

## General Science 2015

1. In India, the steel production industry requires the import of
- (a) Saltpetre                      (b) Rock phosphate  
(c) Coking coal                  (d) All of the above

**Ans: C**

**Exp:** Raw materials for steel making are such as iron ore, coking coal, freight and scrap.

## General Science 2014

1. Consider the following diseases
1. Diphtheria                      2. Chickenpox  
3. Smallpox

Which of the above diseases has/have been eradicated in India?

- (a) 1 and 2 only                  (b) Only 3  
(c) 1, 2 and 3                    (d) None

**Ans: B**

2. Which of the following phenomena might have influenced the evolution of organisms?
1. Continental drift  
2. Glacial cycles

Select the correct answer using the code given below:

- (a) Only 1                          (b) Only 2  
(c) Both 1 and 2                  (d) Neither 1 nor 2

**Ans: C**

3. Consider the following:
1. Bats                              2. Bears  
3. Rodents

The phenomenon of hibernation can be observed in which of the above kinds of animals?

- (a) 1 and 2 only  
(b) Only 2  
(c) 1, 2 and 3  
(d) Hibernation cannot be observed in any of the above

**Ans: C**

4. With reference to Neem tree, consider the following statements:

1. Neem oil can be used as a pesticide to control the proliferation of some species of insects and mites.  
2. Neem seeds are used in the manufacture of biofuels and hospital detergents.  
3. Neem oil has applications in pharmaceutical industry.

Which of the statements given above is/are correct?

- (a) 1 and 2 only                  (b) Only 3  
(c) 1 and 3 only                  (d) 1, 2 and 3

**Ans: D**

5. Which one of the following is the process involved in photosynthesis?

- (a) Potential energy is released to form free energy  
(b) Free energy is converted into potential energy and stored  
(c) Food is oxidized to release carbon dioxide and water  
(d) Oxygen is taken, and carbon dioxide and water vapour are given out

**Ans: B**

6. In addition to fingerprint scanning, which of the following can be used in the biometric identification of a person?

1. Iris scanning                  2. Retinal scanning  
3. Voice recognition

Select the correct answer using the code given below:

- (a) Only 1                          (b) 2 and 3 only  
(c) 1 and 3 only                  (d) 1, 2 and 3

**Ans: D**

7. Which of the following statements is/are correct regarding vegetative propagation of plants?

1. Vegetative propagation produces clonal population.  
2. Vegetative propagation helps in eliminating the virus.  
3. Vegetative propagation can be practiced most of the year.

Select the correct answer using the code given below:

- (a) Only 1                      (b) 2 and 3 only  
(c) 1 and 3 only              (d) 1, 2 and 3

**Ans: D**

8. Consider the following techniques/phenomena:

1. Budding and grafting in fruit plants
2. Cytoplasmic male sterility
3. Gene silencing

Which of the above is/are used to create transgenic crops?

- (a) Only 1                      (b) 2 and 3  
(c) 1 and 3                      (d) None

**Ans: B**

9. Consider the following statements:

1. Maize can be used for the production of starch.
2. Oil extracted from maize can be a feedstock for biodiesel.
3. Alcoholic beverages can be produced by using maize.

Which of the statements given above is/are correct?

- (a) Only 1                      (b) 1 and 2 only  
(c) 2 and 3 only              (d) 1, 2 and 3

**Ans: D**

10. In India, cluster bean (Guar) is traditionally used as a vegetable or animal feed, but recently the cultivation of this has assumed significance. Which one of the following statements is correct in this context?

- (a) The oil extracted from seeds is used in the manufacture of biodegradable plastics
- (b) The gum made from its seeds is used in the extraction of shale gas
- (c) The leaf extract of this plant has the properties of anti-histamines
- (d) It is a source of high quality biodiesel

**Ans: B**

11. Consider the following pairs:

Vitamin	Deficiency disease
1. Vitamin C	Scurvy
2. Vitamin D	Rickets
3. Vitamin E	Night blindness

Which of the pairs given above is/are correctly matched?

- (a) 1 and 2 only              (b) Only 3  
(c) 1, 2 and 3              (d) None

**Ans: A**

12. Which of the following is/are the example/examples of chemical change?

1. Crystallization of sodium chloride
2. Melting of ice
3. Souring of milk

Select the correct answer using the code given below:

- (a) 1 and 2 only              (b) Only 3  
(c) 1, 2 and 3              (d) None

**Ans: B**

## GENERAL SCIENCE 2013

1. Improper handling and storage of cereal grains and oilseeds result in the production of toxins known as aflatoxins which are not generally destroyed by normal cooking process. Aflatoxins are produced by

- (a) Bacteria                      (b) Protozoa  
(c) Moulds                      (d) Viruses

**Ans: C**

2. Consider the following organisms:

1. Agaricus
2. Nostoc
3. Spirogyra

Which of the above is/are used as biofertilizer/biofertilizers?

- (a) 1 and 2                      (b) Only 2  
(c) 2 and 3                      (d) Only 3

**Ans: B**

3. Which of the following adds/ add nitrogen to the soil?

1. Excretion of Urea by animals
2. Burning of coal by man
3. Death of vegetation

Select the correct answer using the codes given below:

- (a) Only 1                      (b) 2 and 3 only  
(c) 1 and 3 only              (d) 1, 2, and 3

**Ans: C**

4. Consider the following minerals:

1. Calcium
2. Iron
3. Sodium

Which of the minerals given above is/are required by human body for the contraction of muscles?

- (a) Only 1                      (b) 2 and 3 only  
(c) 1 and 3 only              (d) 1, 2 and 3

**Ans: D**

5. Consider the following animals :
1. Sea cow
  2. Sea horse
  3. Sea lion

Which of the above is/are mammal/ mammals?

- (a) Only 1                      (b) 1 and 3 only  
(c) 2 and 3 only              (d) 1, 2 and 3

**Ans: B**

6. Rainbow is produced when sunlight falls on drops of rain. Which of the following physical phenomena are responsible for this?

1. Dispersion
2. Refraction
3. Internal reflection

Select the correct answer using the codes given below?

- (a) 1 and 2 only              (b) 2 and 3 only  
(c) 1 and 3 only              (d) 1, 2 and 3

**Ans: D**

7. Which of the following statements is/are correct?

1. Viruses lack enzymes necessary for the generation of energy.
2. Viruses can be cultured in any synthetic medium.
3. Viruses are transmitted from one organism to another by biological vectors only.

Select the correct answer using the codes given below:

- (a) Only 1                      (b) 2 and 3 only  
(c) 1 and 3 only              (d) 1, 2 and 3

**Ans: A**

## GENERAL SCIENCE 2012

1. Consider the following kinds of organisms:

1. Bacteria
2. Fungi
3. Flowering plants

Some species of which of the above kinds of organisms are employed as bio-pesticides?

- (a) Only 1                      (b) 2 and 3 only  
(c) 1 and 3 only              (d) 1, 2 and 3

**Ans: C**

2. Biomass gasification is considered to be one of the sustainable solutions to the power crisis in India. In this context which of the following statements correct?

1. Coconut shells, groundnut shells and rice husk can be used in biomass gasification
2. The combustible gases generated from biomass gasification consist of hydrogen and carbon dioxide only

3. The combustible gases generated from biomass gasification can be used for direct heat generation but not in internal combustion engines.

Select the correct answer using the codes given below:

- (a) Only 1                      (b) 2 and 3 only  
(c) 1 and 3 only              (d) 1, 2 and 3

**Ans: A**

3. What is the role of ultraviolet (UV) radiation in the water purification systems?

1. It inactivates/kills the harmful microorganisms in water.
2. It removes all the undesirable odours from the water.
3. It quickens the sedimentation of solid particles, removes turbidity and improves the clarity of water.

Which of the statements given above is/are correct?

- (a) Only 1                      (b) 2 and 3 only  
(c) 1 and 3 only              (d) 1, 2 and 3

**Ans: A**

4. Graphene is frequently in news recently. What is its important?

1. It is a two-dimensional material and has good electrical conductivity.
2. It is one of the thinnest but strongest materials tested so far.
3. It is entirely made of silicon and has high optical transparency.
4. It can be used as 'conducting electrodes' requires for touch screens, LCD's and organic LED's

Which of the statements given above are correct?

- (a) 1 and 2 only              (b) 3 and 4 only  
(c) 1, 2 and only              (d) 1, 2, 3 and 4

**Ans: C**

5. Lead, ingested or inhaled, is a health hazard. After the addition of lead to petrol has been banned, what still are the sources of lead poisoning?

1. Smelting units
2. Pens pencils
3. Paints
4. Hair oils and cosmetics

Select the correct answer using the codes given below:

- (a) 1, 2 and 3 only              (b) 1 and 3 only  
(c) 2 and 4 only              (d) 1, 2, 3 and 4

**Ans: B**

6. With reference to 'stem cells', frequently in the news which of the following statements is/are correct?
1. Stem cells can be derived from mammals only.
  2. Stem cells can be used for screening new drugs.
  3. Stem cells can be used for medical therapies.

Select the correct answer using the codes given below:

- (a) 1 and 2                      (b) 2 and 3 only  
(c) 3 only                        (d) 1, 2 and 3

**Ans: B**

7. A team of scientists at Brookhaven National Laboratory including from India created the heaviest anti-matter (anti-helium nucleus). What is/are the implications of the creation of anti-matter?

1. It will make mineral prospecting and oil exploration easier and cheaper.
2. It will help probe the possibility of the existence of stars and galaxies made of anti matter.
3. It will help understand the evolution of the universe.

Select the correct answer using the codes given below:

- (a) Only 1                        (b) 2 and 3 only  
(c) Only 3                        (d) 1, 2 and 3

**Ans: B**

8. Which of the following is/are cited by the scientists as evidence/evidences for the continued expansion of universe?

1. Detection of microwaves in space
  2. Observation of redshift phenomenon in space
  3. Movement of asteroids in space
  4. Occurrence of supernova explosions in space
- code
- (a) 1 and 2 only  
(b) Only 2  
(c) 1, 3 and 4  
(d) None of the above can be cited as evidence.

**Ans: A**

9. Electrically charged particles from space travelling at speeds of several hundred km/sec can severely harm living beings if they reach the surface of the earth. What prevents them from reaching the surface of the earth?

- (a) The Earth's magnetic field diverts them toward its poles
- (b) Ozone layer around the Earth reflects them back to outer space
- (c) Moisture in the upper layers of atmosphere prevents them from reaching the surface of the Earth
- (d) None of the statements (a), (b) and (c) is correct.

**Ans: A**

10. To meet its rapidly growing energy demand, some opine that India should pursue research and development on thorium as the future fuel of nuclear energy. In this context what advantage does thorium hold over uranium?

1. Thorium is far more abundant in nature than uranium.
2. On the basis per unit mass of mined mineral, thorium can generate more energy compared to natural uranium.
3. Thorium produces less harmful waste compared to uranium.

**Correct**

- (a) Only 1                        (b) Only 2 and 3  
(c) Only 1 and 3                (d) 1, 2 and 3

**Ans: D**

11. Which one of the following sets of elements was primarily responsible for the origin of life on the Earth?

- (a) Hydrogen, Oxygen, Sodium
- (b) Carbon, Hydrogen, Nitrogen
- (c) Oxygen, Calcium, Phosphorous
- (d) Carbon, Hydrogen, Potassium

**Ans: B**

12. What are the reasons for the people's resistance to the introduction of BT brinjal in India?

1. BT brinjal has been created by inserting a gene from a soil fungus into its genome.
2. The seeds of BT brinjal are terminator seeds and therefore, the farmers have to buy the seeds before every season from the seed companies.
3. There is an apprehension that the consumption of BT brinjal may have adverse impact on health.
4. There is some concern that the introduction of BT brinjal may have adverse effect on the biodiversity.

**Correct**

- (a) 1, 2 and 3 only            (b) 2 and 3 only  
(c) 3 and 4 only                (d) 1, 2, 3 and 4

**Ans: D**

13. Recently there has been a concern over the short supply of a group of elements called rare earth metals. Why?

1. China, which is the largest producer of these elements, has imposed some restrictions on their export.
2. Other than china, Australia, Canada, Chile, these elements are not found in any country.
3. Rare earth metals are essential for the manufacture of various kinds of electronic items and there is growing demand for these elements.

Select the correct answer using the codes given below:

- (a) Only 1                      (b) 2 and 3 only  
(c) 1 and 3 only              (d) 1, 2 and 3

**Ans: C**

14. Consider the following kinds of organisms:

1. Bat                              2. Bee  
3. Bird

Which of the above is/are pollinating agent/agents?

- (a) 1 and 2 only              (b) Only 2  
(c) 1 and 3 only              (d) 1, 2 and 3

**Ans: D**

15. Consider the following statements:

If there were no phenomenon of capillarity

1. it would be difficult to use a kerosene lamp
2. one would not be able to use a straw to consume a soft drink
3. the blotting paper would fail to function
4. the big trees that we see around would not have grown on the earth

Which of the following statements given above are correct?

- (a) 1, 2 and 3 only  
(b) 1, 3 and 4 only  
(c) 2 and 4 only  
(d) 1, 2, 3 and 4

**Ans: B**

## GENERAL SCIENCE 2011

1. Aspartame is an artificial sweetener sold in the market. It consist of amino acids and provides calories like other amino acids. Yet, it is used as a low-calorie sweetening agent in food items. What is the basis of this use?

- (a) Aspartame is as sweet as table sugar, but unlike table sugar, it is not readily oxidized in human body due to lack of requisite enzymes.  
(b) When aspartame is used in food processing, the sweet taste remains, but it becomes resistant to oxidation.  
(c) Aspartame is as sweet as sugar, but after ingestion into the body, it is converted into metabolites that yield no calories.  
(d) Aspartame is several times sweeter than table sugar, hence food items made with small quantities of aspartame yield fewer calories on oxidation.

**Ans: D**

2. A married couple adopted a male child. A few years later, twin boys were born to them. The blood group of the couple is AB positive and O negative. The blood group of the three sons is A positive, B positive, and O positive. The blood group of the adopted son is?

- (a) O positive.  
(b) A positive.  
(c) B positive.  
(d) Cannot be determined on the basis of the given data.

**Ans: A**

3. Consider the following :

1. Carbon dioxide.
2. Oxides of nitrogen.
3. Oxides of Sulphur

Which of the above is/are the emission/emissions from coal combustion at thermal power plants?

- (a) Only 1                      (b) 2 and 3 only  
(c) 1 and 3 only              (d) 1, 2, and 3

**Ans: D**

4. Consider the following :

1. Photosynthesis.
2. Respiration.
3. Decay of organic matter.
4. Volcanic action.

Which of the above add carbon dioxide to the carbon cycle on earth?

- (a) 1 and 4 only              (b) 2 and 3 only  
(c) 2, 3 and 4 only              (d) 1, 2, 3 and 4

**Ans: C**

5. The surface of a lake is frozen in severe winter, but the water at its bottom is still liquid. What is the reason?

- (a) Ice is a bad conductor of heat.  
(b) Since the surface of the lake is at the same temperature as the air, no heat is lost.  
(c) The density of water is maximum at 4°C.  
(d) None of the statements (a), (b) and (c) given is correct.

**Ans: A**

6. When the bark of a tree is removed in a circular fashion all around near its base, it gradually dries up and dies because?

- (a) Water from soil cannot rise to aerial parts.  
(b) Roots are starved of energy.  
(c) Tree is infected by soil microbes.  
(d) Roots do not receive oxygen for respiration.

**Ans: B**

7. Regular intake of fresh fruits and vegetables is recommended in the diet since they are a good source of antioxidants. How do antioxidants help a person maintain health and promote longevity?
- They activate the enzymes necessary for vitamin synthesis in the body and help prevent vitamin deficiency.
  - They prevent excessive oxidation of carbohydrates, fats and proteins in the body and help avoid unnecessary wastage of energy.
  - They neutralize the free radicals produced in the body during metabolism.
  - They activate certain genes in the cells of the body and help delay the ageing process.

**Ans: C**

8. A company marketing food products advertises that its items do not contain trans-fats. What does this campaign signify to the customers?
- The food products are not made out of hydrogenated oils.
  - The food products are not made out of animal fats/oils.
  - The oils used are not likely to damage the cardiovascular health of the consumers.

Which of the statements given above is/are correct?

- Only 1
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

**Ans: C**

## GENERAL SCIENCE 2010

1. Which of the following processes in the bodies of living organisms is a digestive process?
- Breakdown of proteins into amino acid
  - Breakdown of glucose into  $\text{CO}_2$  and  $\text{H}_2\text{O}$
  - Conversion of glucose into glycogen
  - Conversion of amino acids into proteins

**Ans: A**

2. Widespread resistance of malarial parasite to drugs like chloroquine has prompted attempts to develop a malarial vaccine to combat malaria. Why is it difficult to develop an effective malaria vaccine?
- Malaria is caused by several species of Plasmodium
  - Man does not develop immunity to malaria during natural infection
  - Vaccines can be developed only against bacteria
  - Man is only an intermediate host and not the definitive host

**Ans: A**

3. Consider the following statements:
- Hepatitis B is several times more infectious than HIV/AIDS
  - Hepatitis B can cause liver cancer

Which of the statements given above is/are correct?

- Only 1
- Only 2
- Both 1 and 2
- Neither 1 nor 2

**Ans: C**

4. Consider the following statements:
- Every individual in the population is equally susceptible host for Swine Flu.
  - Antibiotics have no role in the primary treatment of Swine Flu.
  - To prevent the future spread of Swine Flu in the epidemic area, the swine (pigs) must all be culled.

Which of the statements given above is/are correct?

- 1 and 2
- Only 2
- 2 and 3
- 1, 2 and 3

**Ans: B**

5. With regard to the transmission of the Human Immunodeficiency Virus, which one of the following statements is not correct?
- The chances of transmission from female to male are twice as likely as from male to female
  - The chances of transmission are more if a person suffers from other sexually transmitted infections
  - An infected mother can transmit the infection to her baby during pregnancy, at childbirth and by breast feeding
  - The risk of contracting infection from transfusion of infected blood is much higher than an exposure to contaminated needle

**Ans: A**

6. If a potato is placed on a pure paper plate which is white and unprinted and put in a microwave oven, the potato heats up but the paper plate does not. This is because
- Potato is mainly made up of starch whereas paper is mainly made up of cellulose
  - Potato transmits microwaves whereas paper reflects microwaves
  - Potato contains water whereas paper does not contain water
  - Potato is a fresh organic material whereas paper is a dead organic material

**Ans: C**

7. What is the principle by which a cooling system (Radiator) in a motor car works?
- (a) Conduction only
  - (b) Convection
  - (c) Radiation only
  - (d) Both conduction and radiation

**Ans: B**

8. Indiscriminate disposal of used fluorescent electric lamps causes mercury pollution in the environment. Why is mercury used in the manufacture of these lamps?
- (a) A mercury coating on the inside of the lamp makes the light bright white
  - (b) When the lamp is switched on, the mercury in the lamp causes the emission of ultra-violet radiations
  - (c) When the lamp is switched on, it is the mercury which converts the ultra-violet energy into visible light
  - (d) None of the statement given above is correct about the use of mercury in the manufacture of fluorescent lamps

**Ans: B**

9. Chlorination is a process used for water purifications. The disinfecting action of chlorine is mainly due to
- (a) The formation of hydrochloric acid when chlorine is added to water
  - (b) The formation of hypochlorous acid when chlorine is added to water

- (c) The formation of nascent oxygen when chlorine is added to water
- (d) The formation of hydrogen when chlorine is added to water

**Ans: B**

10. Consider the following:
- 1. Oxides of Hydrogen
  - 2. Oxides of Nitrogen
  - 3. Oxides of Sulphur

Which of the above causes/cause acid rain?

- (a) 1 and 2
- (b) Only 3
- (c) 2 and 3
- (d) 1, 2 and 3

**Ans: D**

11. India-based Neutrino Observatory is included by the Planning Commission as a mega science project under the 11<sup>th</sup> Five-Year Plan. In this context, consider the following statements:
- 1. Neutrinos are chargeless elementary particles that travel close to the speed of light
  - 2. Neutrinos are created in nuclear reactions of beta decay
  - 3. Neutrinos have a negligible, but nonzero mass
  - 4. Trillions of Neutrinos pass through human body every second

Which of the statements given above are correct?

- (a) 1 and 3
- (b) 1, 2 and 3
- (c) 2, 3 and 4
- (d) 1, 2, 3 and 4

**Ans: D**