

### **Chemistry Science Questions for CDS Exams**

#### **Chemistry Quiz 2**

Direction : Study the following question carefully and choose the right answer.

# 1. Which among the following elements is abundant on the lunar surface and holds the potential to put an end to the energy crisis of the earth?

A. Helium-I B. Helium-II C. Helium - III D. Helium-IV

#### 2. The coil in a heater is made of

A. Nichrome B. Tungsten C. Copper D. Iron

3. Which one of the following polymeric materials is used for making bullet proof jacket?

A. Nylon-6, 6 B. Rayon C. Kevlar D. Dacron

4. The light emitted by firefly is due to Bank

- A. A radioactive substance B. Chemiluminiscence process
- C. A photoelectric process D. Burning of phosphorus
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6. Which of the following statements about the commonly used automobile battery are true?

I. It is usually a lead-acid battery.

II. It has six cells with a potential of 2 V each.

III. Its cells work as galvanic cells while discharging power.

IV. Its cells work as electrolytic cells while recharging.

Select the correct answer using the codes given below.

A. I, II, III and IV B. I, II and III C. II and IV D. III and IV

7. Which one of the following is used as a mordant in dyeing and tanning industry?

A. Magnesium oxide B. Magnesium carbonate C. Magnesium chloride

D. Magnesium sulphate

8. Which one of the following is associated with the formation of brown air in traffic congested cities?

A. Sulphur dioxide B. Nitrogen oxide C. Carbon dioxide D. Carbon monoxide

9. Statement I Soaps do not form lather with water containing salts of calcium and magnesium.

Statement II Calcium and magnesium salts of long chain fatty acids are insoluble in water.

A. Both the statements are individually true and Statement II is the correct explanation of Statement I.

B. Both the statements are individually true but Statement II is not the correct explanation of Statement I.

C. Statement I is true, but Statement II is false.

D. Statement I is false, but Statement II is true.

#### **10.** Nail polish remover contains

A. Acetone B. Benzene C. Formaldehyde D. Acetic acid

## 11. Aqua-regia used by alchemists to separate silver and gold is a mixture of

- A. Hydrochloric and (concentrated) and nitric acid (concentrated)
- B. Hydrochloric acid (concentrated) and sulphuric acid (concentrated)
- C. Nitric acid (concentrated) and sulphuric acid (concentrated)
- D. Hydrochloric acid (dilute) and sulphuric acid (dilute)



#### **Correct Answers:**

1	2	3	4	5	6	7	8	9	10	11
С	А	С	В	В	А	D	В	А	А	А

#### **Explanations:**

#### 1.

Helium-III is abundant on the lunar surface and holds the potential to put an end to the energy crisis of the Earth.

#### 2.

The coil in a heater is made up of nichrome because its melting point and resistivity are high. It can be easily drawn into thin wires and also cannot be oxidized by the oxygen of air when heated.

#### 3.

Kevlar, a polymeric material is used for making bullet proof jacket. Some of the products made of kevlar:



#### 4.

The light emitted by firefly is due to the presence of a specific organic and this incident is known as bioluminescence i.e., luminescence produced by a living organism.

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#### 6.

Automobile battery used in vehicles provides a 12V potential difference by connecting six galvanic cells in series. Each cell provides 2 V for a total 12 V at full charge. Lead-acid batteries are made up of plates of lead and separate plates of lead dioxide, which are submerged into an electrolyte solution of about 35% sulphuric acid and 65% water. Automobile battery or storage battery acts as voltaic cell (or galvanic cell) as well as electrolytic cell. Its cells work s galvanic cells during discharging power and during recharging. it acts as an electrolytic cell.

#### 7.

Magnesium sulphate (MgSO4) is used as a mordant in dyeing and tanning industry. In medicine it is used as a purgative.

#### 8.

Nitrogen dioxide (NO2) is a reddish brown gas. It has pungent smell and considered as air pollutant. Hence, nitrogen oxide is associated with the formation of brown air in traffic congested cities.

#### 9.

Soaps do not form lather with hard water which contains salts of calcium and magnesium because calcium and magnesium salts of long chain fatty acids are insoluble in water.

#### 10.

Acetone is used as a solvent. It is an ingredient of nail polish remover.

A less harsh nail polish removal is ethyl acetate, the active ingredient in non-acetone nail polish removers, which also often contain isopropyl alcohol. Ethyl acetate is generally the solvent in nail polish itself. Acetonitrile has been used as a nail polish remover, but it is more toxic and potentially carcinogenic.

#### 11.

Aqua-regia used by alchemists to separate silver and gold is a mixture of concentrated nitric acid and concentrated hydrochloric acid in the ratio 1:3 respectively. It is a very powerful oxidising mixture.





