



CHEMISTRY

JEE MAIN AND ADVANCED

MOCK TEST 24

Example

1. The correct decreasing order of 1^{st} ionization energy of 13-group elements is

A. $B > Al > Ga > In > Tl$

B. $B > Tl > Ga > Al > In$

C. $B > Ga > Al > Tl > In$

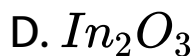
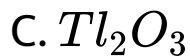
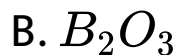
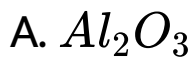
D. $Al > B > Ga > In > Tl$

Answer: B



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2. Which of the following oxides is amphoteric in nature?



Answer: A



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3. Which of the given statements is incorrect about boric acid?

A. It is a weak monobasic acid

B. It is not a protonic acid

C. It acts as a lewis acid by accepting
electrons

D. It is a tribasic acid

Answer: D



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4. Laboratory method for the preparation of diborane involves the oxidation of

- A. Sodium borohydride with iodine
- B. Sodium borohydride with fluorine
- C. Sodium borohydride with chlorine
- D. Sodium borohydride with $KMnO_4$

Answer: A



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5. When borax bead containing a small amount of metal salt was heated in reducing flame of Bunsen burner, the colour of the bead after heating was blue. The metal present in the salt would be

A. Manganese

B. Nickel

C. Cobalt

D. Chromium

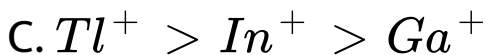
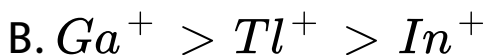
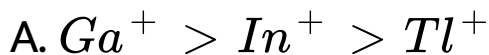
Answer: C





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6. Stability order of monovalent cations Ga^+ , In^+ , Tl^+ is given as



Answer: C



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7. Which statement is incorrect about graphite?

A. It is layered structure

B. Layers are held by van der Waal force of attraction

C. It is used as a dry lubricant

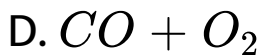
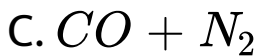
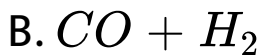
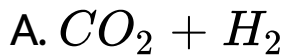
D. Each carbon in hexagonal ring is sp^3 hybridised

Answer: D



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8. Producer gas is a mixture of



Answer: C



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9. Select the incorrect statement among the following .

- A. Zeolites are used in petrochemical industries for cracking of hydrocarbons
- B. Zeolites has two dimensional structure
- C. Hydrated zeolites are used as ion exchangers in softening of hard water

D. ZSM-5 is used to convert alcohols directly into gasoline

Answer: B



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10. Which of the following statements is incorrect?

A. Silica gel is used a drying agent

B. Silicon is extensively used as a semiconductor

C. SiO_2 is an acidic oxide

D. Silicon exist in free state in nature

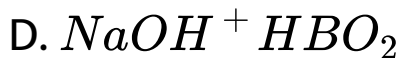
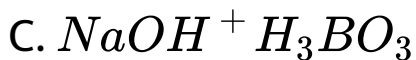
Answer: D



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11. Borax dissolves to give

A. $NaOH + B_2O_3$

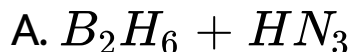


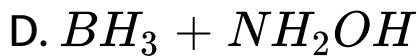
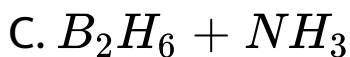
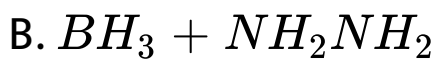
Answer: C



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12. Starting materials for the preparation of inorganic benzene is





Answer: C



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13. A compound of boron, *A* on heating swells up which on further heating forms glassy transparent mass *B*. The chemical constituent *B* is/are

A. $Na_2B_4O_7$ only

B. $NaBO_2$ only

C. $NaBO_2 + B_2O_3$

D. $Na_2B_4O_7 + B_2O_3$

Answer: C



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14. Choose the correct answer

A. Both $(CH_3)_3N$ and $(SiH_3)_3N$ are pyramidal

B. Both $(CH_3)_3N$ and $(SiH_3)_3N$ are triangular planar

C. $(CH_3)_3N$ is pyramidal and $(SiH_3)_3N$ is triangular

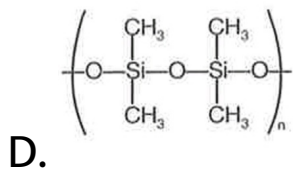
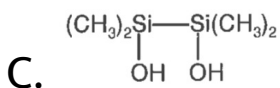
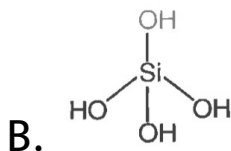
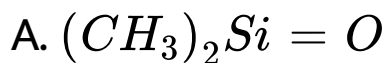
D. $(CH_3)_3N$ is triangular and $(SiH_3)_3N$ is pyramidal

Answer: C



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15. Heating of $(CH_3)_2SiCl_2$ in the presence of water gives



Answer: D



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