

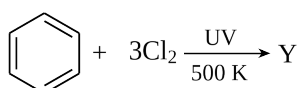
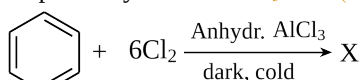
# NEET HYDROCARBONS — CHEMICAL PROPERTIES OF AROMATIC HYDROCARBONS — PYQS

Max. Marks: 72

Questions: 18

## Section A (MCQ) — 18 questions

- Q.1** The number of chlorine atoms present in the organic products X and Y of the following reactions, respectively are : [NEET (UG) 2026]

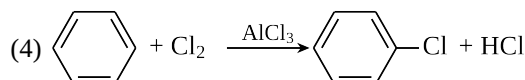
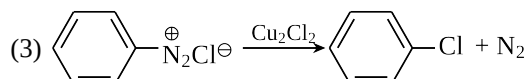
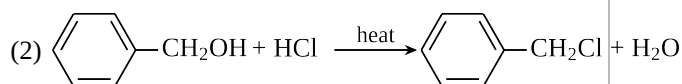
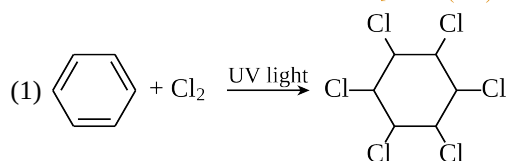


- (1) 3 and 3 (2) 6 and 6 (3) 6 and 3 (4) 3 and 6

Scan or tap for the full solution 

- Q.2** Among the following, the reaction that proceeds through an electrophilic substitution, is :

[NEET (UG) 2019]



Scan or tap for the full solution 

- Q.3** Consider the nitration of benzene using mixed conc.  $\text{H}_2\text{SO}_4$  and  $\text{HNO}_3$ . If a large amount of  $\text{KHSO}_4$  is added to the mixture, the rate of nitration will be

[NEET 2016 (Phase 1)]

- (1) unchanged (2) doubled  
(3) faster (4) slower

Scan or tap for the full solution 

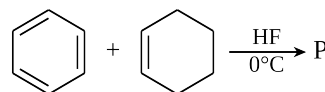
- Q.4** Which of the following can be used as halide component for Friedel-Crafts reaction?

[NEET 2016 (Phase 2)]

- (1) Chlorobenzene (2) Bromobenzene  
(3) Chloroethene (4) Isopropyl chloride

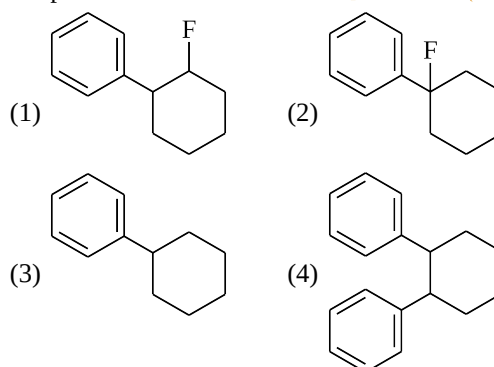
Scan or tap for the full solution 

- Q.5** In the given reaction,



the product P is

[NEET 2016 (Phase 2)]



Scan or tap for the full solution 

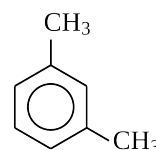
- Q.6** The oxidation of benzene by  $\text{V}_2\text{O}_5$  in the presence of air produces

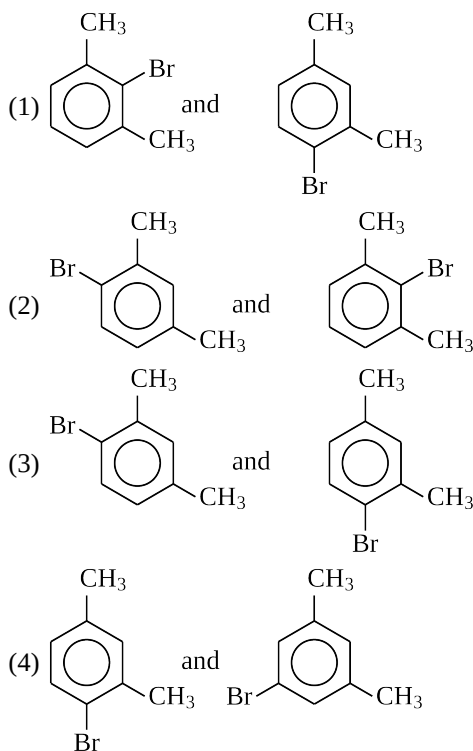
[AIPMT 2015]

- (1) maleic anhydride (2) benzoic acid  
(3) benzaldehyde (4) benzoic anhydride.

Scan or tap for the full solution 

- Q.7** What products are formed when the following compound is treated with  $\text{Br}_2$  in the presence of  $\text{FeBr}_3$ ? [AIPMT 2014]





Scan or tap for the full solution



**Q.8** Some meta-directing substituents in aromatic substitution are given. Which one is most deactivating ? [NEET 2013]

- (1)  $-\text{COOH}$  (2)  $-\text{NO}_2$  (3)  $-\text{C}\equiv\text{N}$  (4)  $-\text{SO}_3\text{H}$

Scan or tap for the full solution



**Q.9** Which of the following compounds will not undergo Friedel-Crafts reaction easily? [NEET 2013]

- (1) Nitrobenzene (2) Toluene  
(3) Cumene (4) Xylene

Scan or tap for the full solution



**Q.10** Nitrobenzene on reaction with conc.  $\text{HNO}_3/\text{H}_2\text{SO}_4$  at  $80-100^\circ\text{C}$  forms which one of the following products? [NEET 2013]

- (1) 1, 4-Dinitrobenzene  
(2) 1, 2, 4 - Trinitrobenzene  
(3) 1, 2-Dinitrobenzene  
(4) 1, 3-Dinitrobenzene

Scan or tap for the full solution



**Q.11** Among the following compounds the one that is most reactive towards electrophilic nitration is [AIPMT 2012 (Prelims)]

- (1) benzoic acid (2) nitrobenzene  
(3) toluene (4) benzene

Scan or tap for the full solution



**Q.12** Benzene reacts with  $\text{CH}_3\text{Cl}$  in the presence of anhydrous  $\text{AlCl}_3$  to form [AIPMT 2009]

- (1) chlorobenzene (2) benzyl chloride  
(3) xylene (4) toluene.

Scan or tap for the full solution



**Q.13** Nitrobenzene can be prepared from benzene by using a mixture of conc.  $\text{HNO}_3$  and conc.  $\text{H}_2\text{SO}_4$ . In the mixture, nitric acid acts as a/an [AIPMT 2009]

- (1) acid (2) base  
(3) catalyst (4) reducing agent

Scan or tap for the full solution



**Q.14** The order of decreasing reactivity towards an electrophilic reagent, for the following would be [AIPMT 2007]

- (i) benzene (ii) toluene  
(iii) chlorobenzene (iv) phenol  
(1) (ii) > (iv) > (i) > (iii) (2) (iv) > (iii) > (ii) > (i)  
(3) (iv) > (ii) > (i) > (iii) (4) (i) > (ii) > (iii) > (iv)

Scan or tap for the full solution



**Q.15** Using anhydrous  $\text{AlCl}_3$  as catalyst, which one of the following reactions produces ethylbenzene ( $\text{PhEt}$ )? [AIPMT 2004]

- (1)  $\text{H}_3\text{C}-\text{CH}_2\text{OH} + \text{C}_6\text{H}_6$  (2)  $\text{CH}_3-\text{CH}=\text{CH}_2 + \text{C}_6\text{H}_6$   
(3)  $\text{H}_2\text{C}=\text{CH}_2 + \text{C}_6\text{H}_6$  (4)  $\text{H}_3\text{C}-\text{CH}_3 + \text{C}_6\text{H}_6$

Scan or tap for the full solution



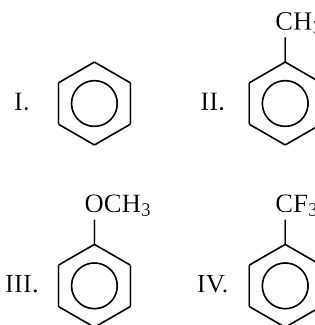
**Q.16** The correct order of reactivity towards the electrophilic substitution of the compounds aniline (I), benzene (II) and nitrobenzene (III) is [AIPMT 2003]

- (1) III > II > I (2) II > III > I  
(3) I < II > III (4) I > II > III

Scan or tap for the full solution



**Q.17** Increasing order of electrophilic substitution for following compounds [AIPMT 2000]



(1)  $\text{IV} < \text{I} < \text{II} < \text{III}$ (2)  $\text{III} < \text{II} < \text{I} < \text{IV}$ (3)  $\text{I} < \text{IV} < \text{III} < \text{II}$ (4)  $\text{II} < \text{III} < \text{I} < \text{IV}$ Scan or tap for the  
full solution

**Q.18** In Friedel-Crafts reaction, toluene can be prepared by

[AIPMT 2000]

(1)  $\text{C}_6\text{H}_6 + \text{CH}_3\text{Cl}$ (2)  $\text{C}_6\text{H}_5\text{Cl} + \text{CH}_4$ (3)  $\text{C}_6\text{H}_6 + \text{CH}_2\text{Cl}_2$ (4)  $\text{C}_6\text{H}_6 + \text{CH}_3\text{COCl}$ Scan or tap for the  
full solution

## ANSWER KEY

| Ques. | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8 | 9 | 10 | 11 |
|-------|----|----|----|----|----|----|----|---|---|----|----|
| Ans.  | 2  | 4  | 4  | 4  | 3  | 1  | 3  | 2 | 1 | 4  | 3  |
| Ques. | 12 | 13 | 14 | 15 | 16 | 17 | 18 |   |   |    |    |
| Ans.  | 4  | 2  | 3  | 3  | 4  | 1  | 1  |   |   |    |    |