

# **CAREERS 360**

## **PREPARATION** **Series**

**GSEB Class 10<sup>Th</sup>**

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**Science**

**Official Question Paper**

**2021**

This Question Paper contains 12 printed pages.  
(Sections - A, B, C & D)

Sl.No.

**11 (E)**

(MAY, 2021)

(New Course)

**Time : 3 Hours]**

**[Maximum Marks : 80**

**Instructions :**

- 1) Write in a clear legible hand writing.
- 2) This question paper has four Sections A, B, C & D and Question Numbers from 1 to 53.
- 3) All questions are compulsory. There are only internal options.
- 4) The numbers to the right represent the marks of the question.
- 5) Draw neat diagrams wherever necessary.
- 6) New sections should be written in a new page. Write the answers in numerical order.

**SECTION - A**

**For question 1 to 6 choose the correct alternative from the options given below each question. (MCQ)**

- 1) Burning of coal is \_\_\_\_\_ type of reaction. [1]  
(A) Displacement  
(B) Decomposition  
(C) Double displacement  
(D) Combination
- 2) A molecule of ethene ( $C_2H_4$ ) has [1]  
(A) Only single bond  
(B) Only double bond  
(C) Only triple bond  
(D) Single and double bond



- 3) \_\_\_\_\_ is necessary for an autotrophic nutrition. [1]
- (A)  $\text{CO}_2$
  - (B) Chlorophyll
  - (C) Sunlight
  - (D) All of the above
- 4) Which of the following group contain only bio-degradable substances?[1]
- (i) grass, flower, leather
  - (ii) grass, wood, plastic
  - (iii) fruit peels, cake, lemon juice
  - (iv) cake, wood, grass
- (A) (i) and (ii)
  - (B) (i), (ii) and (iv)
  - (C) (i), (iii) and (iv)
  - (D) (ii) and (iv)
- 5) Which type of image cannot be obtained by a convex lens? [1]
- (A) Virtual and small
  - (B) Virtual and large
  - (C) Real and small
  - (D) Real and large
- 6) Which of the following phenomena is / are responsible for the formation of rainbow? [1]
- (A) Refraction
  - (B) Dispersion
  - (C) Internal reflection
  - (D) All of the above



Fill in the blanks with appropriate words given in the bracket.

(questions 7 to 12)

- 7) Unique ability of carbon to form bonds with other atoms of carbon is known as \_\_\_\_\_. [1]

(catenation, tetravalency, trivalency)

- 8) For the classification of element law of triads was given by \_\_\_\_\_ scientist. [1]

(Newland, Dobereiner, Mendeleev)

- 9) Opening and closing of stomatal pore is regulated by \_\_\_\_\_ cells. [1]

(guard, epidermal, aerenchyma)

- 10) \_\_\_\_\_ produces testosterone hormone. [1]

(Vas deferens, testis, ovary)

- 11) Concave lens with \_\_\_\_\_ focal is having largest power. [1]

(20 cm, 30 cm, 10 cm)

- 12) \_\_\_\_\_ W of electricity can be approximately generated by a solar cell. [1]

(7.0, 0.7, 1.0)



**State whether the following statements are TRUE or FALSE.**

**(questions 13 to 16)**

- 13) Mendeleev named Galium as eka-silicon. [1]
- 14) One quarter of the obtained plants in  $F_2$  generation of the Mendelian experiment were short. [1]
- 15) Absolute refractive index of any material medium should be always greater than one. [1]
- 16) Solar cooker works on the principle of "solar energy converted to light energy". [1]

**Answer the following in a word or a sentence :**

**(Questions 17 to 24)**

- 17) Which actions are controlled by medulla oblongata? [1]
- 18) Selection of arrested flower of wild cabbage plant has led to development of which vegetable? [1]
- 19) Few years back which animals fossils were found from Narmada Valley? [1]
- 20) Name the physical quantity that has KWh unit. [1]
- 21) What is the main risk factor of a nuclear power generator? [1]
- 22) Use of plastic disposable cups served in train should be avoided / stopped because \_\_\_\_\_. [1]



23) Match the following : [1]

Source of Energy

Type

- |                         |                           |
|-------------------------|---------------------------|
| a) Mineral oil          | i) Renewable              |
| b) Ocean thermal energy | ii) Nuclear energy        |
|                         | iii) Non-renewable energy |

24) Find out the mismatched pair from the following : [1]

- i) Iodine - activates thyroid gland
- ii) Insulin - regulation of sugar in blood
- iii) Pituitary - secretion necessary for balanced growth
- iv) Ovary - regulation of digestive action

**SECTION - B**

**Answer any 9 questions from question number 25 to 36. Answer each question in the limit of 40 to 50 words. (Each question carries 2 marks)[18]**

25) While diluting an acid, why is it recommended that acid should be added to water? [2]

26) Give an example of metal which : [2]

- i) is a liquid at room temperature
- ii) can be easily cut with a knife
- iii) is the best conductor of heat
- iv) is a poor conductor of heat

27) Write two points of difference between Mendeleev's periodic table and Modern periodic table. [2]



- 28) The atomic number of an element 'X' is 12 [2]
- Identify element 'X' and write its electronic configuration.
  - State to which group and period does 'X' belong.
- 29) What is the importance of DNA copying in reproduction. [2]
- 30) Explain sex determination in human being. [2]
- 31) What is meant by saying that the potential difference between two points is 1V? Name the device that helps to maintain a potential difference across a conductor. [2]
- 32) State Ohms law. Derive the equation for the law. [2]
- 33) Write down the properties of magnetic field lines of force. [2]
- 34) What will be your role in "Swatchh Bharat Abhiyan" to reduce the problem of waste disposal? [2]
- 35) State the importance of forest. [2]
- 36) Explain 2R's [2]
- Refuse and
  - Reduce for saving the environment



**SECTION - C**

**Answer any 6 from question number 37 to 45. Answer each question in the limit of 60 to 80 words. [Each question carries 3 marks] [18]**

**37) State different types of decomposition reaction. Also give an example of any two type with appropriate chemical reaction. [3]**

**38) One gold smith makes ornaments of 22 carat gold and sell it at the price of 22 carat. [3]**

- i) Why can't we use 24 carat gold for making ornaments?
- ii) Which metals are mixed with gold in making of an ornaments?
- iii) What value of the gold Smith is observed here?

**39) Compound 'X' and aluminium is used to join railway tract. [3]**

- i) Identify compound 'X'.
- ii) Name the type of reaction.
- iii) Write the chemical equation for this reaction.

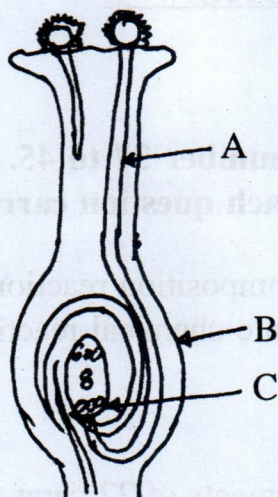
**40) For a particular situation which hormone prepares the human body for either fighting or running away from the situation. State the effect of this hormone in animals body. [3]**

**41) Explain different methods of contraceptions in human being. [3]**



42)

[3]



From the above figure

- i) Identify 'A' and write its function
- ii) Identify 'B' and State what change takes place in 'B' after fertilisation.
- iii) Identify 'C' and state what change will take place in 'C' after fertilisation.

43) A student is using a lens to burn a paper with the help of sunlight. [3]

- i) State the type of lens used
- ii) State the position of image formed
- iii) Draw the ray diagram for the same.

44) Define refraction of light. State laws of refraction of light. [3]

45) Draw a schematic diagram of a circuit consisting of 2 resistors  $R_1$  and  $R_2$ , Voltmeter, ammeter, key, battery and conducting wire all are connected in parallel. [3]



**SECTION - D**

**Answer any 5 questions from question number 46 to 53. Answer each question in the limit of 90 to 120 words. (Each question carries 4 marks)[20]**

- 46) Explain an experiment (with neat labelled diagram) explaining the reaction between sodium carbonate with dilute hydrochloric acid. [4]
- 47) Explain the importance of pH in human digestive system and sting by a honey - bee. [4]
- 48) Name the ionic group contained in soap and detergent. Explain the mechanism of cleansing action of soap. [4]
- 49) Draw a neat labelled diagram of a nephron. Explain the process of urine formation in human being. [4]
- 50) Draw a neat labelled diagram of human digestive system. Explain how digestion take place in small intestine. [4]
- 51) Explain dispersion of white light by a glass prism with required diagram.[4]
- 52) Explain the following terms : [4]
- i) Over loading
  - ii) Short circuit
  - iii) Fuse
  - iv) Earthing



53) In an activity demonstrating the force acting on a current-carrying conductor placed in a magnetic field as shown in the figure, how do you think the displacement of rod AB will be affected if [4]

- i) current in the rod AB is increased
- ii) a stronger horse-shoe magnet is used; and
- iii) length of the rod AB is increased ?
- iv) when will the displacement of rod AB will be the largest.

