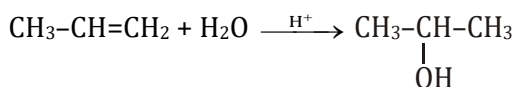


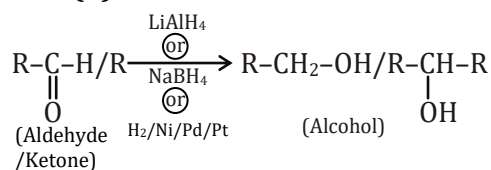
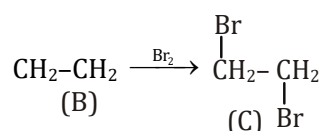
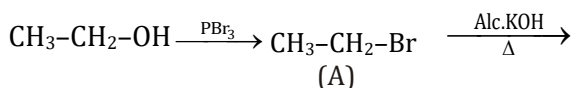
Alcohols, Phenols and Ethers

SOLUTIONS

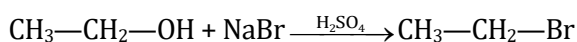
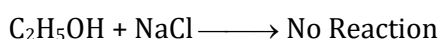
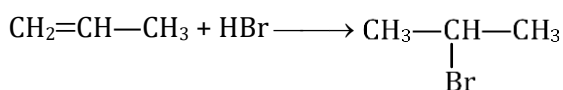
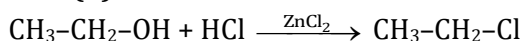
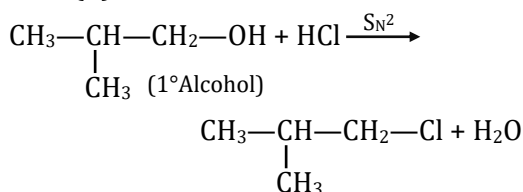
Exercise-I (Conceptual Questions)

1. **Ans. (1)**

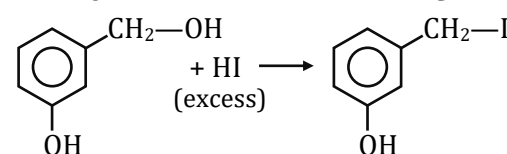
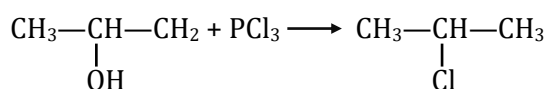
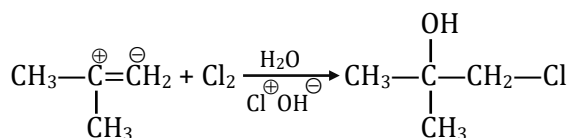
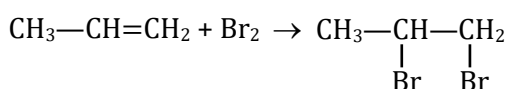
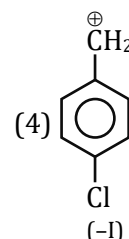
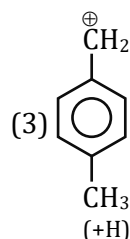
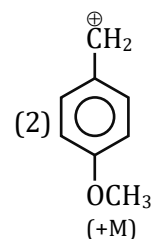
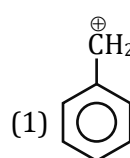
This is an example of EAR.

2. **Ans. (4)**3. **Ans. (3)**4. **Ans. (1)**

Reactivity of $\text{HX} \propto$ Degree of alcohol
 $3^\circ > 2^\circ > 1^\circ$

5. **Ans. (3)**6. **Ans. (1)**

Primary alcohol on reacting with HCl follow S_N^2 mechanism, Hence No carbocation form.

7. **Ans. (1)**8. **Ans. (2)**

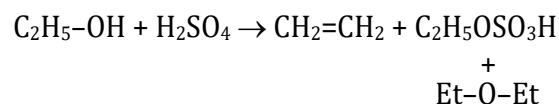
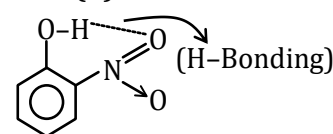
In option (2) carbocation is stabilised by +M effect.

9. **Ans. (3)**

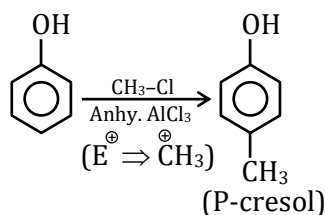
$1^\circ, 2^\circ, 3^\circ$ Alcohols can be distinguished by Lucas test.

10. **Ans. (3)**

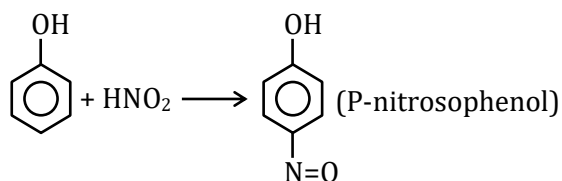
3° Alcohol doesn't turn orange colour to green.

11. **Ans. (3)**12. **Ans. (3)**

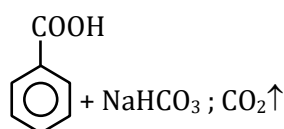
13. Ans. (4)



14. Ans. (2)

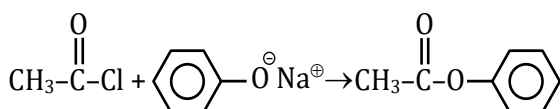


15. Ans. (4)

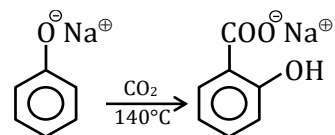


While phenol doesn't react.

16. Ans. (3)

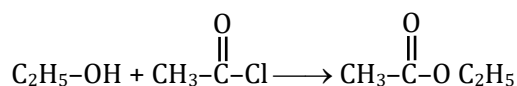
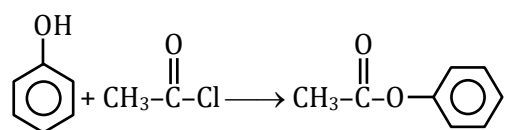


17. Ans. (2)

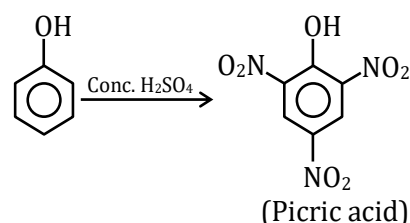


[Kolbe's Schmidt section]

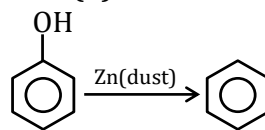
18. Ans. (3)



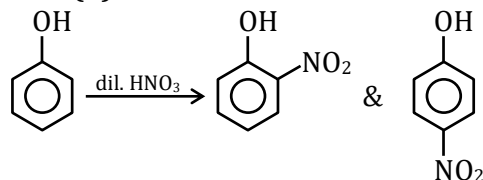
19. Ans. (4)



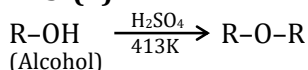
20. Ans. (4)



21. Ans. (1)

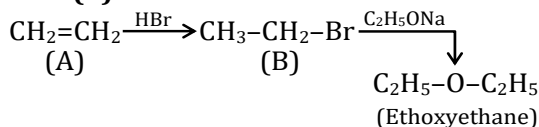


22. Ans. (2)

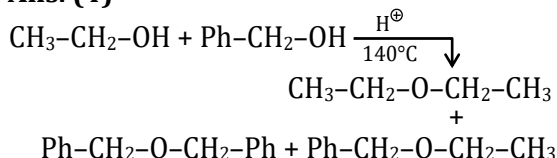


(Williamson's continuous etherification process)

23. Ans. (3)



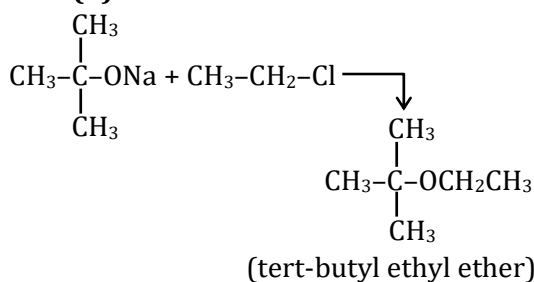
24. Ans. (4)



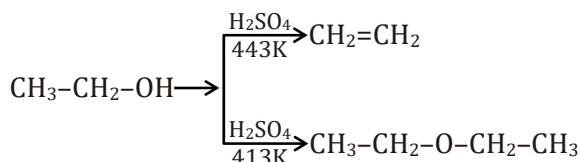
25. Ans. (4)

CH₃-O-C₆H₅ doesn't react with aq. NaOH.

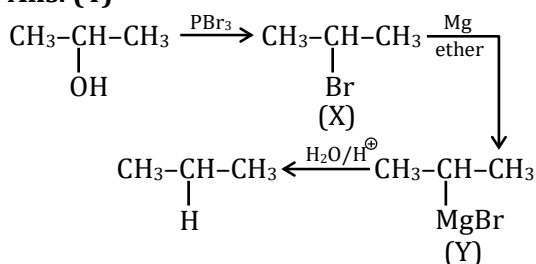
26. Ans. (2)



27. Ans. (4)

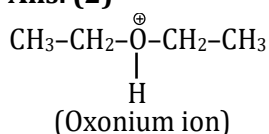


28. Ans. (4)



Alcohols, Phenols and Ethers

29. Ans. (2)



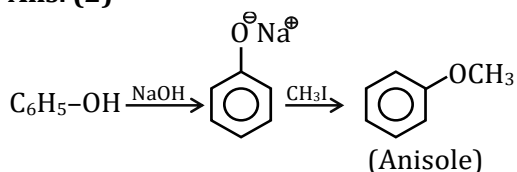
30. Ans. (4)

Like dissolves like.

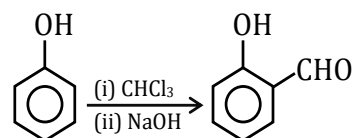
Hence, Pentane is insoluble in water.

Exercise-II (Previous Year Questions)

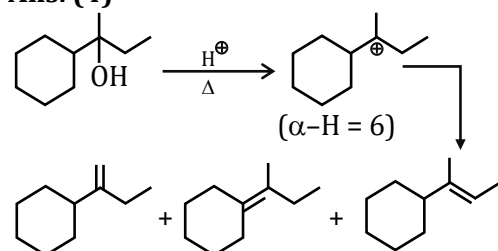
1. Ans. (2)



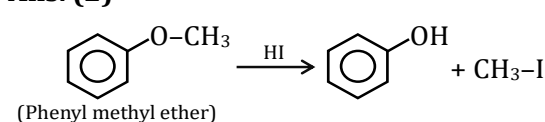
2. Ans. (2)



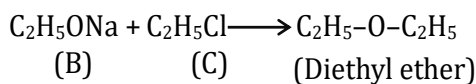
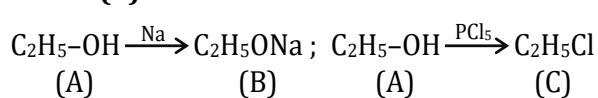
3. Ans. (4)



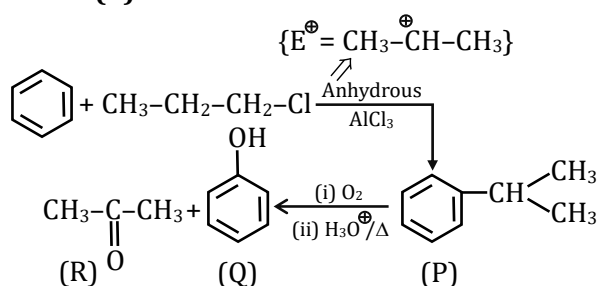
4. Ans. (2)



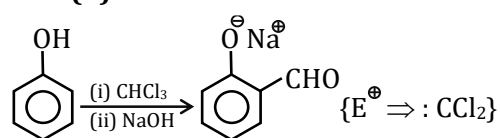
5. Ans. (4)



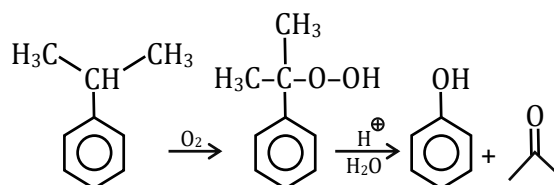
6. Ans. (4)



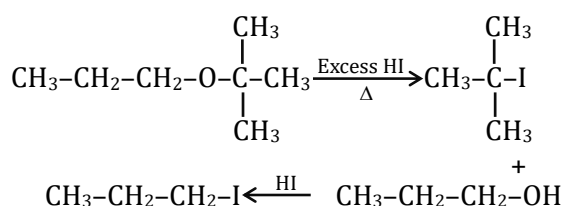
7. Ans. (4)



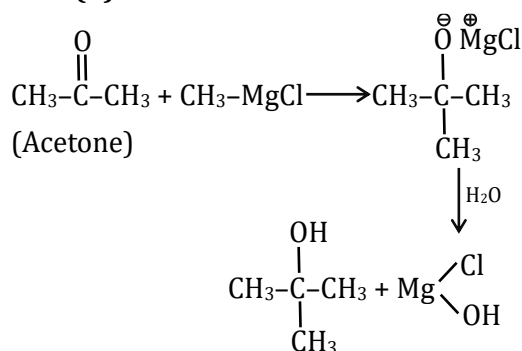
8. Ans. (2)



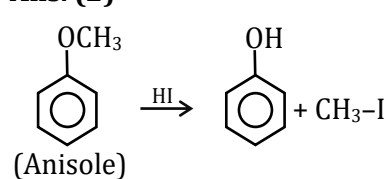
9. Ans. (1)



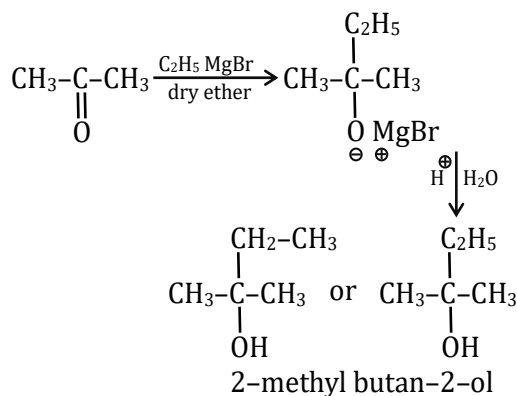
10. Ans. (4)



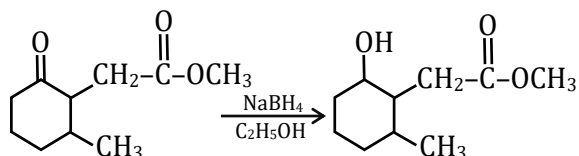
11. Ans. (2)



12. Ans. (4)

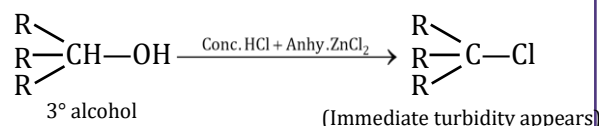
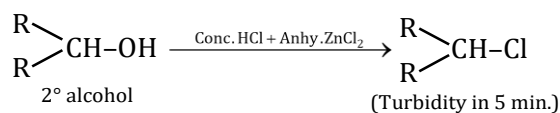
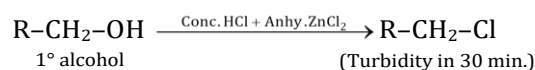


13. Ans. (4)



14. Ans. (2)

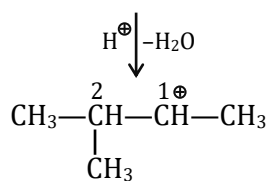
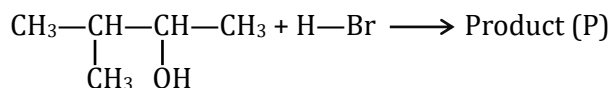
1° , 2° , 3° Alcohol are distinguished by Lucas test on the basis of the time taken for turbidity to appear



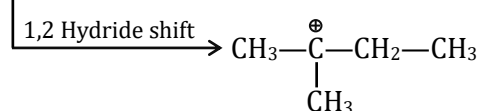
Reactivity of alcohol towards Lucas reagent

$\Rightarrow 3^\circ > 2^\circ > 1^\circ$ Alcohol

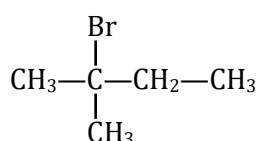
15. Ans. (4)



($\alpha_{\text{H}}=4$)

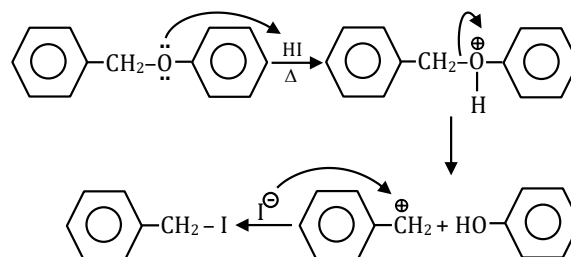


($\alpha_{\text{H}}=8$)



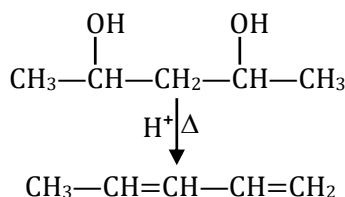
Product (P)

16. Ans. (2)

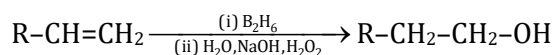
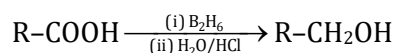


17. Ans. (1)

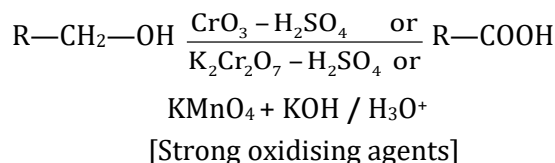
Due to presence of conjugation in product.



18. Ans. (1)

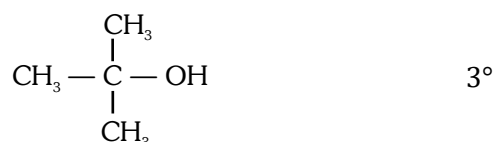
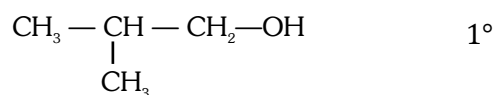
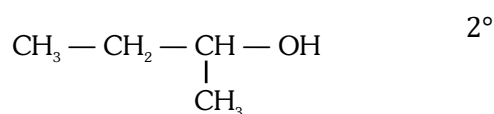
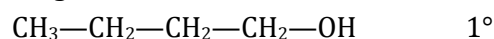


19. Ans. (3)

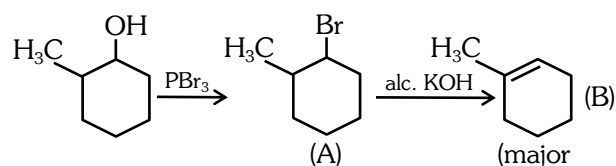


20. Ans. (4)

Reactivity order of alcohols towards Lucas' reagent 3° alcohol $>$ 2° alcohol $>$ 1° alcohol

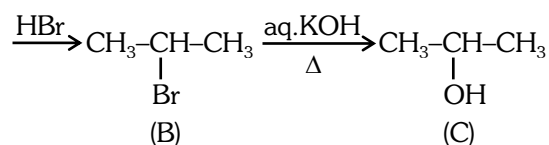
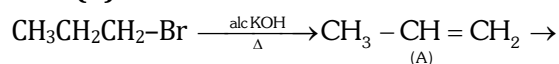


21. Ans. (1)

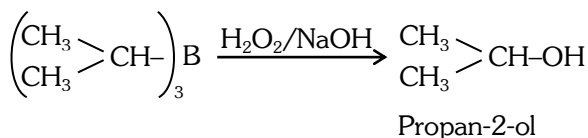
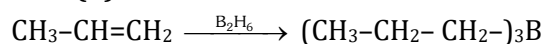


Alcohols, Phenols and Ethers

22. Ans. (2)

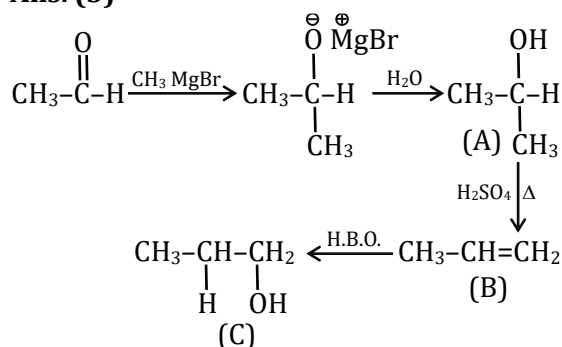


23. Ans. (2)



Exercise-III (Analytical Questions)

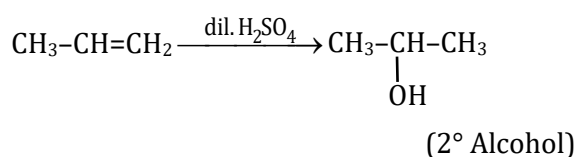
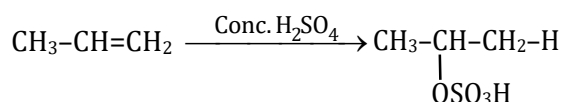
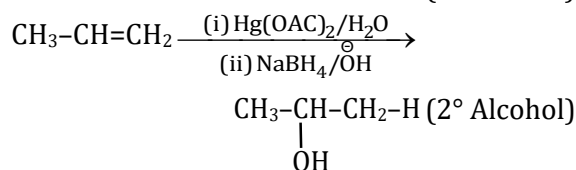
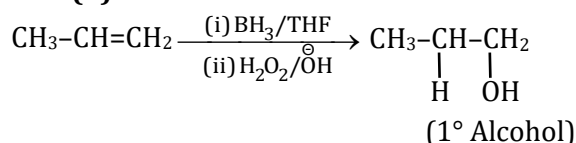
1. Ans. (3)



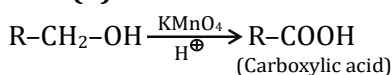
A is Propan-2-ol

B is Propan-1-ol Both are P.I.

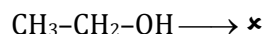
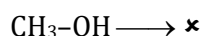
2. Ans. (4)



3. Ans. (4)

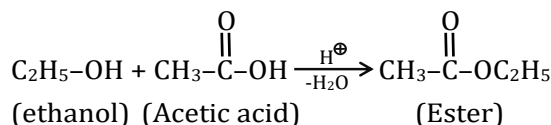


4. Ans. (3)

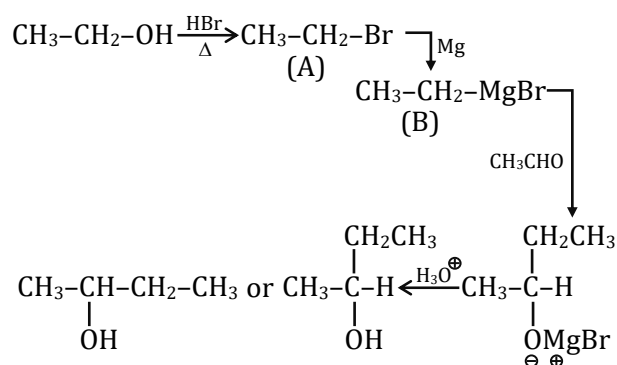


(Turbidity only on heating after long time i.e. 30 min.)

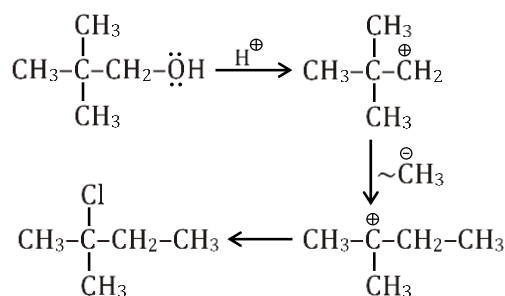
5. Ans. (3)



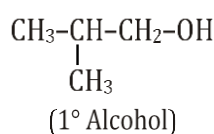
6. Ans. (3)



7. Ans. (3)

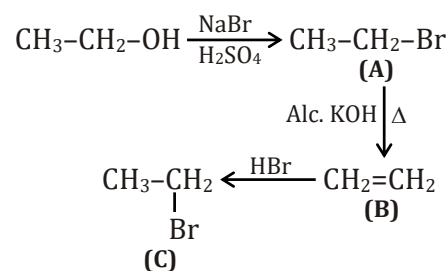


8. Ans. (3)

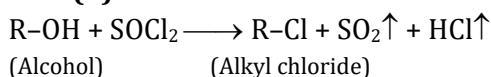


{Reactivity towards Lucas Reagent
 $\Rightarrow 3^\circ > 2^\circ > 1^\circ$ }

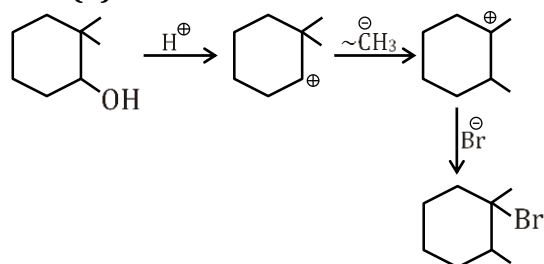
9. Ans. (2)



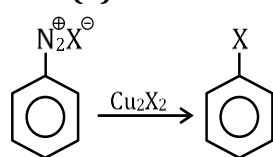
10. Ans. (1)



11. Ans. (2)

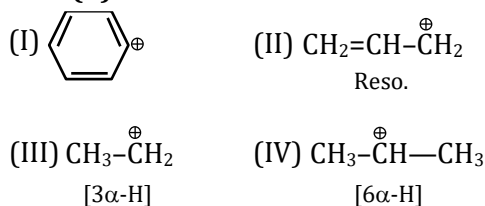


12. Ans. (1)



It is N.S.R.

13. Ans. (4)



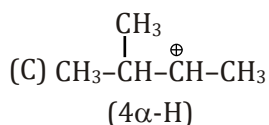
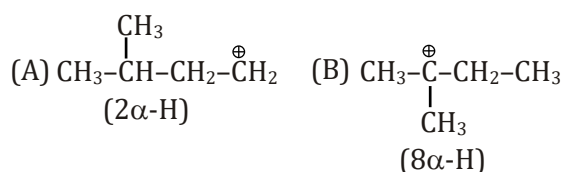
II > IV > III > I

14. Ans. (2)



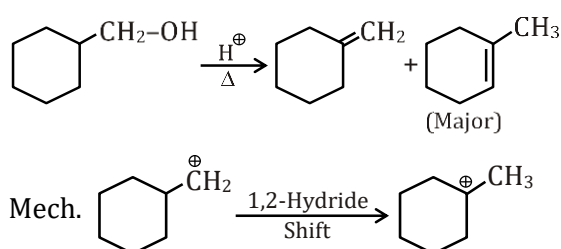
The order of reactivity $\Rightarrow \text{HI} > \text{HBr} > \text{HCl}$

15. Ans. (3)

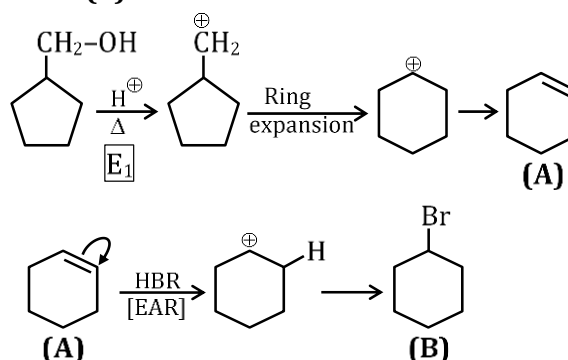


B > C > A

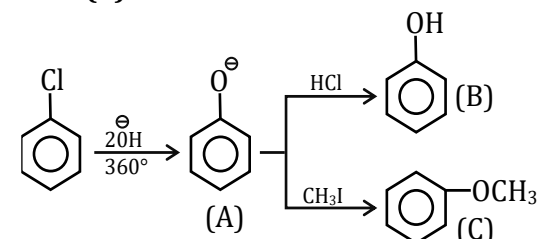
16. Ans. (3)



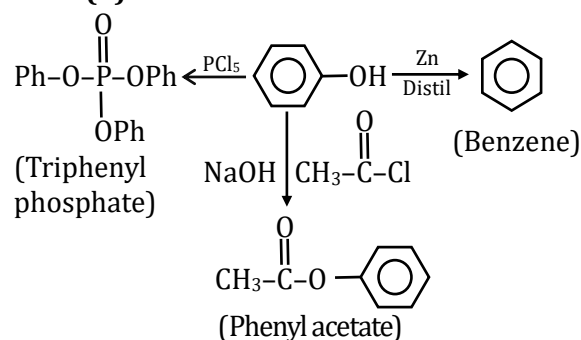
17. Ans. (3)



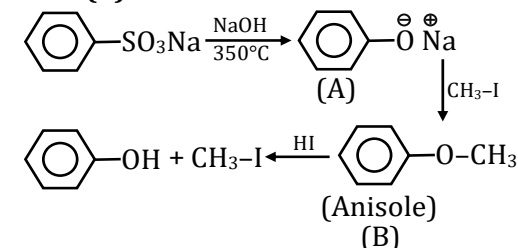
18. Ans. (2)



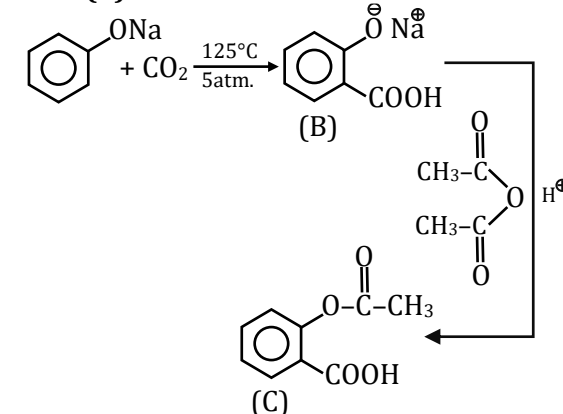
19. Ans. (2)



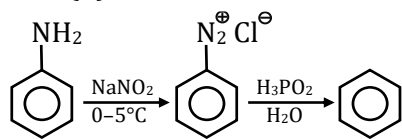
20. Ans. (3)



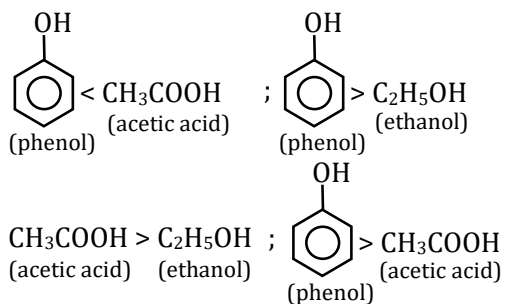
21. Ans. (3)



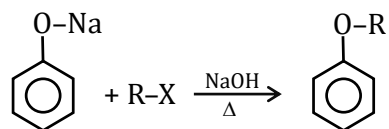
22. Ans. (3)



23. Ans. (3)



24. Ans. (3)



25. Ans. (2)

