

2019 IV 12

0930

Seat No.

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Time : 3 Hours

GENERAL SCIENCE (E)

Subject Code (For Children With Special Needs)

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Visually Impaired

Total No. of Questions : 10 (Printed Pages : 14)

Maximum Marks : 65

INSTRUCTIONS : (i) The question paper consists of 10 questions.

(ii) All questions are compulsory.

(iii) Begin each question on a fresh page.

(iv) Figures to the right indicate full marks.

1. (A) Select the *correct* alternative from those given below each statement and write the completed statement : 2

(1) Respiration is an example of reaction.

(a) Endothermic

(b) Exothermic

(c) Combination

(2) White silver chloride, in sunlight turns to

(a) Grey

(b) Yellow

(c) Red

(3) Rancidity of fats and oils is due to

(a) Calcination

(b) Reduction

(c) Oxidation

(4) Reaction where there is exchange of ions between the reactants is called reaction.

(a) Decomposition

(b) Combination

(c) Double displacement

(B) Answer the following (any *two*) : 1

(1) What is the product formed when magnesium ribbon burns in air ?

(2) State *one* change that occurs when a chemical reaction takes place.

(3) What is the colour of copper sulphate solution ?

(C) Name the following : 2

(1) The main source of water in India.

(2) The agitation that originated from an incident that took place in a remote village called Reni in Garhwal.

(3) One stakeholder of the forest.

(4) The pollutant given out by burning of fossil fuels that cause global warming.

(D) Answer the following (any *three*) : 3

(1) State *one* advantage of storing water underground.

(2) What are mono cultures ?

(3) What is meant by the 3R's ?

- (4) What is the purpose of constructing check dams ?
- (5) Forests are biodiversity 'hot spots'. Why ?

2. (A) Select the *correct* alternative from those given below each statement and write the completed statement : 2

- (1) During photosynthesis substance absorbed from the atmosphere is
 - (a) Oxygen
 - (b) Carbon dioxide
 - (c) Nitrogen
- (2) Hydrochloric acid is secreted in the
 - (a) Stomach
 - (b) Mouth
 - (c) Small intestine
- (3) Emulsified fats are broken down by
 - (a) Trypsin
 - (b) Pepsin
 - (c) Lipase
- (4) The filtration units in kidneys are
 - (a) Alveoli
 - (b) Nephrons
 - (c) Villi

(B) Name the following : 2

- (1) The pigment absorbing light energy in leaves of green plants.
- (2) Balloon like structures in human lungs.
- (3) Fluid medium of blood.
- (4) Organisms that derive food from other organisms without killing them.

(C) Answer the following (any *three*) : 3

- (1) The ventricles have thick walls. Give scientific reason.
- (2) Give *one* difference between Arteries and Veins.
- (3) What is the function of the ureters ?
- (4) Human heart has *four* chambers. Give scientific reason.
- (5) What is the function of villi in the small intestine ?

(D) Match the following : 1

- | A | B |
|----------------|-----------------|
| (a) Autotroph | (i) Bread mould |
| (b) Saprophyte | (ii) Hibiscus |
| | (iii) Dog |

3. (A) Select the *correct* alternative from those given below each statement and write the completed statement : 1

- (1) The pH of a neutral solution is
 - (a) Equal to 7
 - (b) Less than 7
 - (c) More than 7

(2) Tooth enamel is made up of

- (a) Calcium oxide
- (b) Calcium carbonate
- (c) Calcium phosphate

(B) Answer the following (any *four*) : 4

- (1) What happens when water is added to plaster of paris ?
- (2) How does acid rain affect aquatic life ?
- (3) Why does a bee sting cause pain and irritation ?
- (4) What precaution must be taken while mixing an acid with water ?
- (5) State *two* uses of Bleaching powder.
- (6) Why is baking soda used in the preparation of antacids ?

4. (A) Select the *correct* alternative from those given below each statement and write the completed statement : 1

- (1) The gas that makes biogas an excellent fuel is

 - (a) Methane
 - (b) Nitrogen
 - (c) Sulphur

- (2) The energy conversion in a wind mill is

 - (a) Kinetic energy to mechanical energy
 - (b) Kinetic energy to chemical energy
 - (c) Kinetic energy to electrical energy

(B) Answer the following (any *four*) : 4

- (1) What is the major hazard of nuclear power generation ?
- (2) Give *one* disadvantage of construction of high rise dam.
- (3) Why is the inner surface of a solar cooker painted black ?
- (4) Many thermal power plants are set up near coal or oil fields.
Why ?
- (5) Name any *two* elements used as nuclear fuels.
- (6) State any *two* limitations of harnessing wind energy.

5. (A) Select the *correct* alternative from those given below each statement and write the completed statement : 1½

- (1) The non-metal that has lustre is
 - (a) Carbon
 - (b) Sulphur
 - (c) Iodine
- (2) Bronze is an alloy of
 - (a) Copper and zinc
 - (b) Copper and tin
 - (c) Lead and tin
- (3) Bauxite is an ore of
 - (a) Aluminium
 - (b) Iron
 - (c) Mercury

(B) Match the following :

1½

A	B
(a) Malleability	(i) Bells
(b) Ductility	(ii) Bags
(c) Sonorus	(iii) Sheets
	(iv) Wires

(C) Answer the following (any *two*) :

2

- (1) What is galvanization ?
- (2) Why should we not store pickles and curd in aluminium container ?
- (3) State any *two* conditions necessary for rusting.

6. (A) Select the *correct* alternative from those given below each statement and write the completed statement : 2

- (1) The ovules are present in the
 - (a) Stigma
 - (b) Anther
 - (c) Ovary
- (2) An example of a sexually transmitted viral infection is
 - (a) Gonorrhoea
 - (b) Wartz
 - (c) Syphilis

- (3) In human beings, the fertilized female egg grows in the
- (a) Ureters
 - (b) Uterus
 - (c) Urinary bladder
- (4) The fusion of the male and female gamete to form a zygote is called
- (a) Fertilisation
 - (b) Menstruation
 - (c) Reproduction

(B) Name the following : 2

- (1) The tissue through which the human embryo gets nutrition from the mother's blood.
- (2) The male reproductive part of the flower.
- (3) Transfer of pollen from the anther to the stigma of a flower.
- (4) The hormone that brings about changes in girls during puberty.

(C) Answer the following (any *three*) : 3

- (1) What are contraceptive pills ?
- (2) Why is prenatal sex determination prohibited by law ?
- (3) The testes are located outside the abdominal cavity in the scrotum. Why ?

- (4) What is the function of the prostate and seminal vesicles ?
- (5) State any *one* advantage of vegetative propagation.

7. (A) Select the *correct* alternative from those given below each statement and write the completed statement : 1½

(1) We can walk in a straight line. The part of the brain involved in this activity is

- (a) The cerebrum
- (b) The cerebellum
- (c) The pons

(2) The olfactory receptors detect

- (a) Smell
- (b) Heat
- (c) Taste

(3) The spinal cord is protected by the

- (a) Skull
- (b) Ribs
- (c) Vertebral column

(B) Shaila visited the Jumbo Circus in Margao. She observed a dwarf about 50 years old acting like a Joker. 2

- (1) Name the hormone responsible for the Joker to be a dwarf.
- (2) Which gland secretes the above hormone ?

Or

- (B) The salt packet contains iodine : 2
- (1) Why is iodine necessary for the thyroid gland ?
 - (2) Name the disease caused due to lack of iodine.
- (C) Name the following : 1½
- (1) Any *one* biotic component of ecosystem.
 - (2) The main source of energy in a food chain.
 - (3) The layer that protects us from the damaging ultraviolet rays of the sun.
- (D) Answer the following (any *four*) : 4
- (1) What is meant by a food chain ?
 - (2) Why does the last trophic level receive less amount of energy ?
 - (3) What will happen if we kill all the Lizards ?
 - (4) What are producers ?
 - (5) What are biodegradable substances ?
 - (6) What is meant by biological magnification ?
8. (A) Select the *correct* alternative from those given below each statement and write the completed statement : 2
- (1) The relationship between focal length (f) and radius of curvature (R) is
- (a) $f = 2R$
 - (b) $f = \frac{1}{R}$
 - (c) $f = \frac{R}{2}$

- (2) The image of the teeth that the dentist sees is
- (a) Diminished and erect
 - (b) Enlarged and erect
 - (c) Enlarged and inverted
- (3) The central point of a lens is called
- (a) Optical centre
 - (b) Radius of curvature
 - (c) Origin
- (4) The reflected rays of light meet and form a real image in a
- (a) Plane mirror
 - (b) Concave mirror
 - (c) Convex mirror

(B) Answer the following (any *five*) :

5

- (1) Define the power of a lens.
- (2) Why does a pencil appear bent when placed in a glass of water ?
- (3) State *one* use of convex mirror.
- (4) What is a virtual image ?
- (5) State *two* characteristics of an image seen in a plane mirror.
- (6) A piece of paper catches fire if reflected suns rays from a concave mirror are focussed on it. Why ?
- (7) Why should we never look at the sun directly ?

9. (A) Select the *correct* alternative from those given below each statement and write the completed statement : 1

(1) The crystalline lens of old people becomes milky and cloudy. This condition is called

- (a) Myopia
- (b) Hypermetropia
- (c) Cataract

(2) The splitting of white light into its component colours is called of light.

- (a) Reflection
- (b) Dispersion
- (c) Refraction

(B) Name the following : 1

(1) The delicate light sensitive membrane on which the image is formed.

(2) The farthest point upto which the eye can see objects clearly.

(C) Answer the following (any *two*) : 3

(1) What do you mean by power of accommodation ?

(2) The eye lens is made up of a jelly-like materials. Give scientific reason.

- (3) What is the least distance of distinct vision ?
- (4) What do you mean by Tyndall effect ?
- (5) Concave mirrors are commonly used in headlights of vehicles.
Give scientific reason.

10. (A) Select the *correct* alternative from those given below each statement and write the completed statement : 2

- (1) The instrument used to measure current is
 - (a) Ammeter
 - (b) Galvanometer
 - (c) Voltmeter
- (2) The property of the conductor that does not allow the flow of charge through it is
 - (a) Current
 - (b) Resistance
 - (c) Voltage
- (3) The normal voltage in our domestic electricity supply in India is
 - (a) 220 volts
 - (b) 110 volts
 - (c) 55 volts

(4) In an electric bulb, electrical energy is converted to

(a) Heat and light

(b) Light only

(c) Heat only

(B) Name the following : 1

(1) The commercial unit of electricity.

(2) Materials that have a high resistance and do not allow easy flow of electric current.

(C) Answer the following (any *three*) : 3

(1) When does overloading occur ?

(2) Why should we never touch or open an electrical socket ?

(3) Which metals are used to make electrical wires ?

(4) What is an electric motor ?

(5) State *one* disadvantage of a series circuit.