



CHEMISTRY

NCERT - NCERT CHEMISTRY(TELUGU)

GROUP 1 s - BLOCK ELEMENTS

Problem

1. An element occupies group number 1 and period number 3. This element heated in air gives compound A. With water it gives

compound B - a strong base. With ammonia gives compound C, which is used as a reducing agent in organic chemistry. Identify the element A, B and C.



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2. An isotope of hydrogen reacts with oxygen to give compound (A), which is used as a moderator in nuclear reactor. Like hydrogen, this isotope also undergoes addition reaction. It reacts with ethylene to give compound B,

which is a saturated hydrocarbon. Identify the element A and B. A is radioactive.



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3. An isotope of hydrogen is prepared by bombarding beryllium with deuterons. It decays to an element A, with the emission of beta radiation. Identify the isotope and the element A



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4. A deuterium compound (A) which is used as a moderator in nuclear reactor reacts with Ca to form compound B. A reacts with SO_2 to give compound C. Upon electrolysis compound A gives deuterium molecule. Identify A, B and C.



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5. An element occupies group number 1 and period number 2. This element burns with air and forms compound A. With water, it gives

compound B, with hydrogen it forms an ionic compound C. Identify the elements, A, B and C.



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Questions A Choose The Best Answer

1. Atoms of the same element having same atomic number but different mass number are called

A. isotopes

B. isobars

C. isotones

D. isotones

Answer:



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2. Deuterium nucleus consists of

A. 2 protons only

B. one neutron

C. one proton and one neutron

D. 2 protons and one neutron

Answer:



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3. Deuterium with oxygen gives

A. oxydeuterium

B. water

C. heavy water

D. all the above

Answer:



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4. Tritium is prepared by bombarding lithium with

A. deuterons

B. mesons

C. slow neutrons

D. all helium nucleus

Answer:



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5. At room temperature ordinary hydrogen consists of about

A. 25% para and 75% ortho

B. 75% para and 25% ortho

C. 99% para and 1% ortho

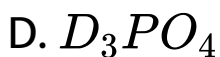
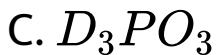
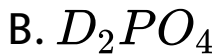
D. 1% para and 99% ortho

Answer:



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6. D_2O reacts with P_2O_5 and gives



Answer:



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7. _____ is used for the preparation of deuterium

- A. deuterium oxide
- B. heavy water
- C. both a and b
- D. deuterium peroxide

Answer:



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8. H_2O_2 is powerful _____ agent

A. dehydrating

B. oxidising

C. reducing

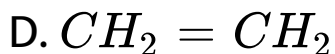
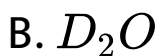
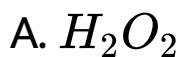
D. desulphurising

Answer:



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9. ____ is used as a propellant in nucleus



Answer:



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10. The oxidation state of alkali metals is

A. +2

B. 0

C. +1

D. +3

Answer:



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11. When heated in bunsen flame, lithium gives colour

A. yellow

B. blue

C. lilac

D. crimson red

Answer:



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12. On moving down the group, density of the alkali metals

A. increases

B. decreases

C. increases and then decreases

D. decreases and then increases

Answer:



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13. If the element can lose an electron readily, they are said to be

A. electronegative

B. electropositive

C. electronative

D. electrovalent

Answer:



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Questions B Fill In The Blanks

1. The first element in the periodic table is _____.



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2. _____ is the common form of hydrogen.



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3. The half-life of tritium is _____





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4. Deuterium reacts with ammonia to form



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5. The rare isotope of hydrogen is _____



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6. _____ is employed in nuclear reactor to slow down the speed of fast moving neutrons



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7. The magnetic moment of para hydrogen is



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8. Deuterium with salt and other compounds forms _____



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9. Hydrogen peroxide was first prepared by _____ in _____



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10. Pure H_2O_2 is _____



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11. The Arabic word 'Alquili' means _____



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12. The electronic configuration of potassium is _____



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13. All alkali metals have _____melting and boiling points



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14. On moving down the group of alkali metals, ionization energy _____



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15. _____ the lightest of all solid elements.



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Questions C Write In One Or Two Sentence

1. What are isotopes? Mention the isotopes of hydrogen



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2. Write a short note on tritium



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3. How does deuterium react with nitrogen?



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4. How does deuterium react with metals?



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5. Mention the uses of deuterium.



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6. How is tritium prepared?



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7. How do you convert para hydrogen to ortho hydrogen?



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8. How does heavy water react with metals?





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9. How is hydrogen peroxide prepared in the laboratory?



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10. How is hydrogen peroxide solution concentrated?



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11. Write four reducing properties of hydrogen peroxide.



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12. Mention two important uses of H_2O_2



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13. Why alkali metals have low melting and boiling points?



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14. Why alkali metals have strong electropositive character?



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Questions D Explain Briefly On The Following

1. How is deuterium obtained by diffusion process?



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2. Write about the exchange reactions of deuterium.



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3. What are ortho and para hydrogen? Explain



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4. What are ortho and para hydrogen? Explain



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5. Explain the preparation of heavy water



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6. Compare water and heavy water.



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7. Explain the oxidizing property of hydrogen peroxide.



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8. Explain how liquid hydrogen can be used as a fuel



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9. How is lithium extracted from its ore?



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