

MDCAT MCQS WITH EXPLANATION.

CHAPTER: ORGANIC COMPOUNDS .

CHEMISTRY.

MCQ's

Q1. Who for the first time synthesized organic compound from inorganic source?

- a. Robert Boyle
- b. Jacques Charles
- c. Friedrich Wohler
- d. None of these

Q2. According to Vital Force Theory, organic compound can only be synthesized by:

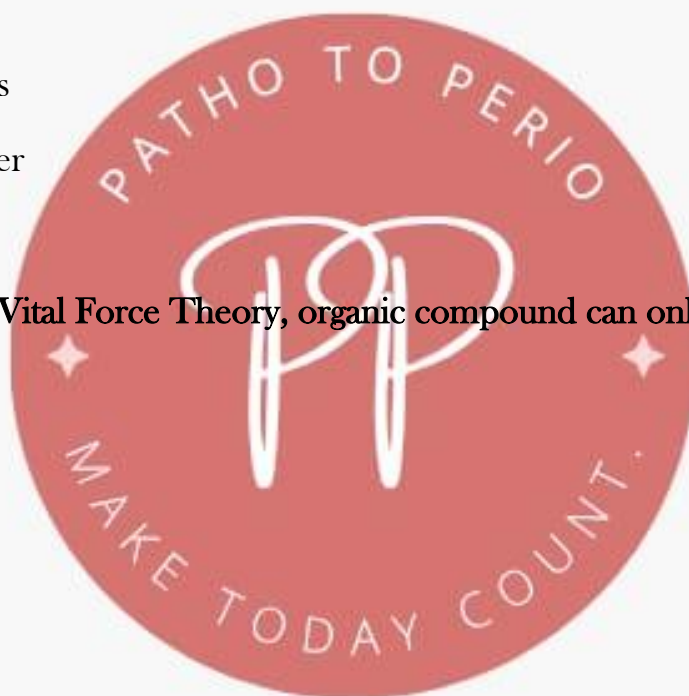
- a. Animals
- b. Plants
- c. Rocks
- d. Both a & b

Q3. Which one is an organic compound?

- a. KCN
- b. NH_4OCN
- c. CC_2
- d. None of these

Q4. The process of heating coal in the absence of air is called:

- a. Fractional distillation



- b. Vacuum distillation
- c. Steam distillation
- d. Destructive distillation

Q5. In stable organic compounds, carbon will always form:

- a. 2 bonds
- b. 4 bonds
- c. 3 bonds
- d. 5 bonds

Q6. Petrol sold at petrol pumps is consisted of mixed gasolines. The mixing process:

- a. Gives less smoke on combustion
- b. Results in the less odour
- c. Improves anti-knock properties of the fuel
- d. Improve the calorific value of the fuel

Q7. Generally a fuel can be reformed by:

- a. Breaking of larger molecules into smaller fragments
- b. Conversion of straight chain molecules into branched - chain hydrocarbons
- c. Conversion of branched - chain hydrocarbons into straight chain molecules
- d. Adding antiknock agents

Q8. Low quality gasoline has:

- a. Low boiling point
- b. High octane number
- c. Low knocking tendency
- d. High knocking tendency

Q9. A liquid alkane may be converted into gaseous hydrocarbons by:

- a. Cracking
- b. Oxidation
- c. Reduction
- d. Hydrolysis

Q 10. Coal, petroleum and natural gas are:

- a. Fossil fuels
- b. Natural products
- c. Volatile mixture
- d. Highly inflammable

Q11. Which one of the following is high quality coal?

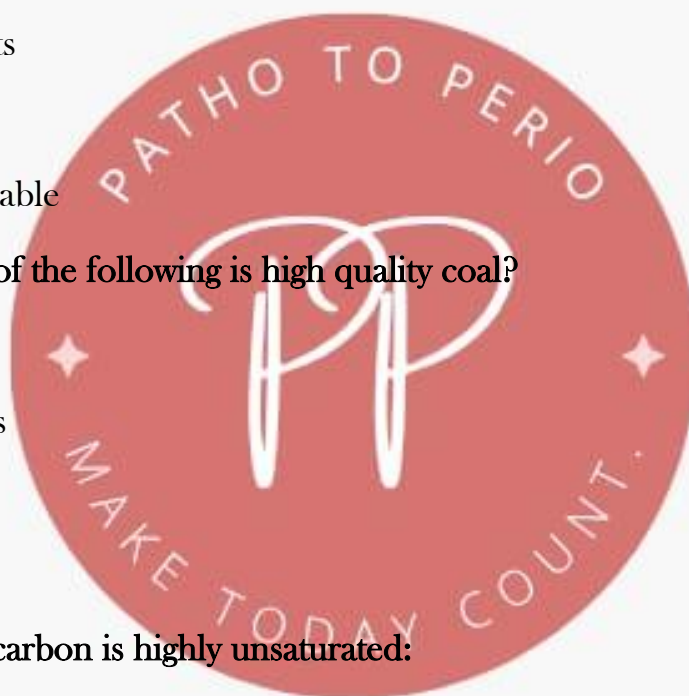
- a. Bituminous
- b. Sub-Bituminous
- c. Lignite
- d. Anthracite

Q 12. Valency of carbon is highly unsaturated:

- a. Ethane
- b. Ethylene
- c. Acetylene
- d. Benzene

Q 13. Petroleum, natural gas and coal are most probably formed by the long time decay of:

- a. Radioactive matter



- b. Mineral matter
- c. Organic matter
- d. All of these

Q 14. LPG is mainly a mixture of:

- a. Methane + Ethane
- b. Acetylene + O₂
- c. CH₄ + O₂
- d. Propane + Butane

Q15. The final stage of conversion of decaying plants into coal is:

- a. Anthracite
- b. Lignite
- c. Peat
- d. Bituminous

Q16. A soft brown coal that contains 50- 60 %carbon and high moisture content is:

- a. Lignite
- b. Anthracite
- c. Bituminous
- d. Sub-bituminous

Q17. Partial synthesis and total synthesis belong to:

- a. Synthetic organic chemistry
- b. Natural product chemistry
- c. Surface chemistry
- d. Nuclear chemistry



Q18. When an organic compound is obtained from an intermediate step of reaction then that synthesis is called:

- a. Complete synthesis
- b. Fractional synthesis
- c. Partial synthesis
- d. Over synthesis

Q19. Which of the following is a product of destructive distillation of coal?

- a. Ammonia
- b. Coke
- c. Cyanides
- d. Kerosene

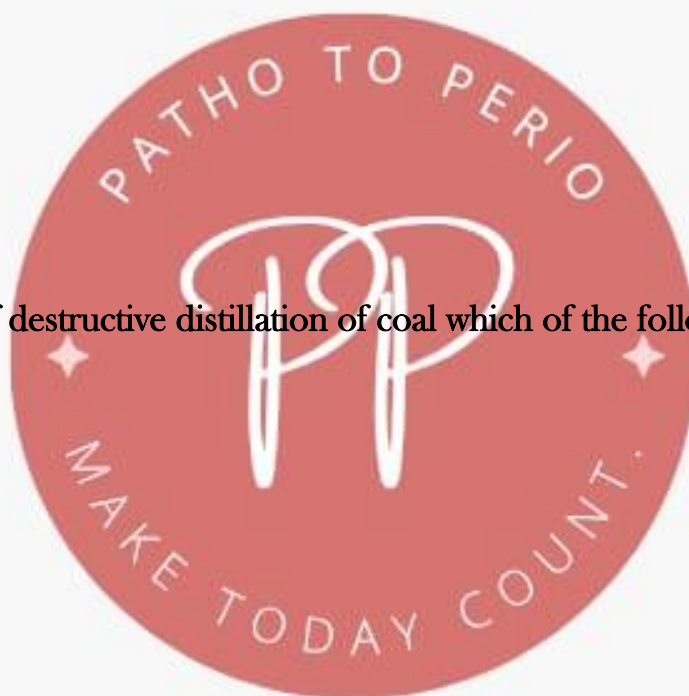
Q20. As a result of destructive distillation of coal which of the following products are obtained?

- a. Coke
- b. Coal tar
- c. Coal gas
- d. All of these

Q21. Coal is converted into petroleum by the process called:

- a. Destructive distillation
- b. Fischer-Tropsch process
- c. Cracking
- d. Pyrolysis

Q22. Which one is not the characteristic of organic compound?



- a. Flammability
- b. Catenation
- c. Isomerism
- d. The chemical reactions of organic compounds are usually fast

Q23. Organic compounds are used as:

- a. Food
- b. Clothing
- c. Shelter
- d. All of them

Q24. Which one of the following is called black gold?

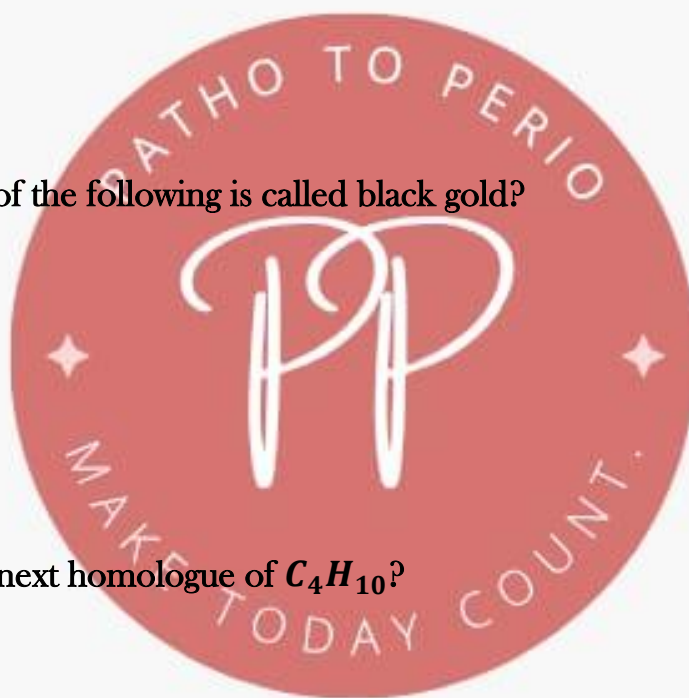
- a. Coal
- b. Petroleum
- c. Natural gas
- d. All of these

Q25. What is the next homologue of C_4H_{10} ?

- a. C_5H_{12}
- b. C_6H_{14}
- c. C_3H_8
- d. C_2H_6

Q26. In homologous series each member is different from its neighbor by group.

- a. CH_3
- b. C_6H_{14}



c. CH_2

d. C_2H_6

Q27. Acyclic organic compounds have:

a. Cyclic structure

b. One cycle in structure

c. Straight or branched

d. Both a & b

“EXPLANATION OF MCQ’s”

<u>MCQ's No</u>	<u>Correct Option</u>	<u>EXPLANATION</u>
1.	C	Friedrick Wohler synthesized organic compound (urea) from inorganic compound (ammonium cyanate) in laboratory.
2.	D	According to Vital Force Theory organic compounds can only be obtained from living source (plants + animals).
3.	D	They are all inorganic compounds. They lack properties of organic compounds.
4.	D	The separation of an organic compound by heating in the absence of air is called destructive distillation.
5.	B	Carbon has four electrons in its valence shell. To complete its octet and become stable it can form four bonds and result in the formation of a stable organic compound.
6.	C	An antiknock agent is gasoline additive used to reduce engine knocking. Petrol sold at petrol pump consists of mixed gasoline which improves anti knocking properties of fuel.
7.	B	Fuel can be reformed by converting low octane number molecules to high octane number molecule. Straight chain molecule is converted into branched chain as a result knocking is reduced.

8.	D	Low quality gasoline has high knocking tendency because its octane number is small.
9.	A	A liquid alkane by the cracking process can be converted into gaseous hydrocarbons. In cracking long chain hydrocarbons are converted into small branch chain hydrocarbons.
10.	A	Because these are the remains of plants and animals buried under the earth crust used by man as fuel.
11.	D	Due to the presence of high percentage of carbon anthracite is a high-quality coal.
12.	D	In benzene, the valency of carbon is highly unsaturated because resonance occurs in them while in ethane, ethylene and acetylene no resonance occurs.
13.	C	Long time decay of organic matter under high temperature, pressure, bacterial and chemical activity it form petrol, natural gas and coal.
14.	D	LPG stands for Liquified Petroleum Gas. LPG mainly consist of propane and butane.
15.	A	There are four stages in coal formation (i)Peat (ii)Lignite (iii)Bituminous (iv) Anthracite.
16.	A	Lignite is the 2nd step in coal formation which contains 50-60% carbon and high moisture content.
17.	A	In synthetic organic chemistry we study the products which are synthesized either through partial synthesis or total synthesis.
18.	C	Partial synthesis is that type of organic synthesis through which an organic compound is obtained from intermediate step during the course of a reaction.
19.	B	Coal on destructive distillation produce coke, coal tar, ammonical liquor and coal gas.
20.	D	The product of destructive distillation of coal are coke, coal tar, coal gas and ammoniacal liquor.
21.	B	The process through which coal is converted into petroleum is called F.T process.
22.	D	The chemical reactions of organic compounds are very slow due to the presence of covalent bond and their molecular nature.
23.	D	Most of the organic compounds are used as food like starch, carbohydrates, proteins. The clothes that we wear are also organic in nature and plastic leather are used as shelter.
24.	A	Coal is also called black gold, while petrol is called liquid gold and natural gas is called clean fuel.

25.	A	The next homologue is differed by CH_2 group so if the first homologue is C_4H_{10} then next homologous is C_5H_{12}
26.	C	Each member differs by $-CH_2$ group as C_2H_6 and C_3H_8 is differ from one another by $-CH_2$. They are homologous of each other.
27.	C	Open chain organic compounds which may have straight chain or branched chain are called acyclic organic compounds.

