

Topic : General Organic Chemistry

Type of Questions

Fill in the Blanks ('-1' negative marking) Q.1

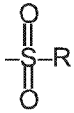
(3 marks, 3 min.)

M.M., Min.

[3, 3]

1. Classify the following groups as +m, -m, +I, -I, +HC, -HC.

S.No.	Species	+ I	- I	+ m	- m	+ H.C.	- H.C.
1	$-\text{NO}_2$						
2	$-\text{CN}$						
3	$-\text{CHO}$						
4	$\begin{array}{c} \text{O} \\ \parallel \\ -\text{C}-\text{R} \end{array}$						
5	$\begin{array}{c} \text{O} \\ \parallel \\ -\text{C}-\text{OR} \end{array}$						
6	$\begin{array}{c} \text{O} \\ \parallel \\ -\text{C}-\text{O}^- \end{array}$						
7	$\begin{array}{c} \text{O} \\ \parallel \\ -\text{C}-\text{F} \end{array}$						
8	$\begin{array}{c} \text{O} \\ \parallel \\ -\text{C}-\text{NH}_2 \end{array}$						
9	$\begin{array}{c} \text{O} \\ \parallel \\ -\text{NH}-\text{C}-\text{CH}_3 \end{array}$						
10	$\begin{array}{c} \text{O} \\ \parallel \\ -\text{O}-\text{C}-\text{CH}_3 \end{array}$						
11	$-\text{ONO}$						
12	$-\text{O}-\text{NO}_2$						
13	$-\text{SO}_3\text{H}$						
14	$\begin{array}{c} \text{O} \\ \parallel \\ -\text{O}-\text{S}-\text{O}-\text{R} \\ \parallel \\ \text{O} \end{array}$						
15	$\begin{array}{c} \text{O} \\ \parallel \\ -\text{S}-\text{O}-\text{R} \\ \parallel \\ \text{O} \end{array}$						
16	$-\text{NO}$						
17	$-\text{F}$						
18	$-\text{Cl}$						
19	$-\text{Br}$						

S.No.	Species	+ I	- I	+ m	- m	+ H.C.	- H.C.
20	-I						
21	$-\text{N}\equiv\text{N}^{\oplus}$						
22	$-\text{C}\equiv\text{O}^{\oplus}$						
23	-S-R						
24							
25	$-\text{PR}_3^{\oplus}$						
26	$-\text{NR}_3^{\oplus}$						
27	$-\text{CH}_3$						
28	$-\text{SR}_2^{\oplus}$						
29	$-\text{CMe}_3$						
30	$-\text{CF}_3$						
31	$-\text{CCl}_3$						
32	-Ph						
33	$-\text{CH}=\text{CH}_2$						
34	$-\text{COOH}$						
35	$-\text{O}-\text{CH}_3$						
36	$-\ddot{\text{O}}\text{H}$						
37	$-\dot{\text{N}}\text{H}_2$						
38							
39	$-\ddot{\text{C}}\text{R}_2^{\ominus}$						
40	$-\overset{\square}{\text{C}}\text{R}_2$						

Answer Key

DPP No. # 16

S.No.	Species	+ I	- I	+ m	- m	+ H.C.	- H.C.
1	$-\text{NO}_2$		✓		✓		
2	$-\text{CN}$		✓		✓		
3	$-\text{CHO}$		✓		✓		
4	$\begin{array}{c} \text{R} \\ \\ \text{C} \\ \\ \text{O} \end{array}$		✓		✓		
5	$\begin{array}{c} \text{OR} \\ \\ \text{C} \\ \\ \text{O} \end{array}$		✓		✓		
6	$\begin{array}{c} \text{O} \\ \\ \text{C} \\ \\ \text{O}^- \end{array}$	✓			✓		
7	$\begin{array}{c} \text{F} \\ \\ \text{C} \\ \\ \text{O} \end{array}$		✓		✓		
8	$\begin{array}{c} \text{O} \\ \\ \text{C} \\ \\ \text{NH}_2 \end{array}$		✓		✓		
9	$\begin{array}{c} \text{O} \\ \\ \text{NH}-\text{C}-\text{CH}_3 \end{array}$		✓	✓			
10	$\begin{array}{c} \text{O} \\ \\ \text{O}-\text{C}-\text{CH}_3 \end{array}$		✓	✓			
11	$-\text{ONO}$		✓	✓			
12	$-\text{O}-\text{NO}_2$		✓	✓			
13	$-\text{SO}_3\text{H}$		✓		✓		
14	$\begin{array}{c} \text{O} \\ \\ \text{O}-\text{S}-\text{O}-\text{R} \\ \\ \text{O} \end{array}$		✓	✓			
15	$\begin{array}{c} \text{O} \\ \\ \text{S}-\text{O}-\text{R} \\ \\ \text{O} \end{array}$		✓		✓		

16	-NO		✓	✓	✓		
17	-F		✓	✓			
18	-Cl		✓	✓	✓		
19	-Br		✓	✓	✓		
20	-I		✓	✓	✓		
21	$\text{-}\overset{\oplus}{\text{N}}\equiv\text{N:}$		✓		✓		
22	$\text{-}\overset{\oplus}{\text{C}}\equiv\text{O:}$		✓		✓		
23	-S-R		✓	✓	✓		
24	$\begin{array}{c} \text{O} \\ \parallel \\ \text{-S-R} \\ \parallel \\ \text{O} \end{array}$		✓		✓		
25	$\text{-}\overset{\oplus}{\text{P}}\text{R}_3$		✓		✓		
26	$\text{-}\overset{\oplus}{\text{N}}\text{R}_3$		✓				
27	-CH ₃	✓				✓	
28	$\text{-}\overset{\oplus}{\text{S}}\text{R}_2$		✓		✓		
29	-CMe ₃	✓					
30	-CF ₃		✓				✓
31	-CCl ₃		✓				✓

32	-Ph		✓	✓	✓		
33	-CH=CH ₂		✓	✓	✓		
34	-COOH		✓		✓		
35	-O-CH ₃		✓	✓			
36	- $\ddot{\text{O}}\text{H}$		✓	✓			
37	- $\ddot{\text{N}}\text{H}_2$		✓	✓			
38	-N 		✓	✓			
39	- $\overset{\ominus}{\text{C}}\text{R}_2$	✓		✓			
40	- $\overset{\oplus}{\text{C}}\text{R}_2$		✓		✓		