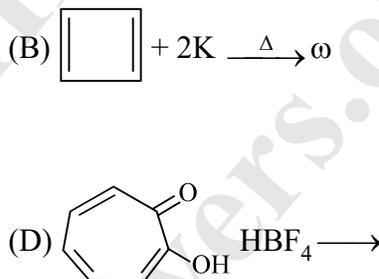
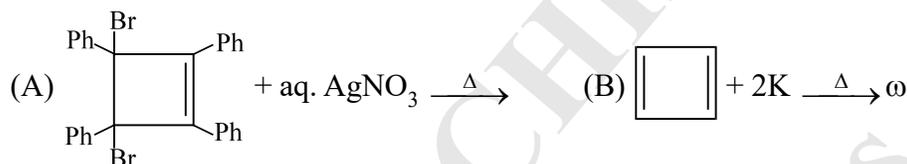
Q.9 Select correct options.



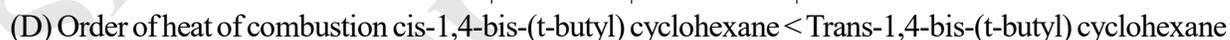
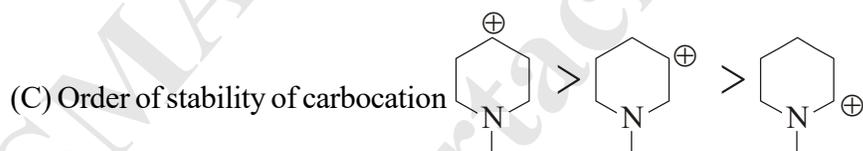
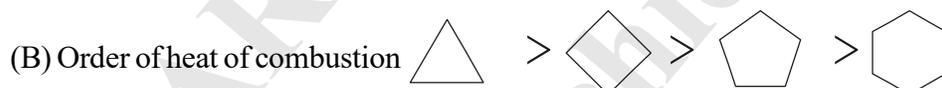
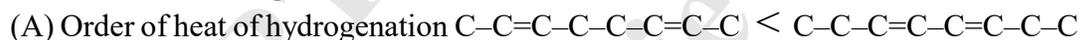
Q.10 In which of following reaction direction of equilibrium is in backward direction.



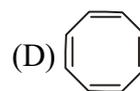
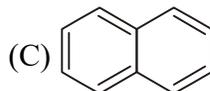
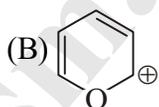
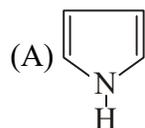
Q.11 Which of the following reaction will form stable ion.



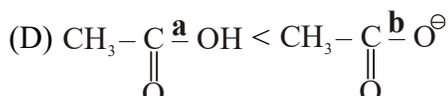
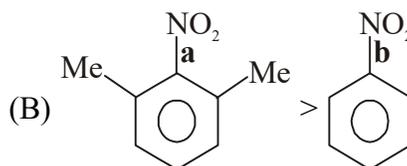
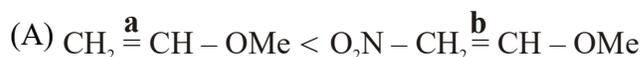
Q.12 Which of the following are incorrect.



Q.13 Which of the following is / are aromatic species.



Q.14 Correct order of indicated bond length is/are :

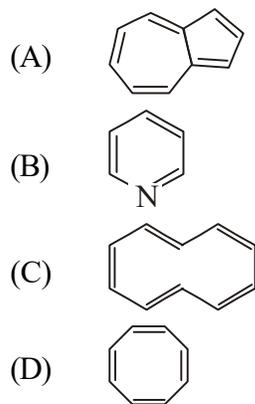


Match the column

Q.15

Column I

Column II



- (P) Planar
- (Q) Non-planar
- (R) $(4n + 2) \pi$ electron
- (S) $(4n) \pi$ electron

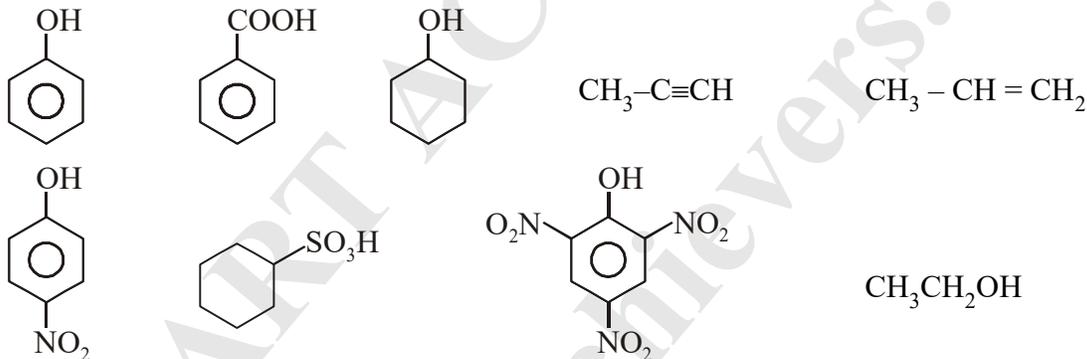
Subjective

Q.16 If ΔH_H (Heat of hydrogenation) of penta-1-ene is 30 Kcal approx. & that of penta-1,3-diene is 56 Kcal approx. then what is the

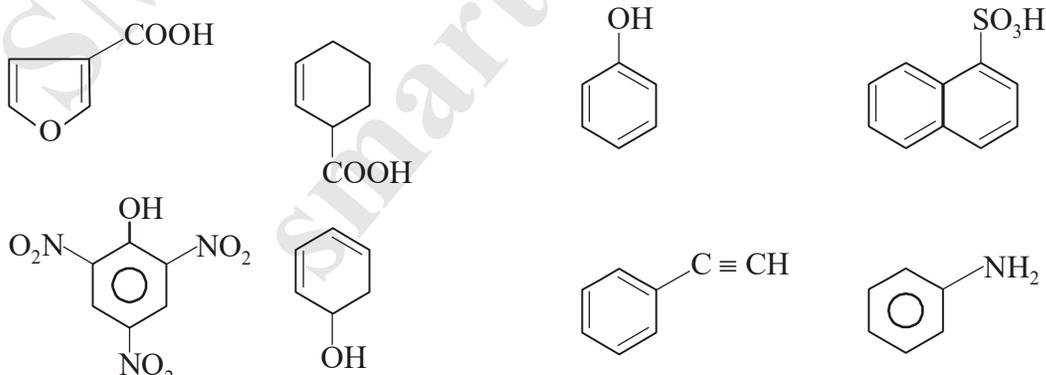
- (a) Resonance energy of penta-1,3-diene. (x)
- (b) What is the ΔH_H per π bond of penta-1,3-diene (yz)
- (c) What is the D.B.E. (double bond equivalent) of penta-1,3-diene. (v)

Represent your answer as xyzv.

Q.17 Find the number of molecules which are soluble in KOH.



Q.18 Consider following compounds.

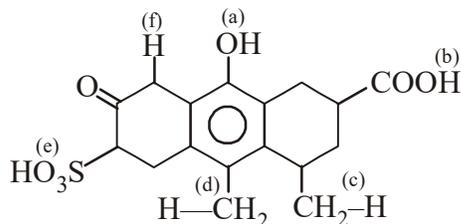


- (a) Number of compounds which are aromatic (x).
- (b) Number of compounds which can evolve H_2 gas on reaction with Na metal (y).
- (c) Number of compounds which can evolve CO_2 gas on reaction with $NaHCO_3$ (z).

[If answer is x,y & z respectively, then fill 0xyz in OMR sheet]

Single correct :

Q.1 Arrange the following in increasing order of acid strength.

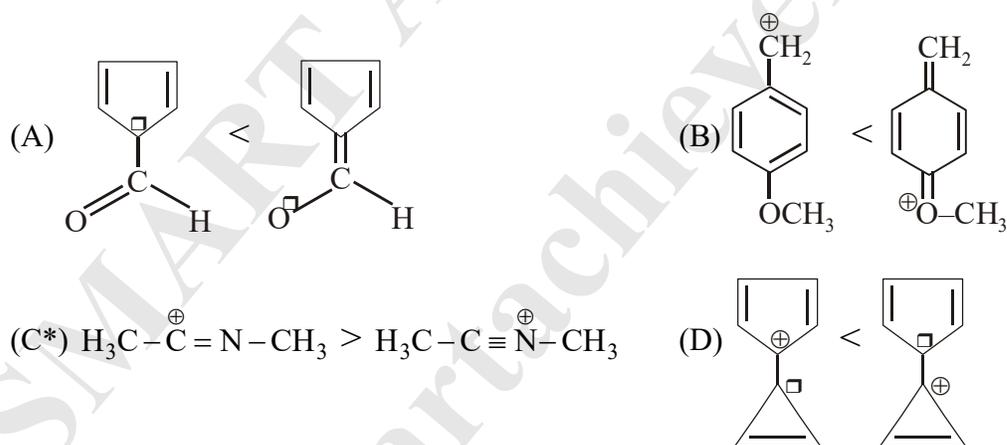


- (A) $c < f < d < a < b < e$ (B) $f < d < c < b < e < a$
 (C) $f < c < d < b < e < a$ (D*) $c < d < f < a < b < e$

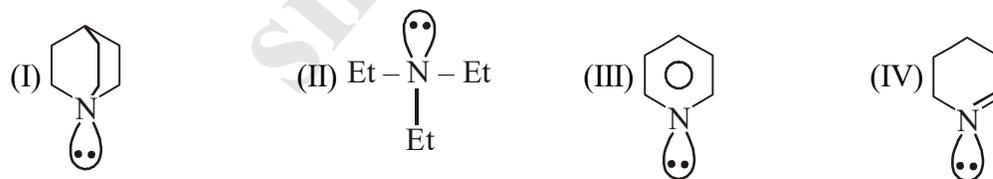
Q.2 Which order is incorrect for nucleophilicity?

- (A*) Nucleophilicity of $\square\text{SH}$ in H_2O > Nucleophilicity of $\square\text{SH}$ in 18-Crown-6
 (B) Nucleophilicity of $\square\text{OH}$ in DMSO > Nucleophilicity of $\square\text{OH}$ in MeOH
 (C) Nucleophilicity of I^\square in H_2O > Nucleophilicity of F^\square in H_2O
 (D) Nucleophilicity of F^\square in DMF > Nucleophilicity of F^\square in H_2O

Q.3 Which order is not correct for stability of resonating structures..



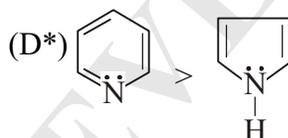
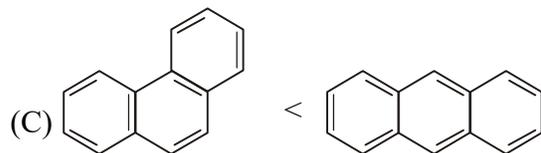
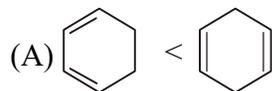
Q.4 Correct order of decreasing basic strength of the given compound is.



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

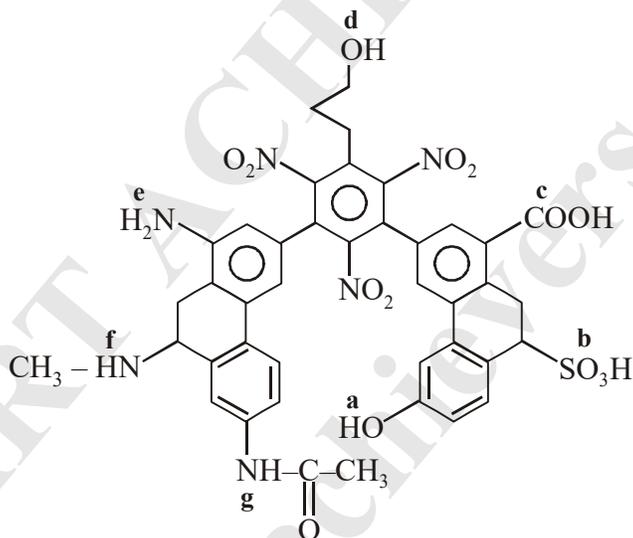
- Q.5 Maximum heat of combustion will be
 (A) $\text{CH}_3\text{-CH}_2\text{-CH}_2\text{-CH}_2\text{-CH}=\text{CH}_2$ (B) $\text{CH}_3\text{-CH}_2\text{-CH}_2\text{-CH}=\text{CH-CH}_3$
 (C) $\text{CH}_3\text{-CH}_2\text{-CH}=\text{CH-CH}_2\text{-CH}_3$ (D*) $\text{CH}_3\text{-C}(\text{H}_3)=\text{C}(\text{H}_3)\text{-CH}_2\text{-CH}_3$

- Q.6 Which of the following is correct order of resonance energy?



Comprehension

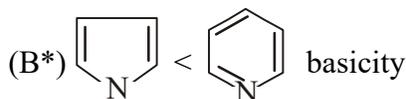
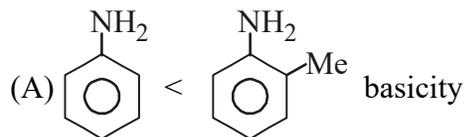
Paragraph for question nos. 7 & 8

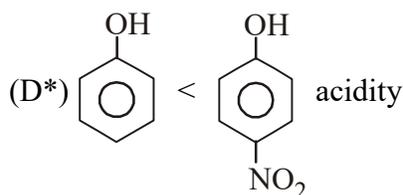
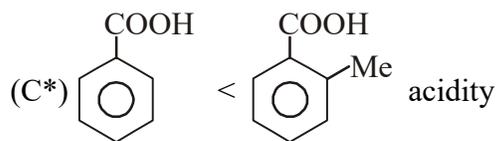


- Q.7 How many moles of NaHCO_3 will consume on reaction with 1 mole of this compound?
 (A*) 2 (B) 3 (C) 4 (D) 1
- Q.8 What is the correct order of basic strength of the following?
 (A) $e > f > g$ (B*) $f > e > g$ (C) $g > e > f$ (D) $e > g > f$

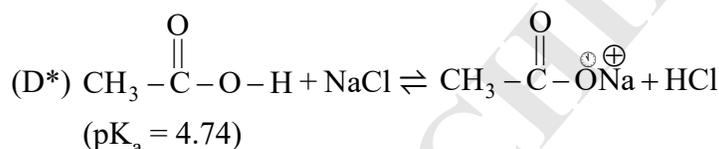
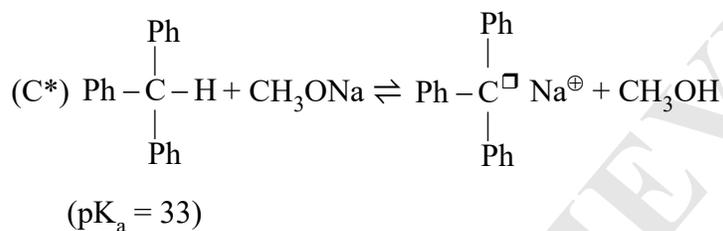
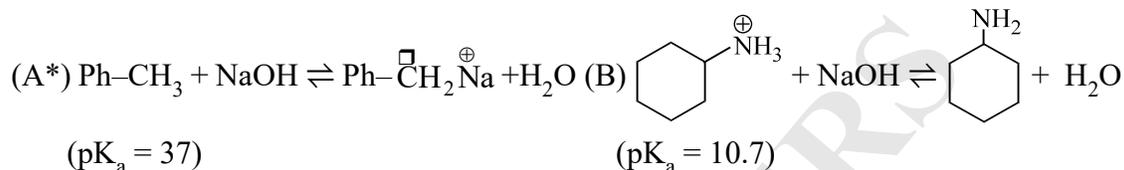
More than one may be correct

- Q.9 Select correct options.

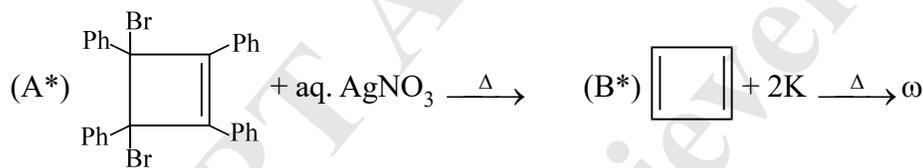




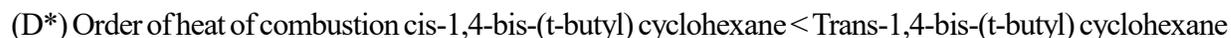
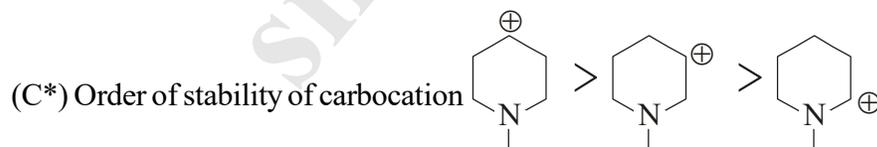
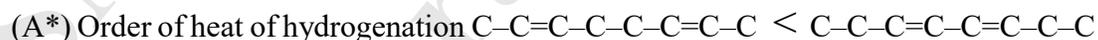
Q.10 In which of following reaction direction of equilibrium is in backward direction.



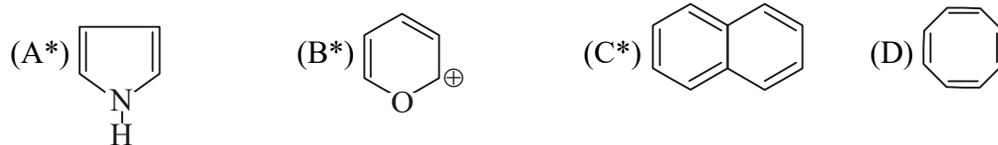
Q.11 Which of the following reaction will form stable ion.



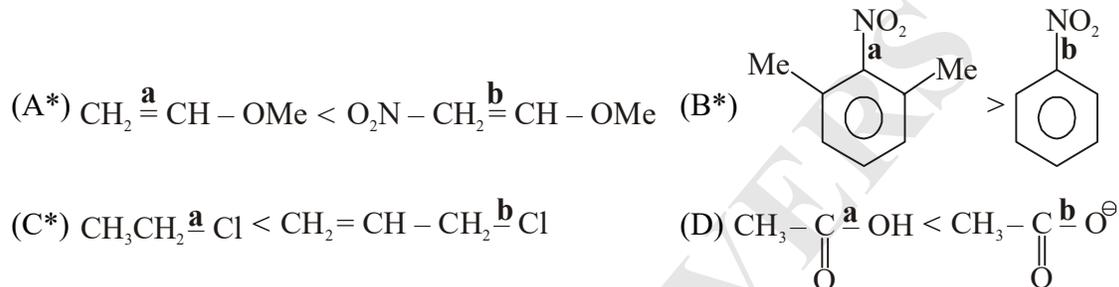
Q.12 Which of the following are incorrect.



Q.13 Which of the following is / are aromatic species.



Q.14 Correct order of indicated bond length is/are :

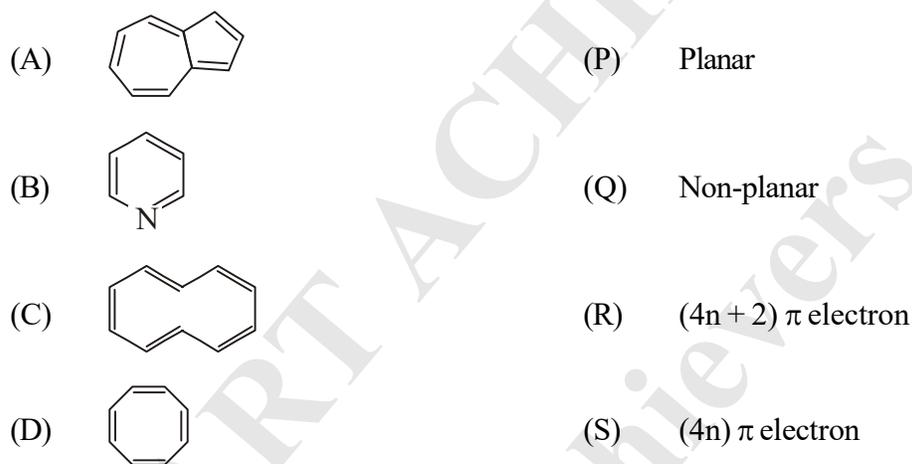


Match the column

Q.15

Column I

Column II



[Ans. (A) P, R (B) P, R (C) Q,R (D) Q,S]

Subjective

Q.16 If ΔH_{H} (Heat of hydrogenation) of pent-1-ene is 30 Kcal approx. & that of penta-1,3-diene is 56 Kcal approx. then what is the

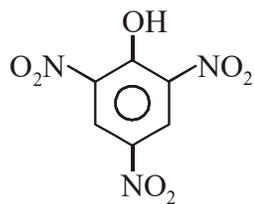
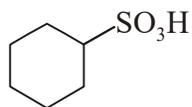
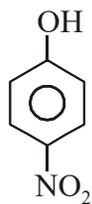
- (a) Resonance energy of penta-1,3-diene. (x)
 (b) What is the ΔH_{H} per π bond of penta-1,3-diene (yz)
 (c) What is the D.B.E. (double bond equivalent) of penta-1,3-diene. (v)

Represent your answer as xyzv.

[Ans. 4282]

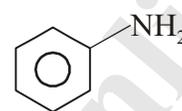
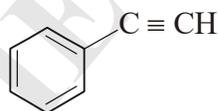
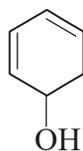
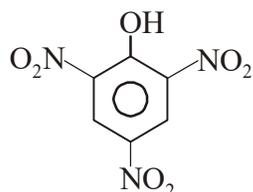
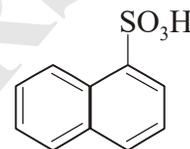
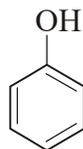
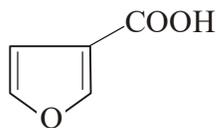
Q.17 Find the number of molecules which are soluble in KOH.





[Ans. 5]

Q.18 Consider following compounds.



- (a) Number of compounds which are aromatic (x).
 (b) Number of compounds which can evolve H_2 gas on reaction with Na metal (y).
 (c) Number of compounds which can evolve CO_2 gas on reaction with NaHCO_3 (z).

[If answer is x,y & z respectively, then fill 0xyz in OMR sheet]

[Ans. 0684]