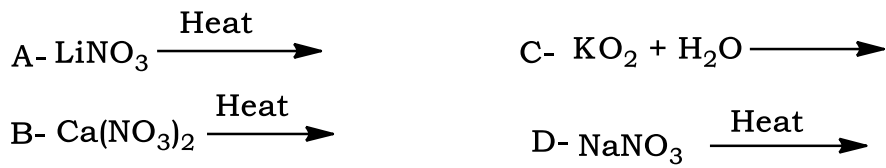


- Correct order of solubility of sulphates of group 2 is
 - $\text{BeSO}_4 < \text{MgSO}_4 < \text{CaSO}_4 < \text{SrSO}_4$
 - $\text{BeSO}_4 > \text{MgSO}_4 > \text{CaSO}_4 > \text{SrSO}_4$
 - $\text{BeSO}_4 < \text{CaSO}_4 < \text{MgSO}_4 < \text{SrSO}_4$
 - $\text{MgSO}_4 < \text{CaSO}_4 < \text{SrSO}_4 < \text{BeSO}_4$
- The ionization enthalpies of the alkali metals are considerably low and decrease down the group from Li to Cs because
 - Electronegativity of the elements increases down the group and atomic size increases
 - The effect of increasing size outweighs the increasing nuclear charge down the group.
 - screening effect of inner electrons decreases down the group
 - Both b and c
- The melting and boiling points of the alkali metals are low indicating _____
 - High electropositivity and metallic character
 - High reactivity and standard reduction potential
 - weak metallic bonding due to the presence of only a single valence electron in them.
 - All of the above
- Flame photometry of certain compound indicates that the radiation emitted by the compound is of wavelength 770-780nm (red violet color). The compound is likely to be
 - NaCl
 - MgCl_2
 - KCl
 - RbCl
- When lithium nitrate is heated,
 - Lithium nitrite and oxygen gas is formed
 - Lithium nitrite and NO_2 is formed
 - Lithium oxide and NO_2 is formed
 - Lithium oxide, NO_2 and oxygen gas is formed
- Which of the following are most abundant in cell fluids?
 - Na^+
 - K^+
 - Ca^{2+}
 - Mg^{2+}
- Which of the following ions is expected to be most hydrated?
 - Li^+
 - Ba^{2+}
 - Be^{2+}
 - Cs^+
- Which of the following on reacting with air directly do not form nitrides?
 - Li
 - Na
 - Be
 - Ca
- Correct match for the following is

1. KO_2	a. Crimson red
2. Calcium	b. Yellow solid
3. Potassium	c. Interneuron transmission
4. Strontium	d. Activate enzymes within cell

- 1—b; 2—a; 3—d; 4—c
- 1—d; 2—c; 3—b; 4—c
- 1—b; 2—d; 3—c; 4—a
- 1—b; 2—c; 3—d; 4—a

- From the reactions given below, the ones that produce oxygen as one of the product are



a) A and B only b) A, B and D **c) All A,B,C and D** d) A, B and C

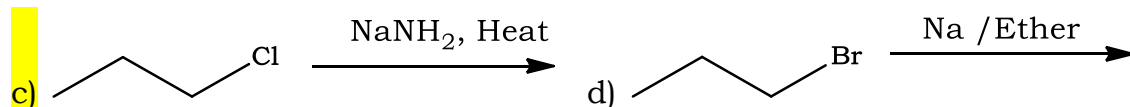
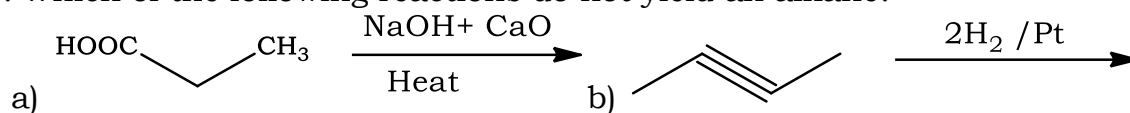
11. Which of the following combinations represent pair of compounds in which the central atoms have identical hybridisations

a) C_2H_4 , Be_2Cl_2 b) CH_4 , C_2H_2 c) HCHO , C_2H_6 d) Both a and b

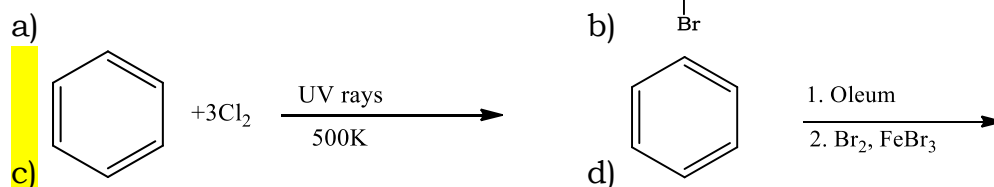
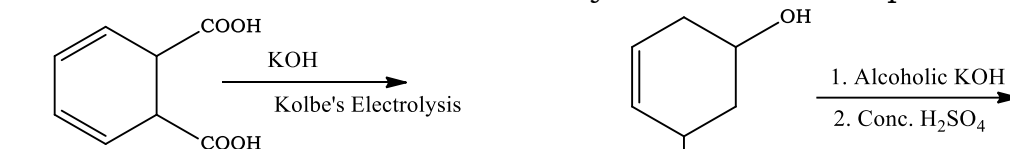
12. Which of the following is used in setting fractured bones in hospitals?

a) CaCO_3 b) NaHCO_3 **c) $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$** d) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$

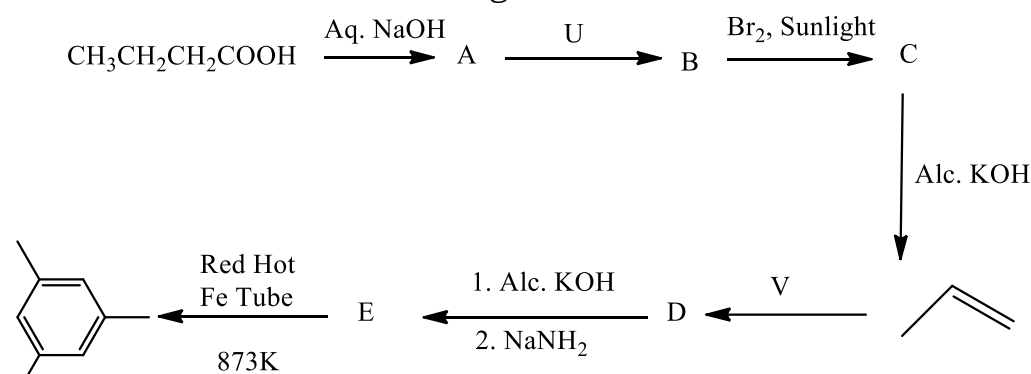
13. Which of the following reactions do not yield an alkane?



14. Which of the reaction below will not yield aromatic compound?



15. Correct match for the following conversion reaction is



1.U	a. Propyne
2.V	b. Sodalime, Δ
3.C	c. $\text{Br}_2 + \text{CCl}_4$
4.E	d. 2-Bromopropane

- a) 1—d;2—a;3—b;4—c
c) 1—b;2—a;3—d;4—c

- b) 1—b;2—c;3—d;4—a**
d) 1—c;2—a;3—b;4—d

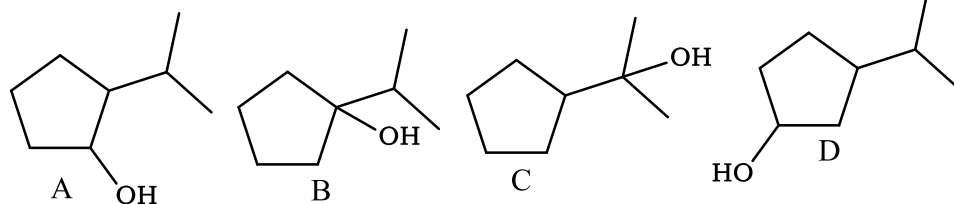
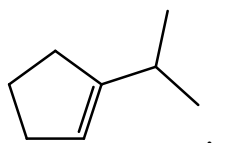
16. Certain compound (**P**) of molecular formula C_3H_6 decolorizes baeyer's reagent as well as bromine water. **P** on addition of HBr in presence of peroxide gives **Q** which gives **R** (C_6H_{14}) on wurtz reaction. **R** when heated at 773K in presence of Cr_2O_3 and at 20 atm pressure gives aromatic compound **S**. Identify **S**.

- a) Hexane **b) Benzene** c) Toluene d) Acetone

17. Ozonolysis of which of the following compound gives 2 identical products?

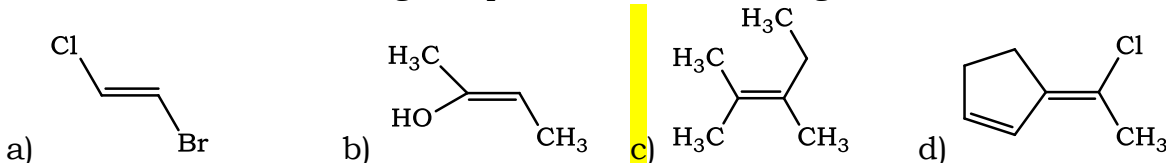
- a) 2-MethylBut-2-ene b) But-2-yne
c) But-2-ene d) 2,2- DibromoButane

18. Which of the following on dehydration yields

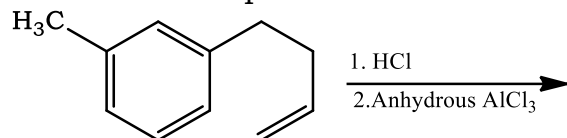


- a) All A,B, C and D **b) Only A and B**
c) A, B and D d) Only B

19. Which of the following compound will not show geometrical isomerism?



20. Predict the product formed.



- a)
- c)**
- b)
- d)

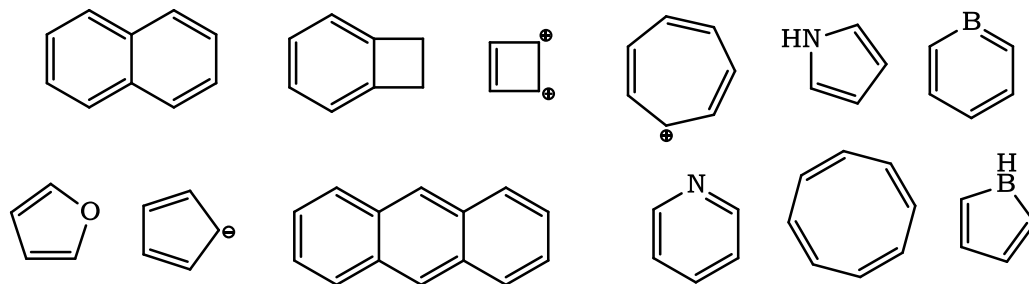
21. Total number of water molecules lost when sodium carbonate decahydrate is heated at 375K is _____

22. Total number of compounds which give CO_2 on heating from the list below is _____
 Li_2CO_3 , Na_2CO_3 , K_2CO_3 , CaCO_3 , NaHCO_3 , KHCO_3 , MgCO_3

23. Total number of structural isomers of the product formed by mono-bromination of Methylcyclopentane is _____

24. Number of moles of acetone formed by ozonolysis of 10 moles of 3-ethyl-2,4,6-trimethylhepta-2,5-diene followed by treatment with $\text{Zn}/\text{H}_2\text{O}$ is _____

25. Total number of aromatic species from the list below is _____



Ans

21. 9

22. 5

23. 4

24. 20

25. 10