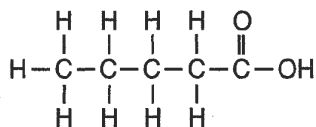


Name \_\_\_\_\_

## Functional Groups

1) Given the formula for an organic compound:



This compound is classified as an

- 1) aldehyde                      2) amine  
3) ester                            4) organic acid

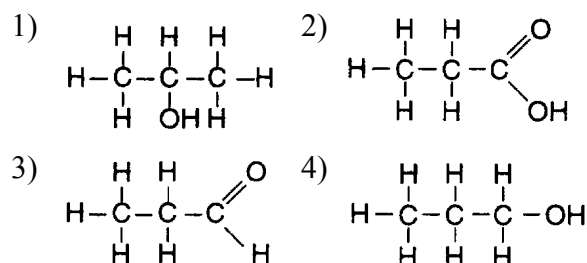
2) Which of these compounds has chemical properties most similar to the chemical properties of ethanoic acid?

- 1) C<sub>3</sub>H<sub>7</sub>COOH      2) C<sub>2</sub>H<sub>5</sub>OH  
3) C<sub>2</sub>H<sub>5</sub>COOC<sub>2</sub>H<sub>5</sub>   4) C<sub>2</sub>H<sub>5</sub>OC<sub>2</sub>H<sub>5</sub>

3) A compound with the formula CH<sub>3</sub>CH<sub>2</sub>OH is classified as an

- 1) alkane                        2) alkene  
3) alcohol                       4) acid

4) Which compound is a primary alcohol?



5) The compound 2-propanol is classified as a

- 1) primary alcohol  
2) secondary alcohol  
3) tertiary alcohol  
4) dihydroxy alcohol

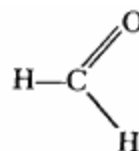
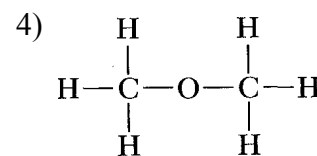
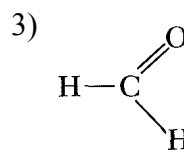
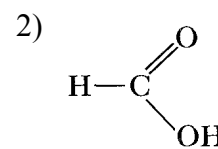
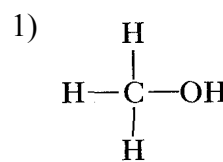
6) The organic compound represented by the condensed structural formula CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CHO is classified as an

- 1) alcohol                        2) aldehyde  
3) ester                            4) ether

7) Which formula represents a ketone?

- 1) HCOOH                        2) HCHO  
3) CH<sub>3</sub>COCH<sub>3</sub>                4) CH<sub>3</sub>CH<sub>2</sub>OH

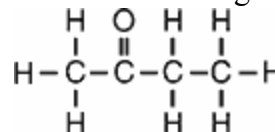
8) Which is the structural formula of an aldehyde?



9) Which is represented by the structural formula above?

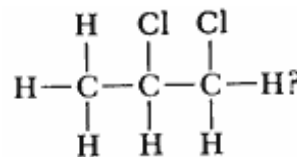
- 1) an aldehyde                  2) an alcohol  
3) an alkane                      4) an acid

10) What is the IUPAC name of the compound with the following structural formula?



- 1) propanone                      2) propanal  
3) butanone                       4) butanal

11) What is the correct IUPAC name for



- 1) 1,2-dichlorobutane  
2) 2,3-dichlorobutane  
3) 1,2-dichloropropane  
4) 2,3-dichloropropane

12) The isomers 1-chloropropane and 2-chloropropane differ only in

- 1) molecular composition  
2) molecular structure  
3) the number of chloro- groups per molecule  
4) the number of carbon atoms per molecule

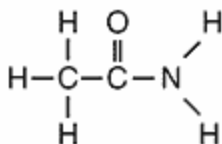
13) Which compound is an ester?

- 1)  $\text{CH}_3\text{COOH}$       2)  $\text{CH}_3\text{CHO}$   
3)  $\text{CH}_3\text{COOCH}_3$     4)  $\text{CH}_3\text{COCH}_3$

14) The compound  $\text{CH}_3\text{CH}_2\text{COOCH}_3$  is an example of

- 1) an ester              2) an alcohol  
3) an acid                4) a polymer

15) Given the structural formula:



This compound is classified as an

- 1) amide                  2) amine  
3) aldehyde              4) alcohol

16) Which class of organic compounds has molecules that contain nitrogen atoms?

- 1) alcohol                2) amine  
3) ether                    4) ketone

17) Which structural formula represents diethyl ether?

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

18) Which is the general formula for an ether?

- 1)  $R-\text{OH}$               2)
- 3)  $R_1-\text{O}-R_2$         4)

19) Butanal and butanone have different chemical and physical properties primarily because of differences in their

- 1) functional groups  
2) molecular masses  
3) molecular formulas  
4) number of carbon atoms per molecule

20) Atoms of which element can bond with each other to form ring and chain structures in compounds?

- 1) C    2) Ca    3) H    4) Na