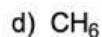
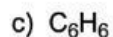
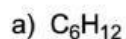


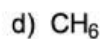
Past paper questions

Name: _____

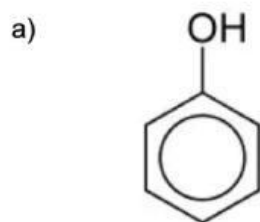
1. What is the empirical formula of benzene?



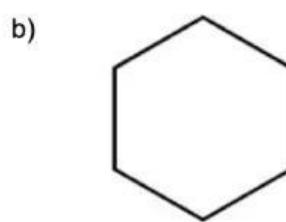
2. What is the molecular formula of benzene?



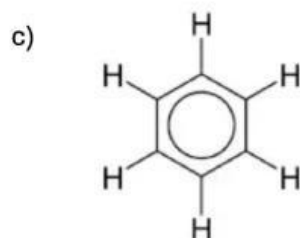
3. Which of the picture below is the structural formula of benzene?



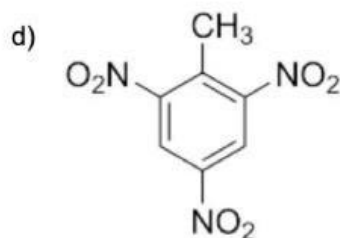
Option 1



Option 2

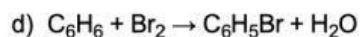
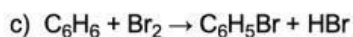
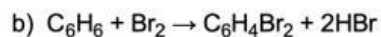
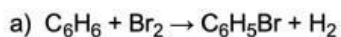


Option 3



Option 4

4. Benzene reacts with bromine. What is the correct balanced chemical equation for this reaction?



11. Molten phenol reacts with sodium metal. What is the balanced chemical equation for this reaction?

- a) $2\text{C}_6\text{H}_5\text{OH} + 2\text{Na} \rightarrow 2\text{C}_6\text{H}_5\text{ONa} + \text{H}_2$ b) $2\text{C}_6\text{H}_5\text{OH} + 2\text{Na} \rightarrow 2\text{C}_6\text{H}_5\text{ONa} + \text{H}_2\text{O}$
c) $\text{C}_6\text{H}_5\text{OH} + \text{Na} \rightarrow \text{C}_6\text{H}_5\text{ONa} + \text{H}_2\text{O}$ d) $\text{C}_6\text{H}_5\text{OH} + \text{Na} \rightarrow \text{C}_6\text{H}_5\text{ONa} + \text{H}_2$

12. Phenol reacts with sodium hydroxide solution. What is the balanced chemical equation for this reaction?

- a) $2\text{C}_6\text{H}_5\text{OH} + 2\text{NaOH} \rightarrow 2\text{C}_6\text{H}_5\text{ONa} + \text{H}_2\text{O}$ b) $2\text{C}_6\text{H}_5\text{OH} + 2\text{NaOH} \rightarrow 2\text{C}_6\text{H}_5\text{ONa} + \text{H}_2$
c) $\text{C}_6\text{H}_5\text{OH} + \text{NaOH} \rightarrow \text{C}_6\text{H}_5\text{ONa} + \text{H}_2$ d) $\text{C}_6\text{H}_5\text{OH} + \text{NaOH} \rightarrow \text{C}_6\text{H}_5\text{ONa} + \text{H}_2\text{O}$

13. Phenol reacts with sodium hydroxide solution. Name the organic product.

- a) sodium chloride b) sodium ethanoate
c) sodium phenoxide d) sodium sulfate

14. Phenol reacts with bromine water. Name the organic product.

- a) bromobenzene b) 2-bromophenol
c) 4-bromophenol d) 2,4,6 tribromophenol

15. Benzene is more reactive than phenol.

- a) TRUE b) FALSE

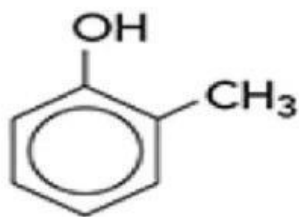
16. Benzene can be nitrated to give nitrobenzene. Name the mechanism.

- a) Nucleophilic addition b) Nucleophilic substitution
c) Electrophilic addition d) Electrophilic substitution

17. What is the electrophile used in nitration of benzene?

- a) NO_3^+ b) N_2^+
c) NO^+ d) NO_2^+

18.



Name this compound

a) 4-methylphenol

b) 3-methylphenol

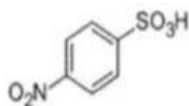
c) 5-methylphenol

d) 2-methylphenol

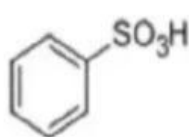
19.

What product is formed when benzene react with concentrated nitric acid in the presence of concentrated sulfuric acid?

a)



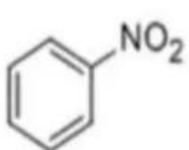
b)



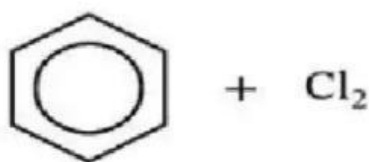
c)



d)



20.



What is the product of this reaction?

a) chlorobenzene

b) phenol

c) nitrobenzene

d) phenylamine

21.

Which of the following statement is correct about benzene?

1. It is an aromatic compound.
2. It contains 3π and 12σ bonds.
3. Its molecular formula is CH

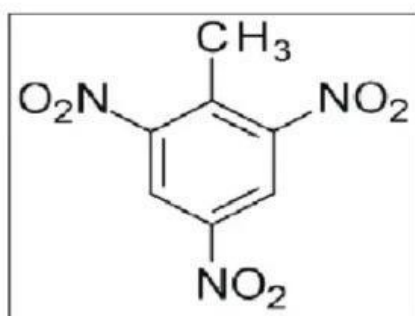
a) 1 and 2

b) 2 and 3

c) 1, 2 and 3

d) 1 only

22.



What is the uses of the following benzene?

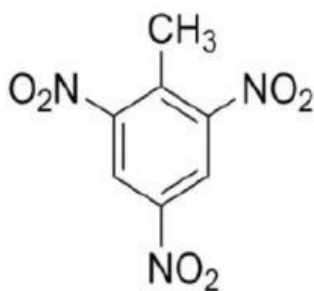
a) organic solvent

b) food preservatives

c) perfume

d) explosive for military

23.



What is the correct name for the following aryl compound?

a) 1,4,6-trinitromethylbenzene

b) 2,4,6-trinitromethylbenzene

c) 2,4,6-trinitroethylbenzene

d) 1,2,3-trinitromethylbenzene