DPP

DAILY PRACTICE PROBLEMS

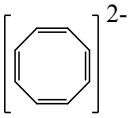
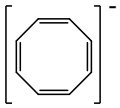
CLASS : XIIth
DATE :

SOLUTION

SUBJECT : CHEMISTRY
DPP NO. : 3

Topic :-HYDROCARBONS

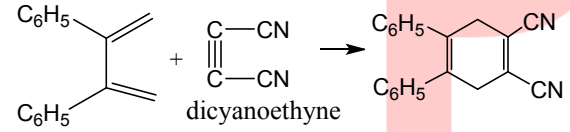
1 **(d)**

Compound  has $8 + 2 = 10\pi$ electrons hence is aromatic.  has $4\pi e^{-}$,  has $8\pi e^{-}$, while  has $8 + 1 = 9\pi e^{-}$, hence all these species are not aromatic

2 **(b)**

It is a mixture of solid hydrocarbons.

3 **(c)**



2,3-diphenyl-
1,3-butadiene

This reaction is an example of Diel's Alder reaction

4 **(d)**

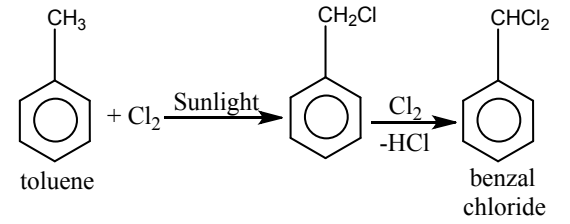
All of these can be used in cracking.

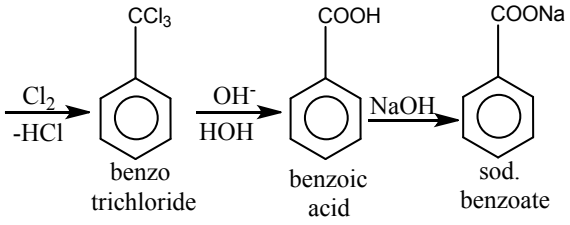
5 **(b)**

General formula of a cycloalkane is C_nH_{2n}.

6 **(b)**

Toluene reacts with excess of Cl_2 in presence of sunlight, the last product of this reaction is benzotrichloride which on hydrolysis gives benzoic acid, and it gives sodium benzoate on reaction with NaOH.





8 **(d)**

$CH_3CH_2COOH + NaHCO_3 \longrightarrow CH_3CH_2COONa + H_2O + CO_2$

9 **(a)**

$C_2H_2 + \frac{5}{2}O_2 \longrightarrow 2CO_2 + H_2O$; 1 mole or 1 vol. of C_2H_2 requires 2.5 mole or 2.5 vol. of O_2.

10 **(a)**

Conjugate dienesare mores stable than the other dienes.

11 **(c)**

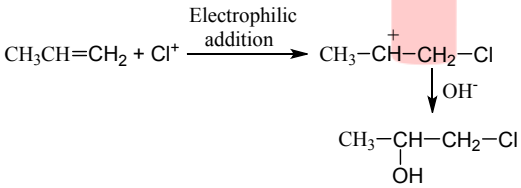
Branched chain alkanes give rise to increase on octane no.

12 **(d)**

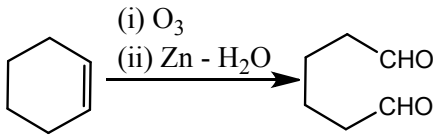
Follow Markownikoff's rule.

13 **(b)**

HOCl has Cl^+ and OH^- ions



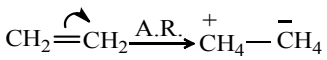
14 **(b)**



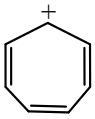
$Zn - H_2O$ is the reagent for reductive work up of ozonide. $H_2O_2 - CH_3COOH$ would give $HOOC - (CH_2)_4 - COOH$.

15 **(d)**

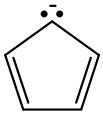
The π-bond is unshared in electromeric effect to give +ve and –ve centres on molecule.



16 **(d)**



Tropylium cation is planar and have 6π-electron according to Huckel rule, hence it is aromatic.



Cyclopentadienyl anion is planar and have 6π-electron, hence it is also aromatic compound.

17 **(a)**

Follow peroxide effect.

18 **(a)**

In the laboratory, nitrobenzene is prepared by nitration of benzene with the mixture of nitric acid and sulphuric acid at temperature below60°C. In which HNO_3 acts as a base

19 **(d)**

The reaction is ozonolysis. During the reaction $C = C$ breaks to give carbonyl compounds.

$$CH_3CH = CH_2 \xrightarrow[H_2O_2]{O_3} CH_3CHO + HCHO$$

Acetaldehyde formaldehyde

20 **(a)**

Petrol or gasoline contains mainly C_6 to C_{11}atoms liquid alkanes.

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	D	B	C	D	B	B	D	D	A	A
Q.	11	12	13	14	15	16	17	18	19	20
A.	C	D	B	B	D	D	A	A	D	A