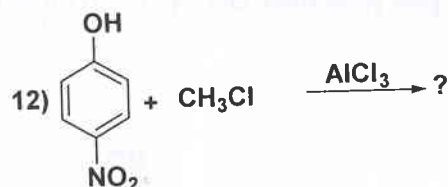
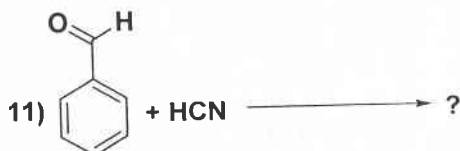
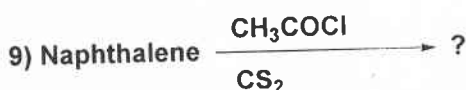
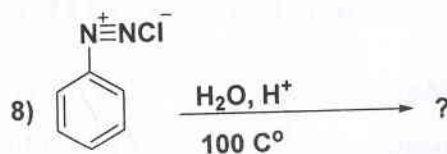
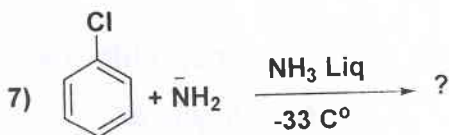
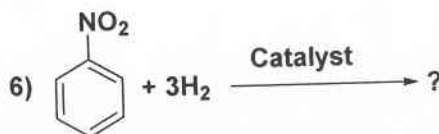
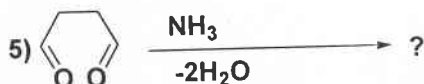
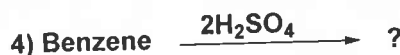
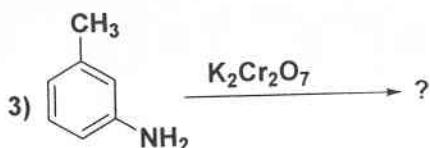
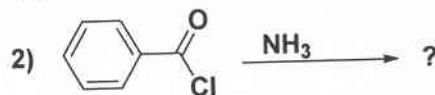
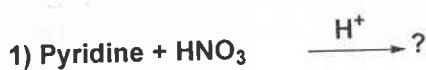




((Final exam of the second semester))
Academic year 2016 -2017

45

Q1: Complete TEN of the following reactions.



(10 Marks)

Q2: Explain of the following scientific statements:

- 1- Chlorination of phenol gives a mixture of *p*- and *o*- chloro phenol while benzaldehyde gives only *m*-chlorobenzaldehyde.
- 2- Benzene is an aromatic compound but cyclohexane has not aromaticity properties.
- 3- The acidity of salicylic acid is less than benzoic acid while *o*-nitro benzoic acid has an acidity more than both.
- 4- Electrophilic substitution aromatic reactions of naphthalene occur readily at the 1-position than the 2-position.

(6 Marks)