



CHEMISTRY

BOOKS - EVERGREEN CHEMISTRY (ENGLISH)

SAMPLE QUESTION PAPER 03

Section I

1. State one appropriate observation for the following:

When dilute hydrochloric acid is added to sodium carbonate crystals.



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2. State one relevant observation for each of the following: At the Anode when aqueous copper sulphate solution is electrolysed using copper electrodes.



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3. State one observation for the following:

Zinc nitrate crystals are strongly heated.



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4. State two relevant observations for each of the following:

Ammonium hydroxide solution is added to zinc nitrate solution in minimum quantities and then in excess



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5. State one observation for the following:

Bromine vapours are passed into a solution of ethyne in carbon tetrachloride.



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6. Identify the gas in the following:

This gas is used for welding purpose.



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7. Write the balanced chemical equation for each of the following reactions:

The gas produced by the action of dilute nitric acid on copper.



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8. Identify the following substances :

An alkaline gas which gives dense white fumes with hydrogen chloride.



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9. Name - The gas produced on reaction of dilute sulphuric acid with a metallic sulphide .



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10. A gas which turns acidified potassium dichromate green.



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11. Match the properties and uses of alloys in list I with the appropriate answer from list II.

List I	List II
(i) The alloy contains Cu and Zn is hard, silvery and is used in decorative articles.	A. Duralumin
(ii) It is stronger than aluminium light and is used in making light tools.	B. Brass
(iii) It is lustrous, hard, corrosion resistant and used in surgical instruments.	C. Bronze
(iv) Tin lowers the melting point of the alloy and is used for soldering purpose	D. Stainless steel
(v) The alloy is for hard, brittle, takes up polish and is used making statues.	E. Solder



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12. This non-metal is liquid at room temperature :

A. Fluorine

B. Chlorine

C. Bromine

D. Iodine

Answer: c



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13. Choose the most appropriate answer for each of the following:

Among the elements given below, the element with the least electronegativity is :

A. Lithium

B. Carbon

C. Boron

D. Fluorine

Answer: a



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14. Choose the correct answer from the options given below :

Hydroxide of this metal is soluble in sodium hydroxide solution.

A. Magnesium

B. Lead

C. Silver

D. Copper

Answer: b



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15. The metals zinc and tin are present in the alloy :

A. Solder

B. Brass

C. Bronze

D. Duralumin

Answer: c



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16. Ammonia can be obtained by adding water to Ammonium nitrite.

A. Ammonium chloride

B. Ammonium nitride

C. Magnesium nitride

D. Magnesium nitrate

Answer: c



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17. Write balanced chemical equations for each of the following:

When excess of ammonia is treated with chlorine.



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18. Write balanced chemical equation for the following:

Preparation of ethanol from Ethyl Chloride.



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19. Write balanced equations for the following reactions:

manganese (IV) oxide and conc. Hydrochloric acid.



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20. Write balanced chemical equations for the following:

Sodium hydroxide is added to copper sulphate solution.



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21. Give balanced equation for the following reaction : Zinc sulphide and Dilute sulphuric acid.



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22. Select from the list given (A to E) one substance in each case which matches the description given in parts (i) to (v). (Note: Each

substance is used only once in the answer.

(A) Nitroso iron (II) sulphate (B) Iron (III)

chloride

(C) Chromium sulphate (D) Lead (II) chloride

(E) Sodium chloride

(i) A compound which is yellow brown.

(ii) A compound which is insoluble in cold water, but soluble in hot water.

(iii) The compound responsible for the brown ring during the ring test of nitrate ion.

(iv) A compound whose aqueous solution is neutral in nature.

(v) The compound which is responsible for the

green colouration when sulphur dioxide is passed through acidified potassium dichromate solution.



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23. Identify the term in each of the

The tendency of an atom to attract electrons to itself when combined in a compound.



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24. Give one word or phrase for the following:

The property of spontaneously giving up water of crystallization to the atmosphere



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25. Name the following term :

Process by which impurities from metals are removed electrolytically.



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26. Name the following :

The process of heating an ore to a high temperature in the presence of air.



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27. Name the following:

The type of reactions alkenes undergo.



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28. Give reasons why?

Hydrocarbons are excellent fuels.



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29. Give reasons why?

Liquid ammonia is used as refrigerant in ice plants.



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30. Give reasons why?

Alkali metals are good reducing agent.



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31. Carbon tetrachloride does not conduct electricity.



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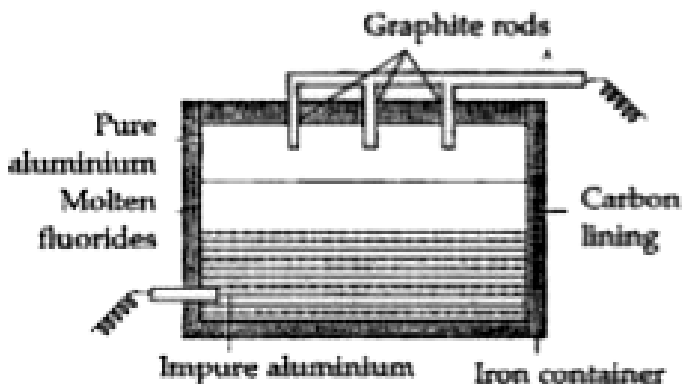
32. Give reason for the following: Iron is rendered passive with fuming nitric acid.



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Section II

1. The following question relate to the extraction of aluminium by electrolysis:

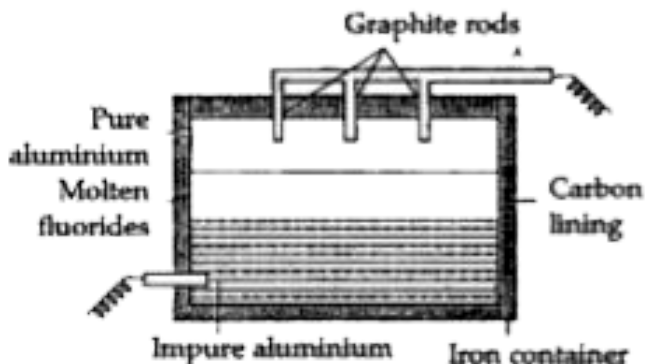


Name the other aluminium containing compound added to alumina and state its significance.



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2. The following question relate to the extraction of aluminium by electrolysis:

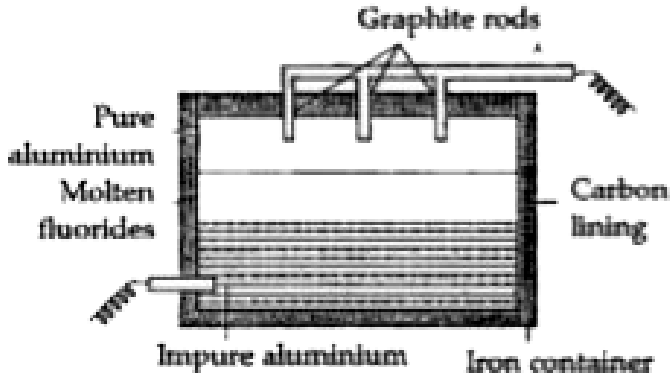


Give the equation for the reaction that takes place at the cathode.



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3. The following question relate to the extraction of aluminium by electrolysis:



Explain why is it necessary to renew the anode periodically.



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4. The following question is related to Iron:

Name the acid with which iron is rendered passive .



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5. The following question are related to Iron:

Name an alloy of iron and carbon.



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6. The following question are related to Iron:

Name the process by which iron ore is concentrated.



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7. Complete the following statements using proper words:

In a thermite mixture, aluminium _____
(oxidises/reduces) iron (III)oxide.



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8. Complete the following statements using proper words:

In dry cells, the Zinc container acts as an
_____ (anode/cathode).





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9. Use the letters only written in the Periodic Table given below to answer the questions that follow :

	I	II	GROUPS										III	IV	V	VI	VII	0
PERIODS	1																	L
2	Q												E	G	J	Z	M	
3	R																	
4	T																	
5																		

State the number of valence electrons in atom J.



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10. Use the letters only written in the Periodic Table given below to answer the questions that follow :

	I	II	GROUPS										III	IV	V	VI	VII	0	
PERIODS	1																		L
2	Q													E	G	J	Z	M	
3	R																		
4	T																		
5																			

Which element shown forms ions with a single negative charge ?



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11. Use the letters only written in the Periodic Table given below to answer the questions

that follow :

	I	II	GROUPS										III	IV	V	VI	VII	0
1																	L	
2	Q												E	G	J	Z	M	
3	R																	
4	T																	
5																		

Which metallic element is more reactive than

R?



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12. Use the letters only written in the Periodic Table given below to answer the questions that follow :

	I	II	GROUPS										III	IV	V	VI	VII	0	
PERIODS	1																	L	
2	Q													E	G	J	Z	M	
3	R																		
4	T																		
5																			

Which element has its electrons arranged in four shells ?



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13. Arrange the following as per the instructions given in the brackets:

Cs, Na, Li, K, Rb (increasing order of metallic character).



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14. Arrange the following as per the instructions given in the brackets:

Mg, Cl, Na, S, Si (decreasing order of atomic size).



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15. Arrange the following as per the instructions given in the brackets :

Na, K, Cl, S, Si (increasing order of ionization energy).



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16. Arrange the following as per instructions given in the brackets:

Cl, F, Br, I (increasing order of electron affinity)



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17. By drawing an electron dot diagram, show the lone pair effect leading to the formation of ammonium ion from ammonia gas and hydrogen ion.



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18. Identify the acid which matches the following description :

Give balanced chemical equations for the

following conversions A, B and C :



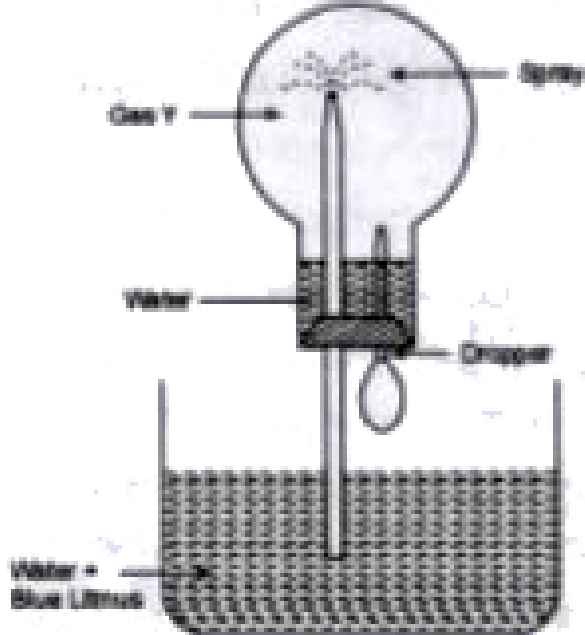
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19. Name a yellow monoxide that dissolves in hot and concentrated alkali. Give equation.



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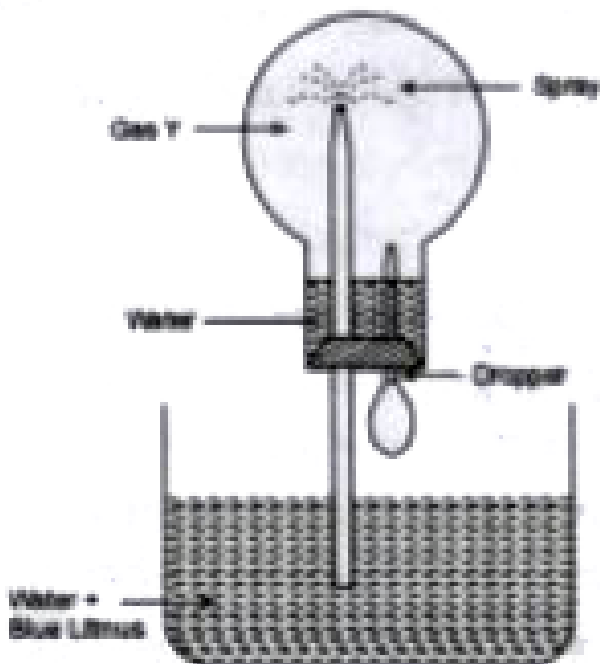
20. Study the figure given below and answer the questions that follow :



Identify the gas Y.

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21. Study the figure given below and answer the questions that follow :

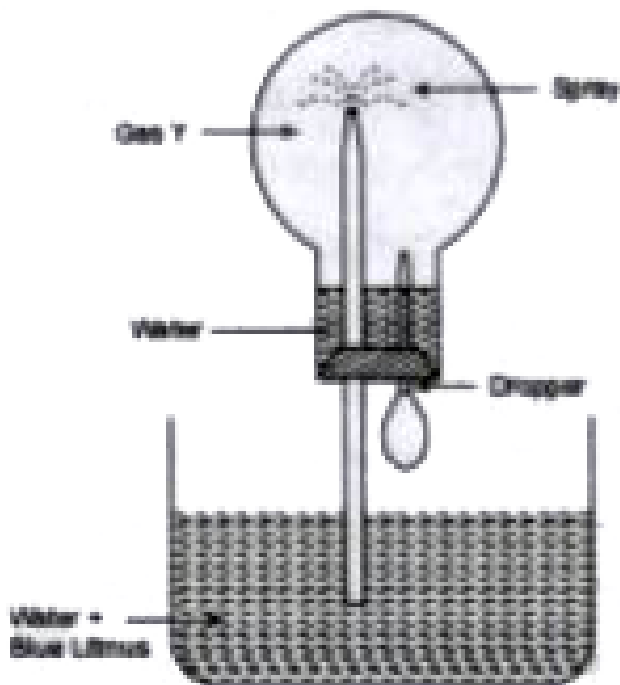


What property of gas Y does this experiment demonstrate ?



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22. Study the figure given below and answer the questions that follow :



Name another gas which has the same property and can be demonstrated through this experiment.



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23. Why is

(a) concentrated sulphuric acid kept in air tight bottles ?



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24. Why is

H_2SO_4 not a drying agent for H_2S ?



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25. Copy and Complete the following table which refers to two practical applications of electrolysis .

Process	Anode	Electrolyte	Cathode
(i) Silver plating a spoon		Solution of potassium argentocyanide	
(ii) Purification of copper			



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26. The questions below are related to the manufacture of ammonia.

Name the process.



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27. The questions below are related to the manufacture of ammonia.

In what ratio must the reactants be taken?



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28. The questions below are related to the manufacture of ammonia.

Name the catalyst used.



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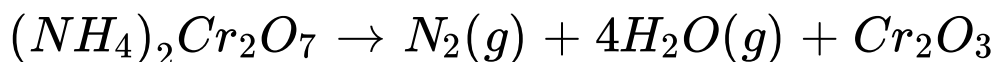
29. The questions below are related to the manufacture of ammonia.

Give the equation for the manufacture of ammonia.



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30. Consider the following reaction and based on the reaction answer the question that follow:



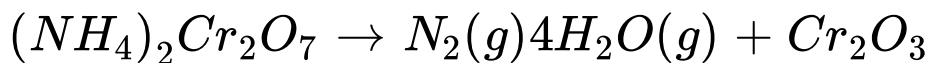
Calculate :

The quantity in moles of $(NH_2)_2Cr_2O_7$ if 63 gm of $(NH_4)_2Cr_2O_7$ is heated .



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31. Consider the following reaction and based on the reaction answer the question that follow:



Calculate :

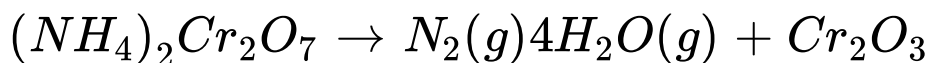
The quantity in moles of nitrogen formed if 5g

of ammonium dichromate is used and the reaction is 100% efficient.



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32. Consider the following reaction and based on the reaction answer the question that follow:



Calculate :

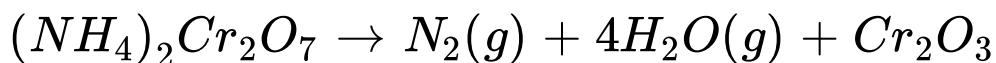
The volume in litres or dm^3 of N_2 evolved at

STP if 5 g of ammonium dichromate is used and the reaction is 100 percent efficient.



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33. Consider the following reaction and based on the reaction answer the question that follow:



Calculate :

The mass in grams of Cr_2O_3 formed at the

same time

[Atomic massess : H= 1 , Cr = 52 , N= 14]



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34. Correct the following if required:

HNO_3 is a strong reducing agent.



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35. Correct the following if required:

Nitric acid remains colourless even when

exposed to light .



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36. Correct the following:

Constant boiling nitric acid contains 80%

HNO_3 by weight.



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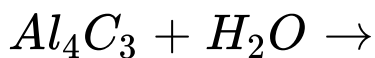
37. Correct the following if required:

$NaNO_3$ gives NO_2 and O_2 on heating.



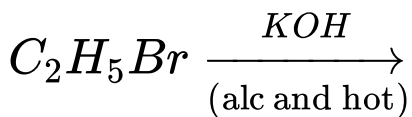
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38. Name the organic compound prepared by each of the following reaction:



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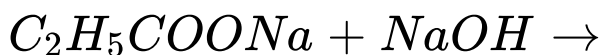
39. Name the organic compound prepared by each of the following reaction:





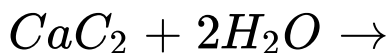
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40. Name the organic compound prepared by the following reactions:



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41. Name the organic compound prepared by the following reactions:



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42. Why is pure acetic acid known as glacial acetic acid?



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43. (i) Why is pure acetic acid known as glacial acetic acid? (ii) Give a chemical equation for the reaction between ethyl alcohol and acetic acid.



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44. Name an organic compound used as a thermometric liquid.



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45. Draw the structural formula for the following:

3-Methyl but-1-yne



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46. Draw the structural formula for the following:

Bromoethane



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47. Draw the structural formula for the following:

Pent-2-ene



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