

Seat No. :

--	--	--	--	--	--	--

GOA HEADMASTERS' ASSOCIATION
SSC SECOND TERMINAL PREPARATORY EXAMINATION MARCH 2023

Marks : 40

Sub : **SCIENCE (E)**

Date : **08/03/2023**

Time : 1½ min

Pages : 4

TIME : 9.00 A.M. TO 10.30 A.M.

INSTRUCTIONS:

- (i) The question paper comprises of questions of 10 marks each.
- (ii) All questions are compulsory.
- (iii) There is no overall choice. However internal choice has been provided in one question of 3 marks and one question of 4 marks category. You have to attempt only one option in such questions.
- (ii) Begin each new question on a fresh page.
- (iv) Figures to the right indicates full marks.

Q 1. A Select the most correct alternative given below each statement and write the completed statement:

1

- i. The breakdown of pyruvate molecules during sudden muscular activities produces _____
 - a) Citric Acid
 - b) Lactic Acid
 - c) Acetic Acid
 - d) Methonic Acid
- ii. Muscles that regulates the exit of food from the stomach into the small intestine is _____
 - a) Splinter muscle
 - b) Smooth muscle
 - c) Cardic muscle
 - d) Skeletal muscle

B. i) Name the following:

2

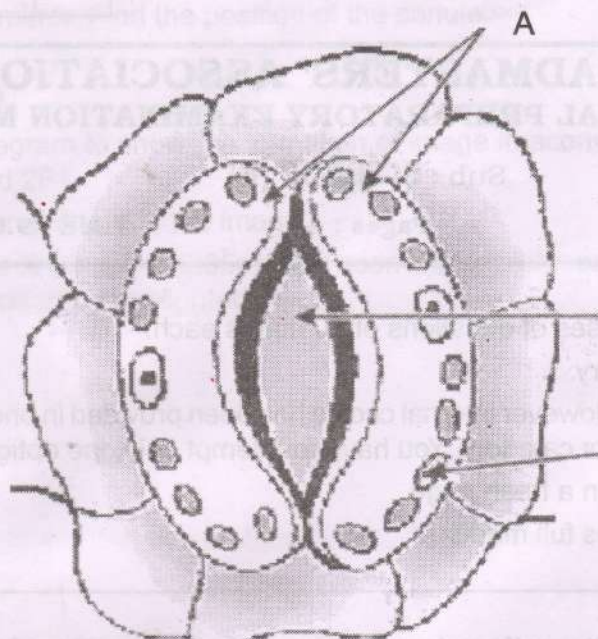
- a) Element that forms triads with lithium and potassium.
- b) The element that was discovered later and had properties similar to Eka-Aluminium.
- ii) What is a role of decomposers in the ecosystem?

C. Answer the following:

3

- i) Write one limitation of Mendeleev's periodic table.
- ii) The atomic number of element is 17. State its electronic configuration and the period to which it belongs?
- iii) The atomic size increase down the group in the modern periodic table. Give reason.

D. Observe the given diagram and answer the questions given below it: 4



- Identify and Name the parts labeled 'A' and 'B'.
- State the function of Stomata
- How is the opening and closing of the pores controlled by guard cells?
- What is the use of Nitrogen in plants.

Q 2 A. Match the parts of Human Eye with their function 1

Column 'A'

Column 'B'

- | | |
|-----------|---|
| i) Iris | + controls the amount of light entering the eye |
| ii) Pupil | - to modify curvature of the lens |
| | - it controls size of pupils |

B. i) Name the following: 1

- The trees for which Amrita Devi Bishnoi and others sacrificed their lives.
- Ancient water harvesting structures found in Madhya Pradesh.

ii) Why should we conserve forests and wildlife? 1

C. Anil sitting at the back bench in a classroom has difficulty in Reading from the black board. 3

- Name the defect of vision Anil is suffering from?
- State two possible causes of this defect.
- Explain the method of correcting this defect with the help of ray diagram.

OR

C. 40 years old Mahesh is unable to see distinctly the words printed on a newspaper.

- i) Name the defect of vision he is suffering from.
- ii) List its two possible causes.
- iii) Explain the method of correcting this defect with the help of ray diagram.

D. Attempt the following

- i) What are Catalyst?
- ii) State one point of difference between Alkanes and Alkenes with reference to its bonding between the carbon atoms.
- iii) Why vegetable oils are considered a healthier option than animal fats for cooking?
- iv) Draw the structure of Benzene.

Q 3. A. Observe the correlation in the first pair and complete the second pair.

- i) Alcohol : OH :: Carboxylic acid :
- ii) C_6H_{12} : Hexane :: C_2H_4 :

B. Answer the following:

- i) A ray of light while travelling from water to air medium, the direction of propagation of light in the air medium changes.
 - a) State the term used to express the ratio of speed of light in one medium to that in another medium.
 - b) Why does a ray of light changes its direction when it travels from one medium to another? Give one reason.
- ii) Arrange the following so as to make a four step food chain.
 - a) Paddy, Snake, Grasshopper, Frog.
 - b) Name the secondary consumer.

C. A baby girl is born in a Family. The family members were not happy with the girl child. They wanted a male child.

Answer the following:

- i. Which pair of sex chromosomes determine the male sex of an offspring?
- ii. Why it is said that father is responsible for the male child.
- iii. The wing of a bat and wing of a bird is considered as analogous characteristic and not a homologous characteristic: Justify.

D. Do as directed.

- i) Draw a neat diagram to show the formation of image in a concave mirror when an object is placed between F and 2F (C).
- ii) State the size and nature of the image

- iii) A concave mirror of focal length 15 cm forms an image of a candle light kept at a distance of 10 cm from the mirror. Find the position of the candle.

OR

D. Do as directed

4

- Draw a ray diagram to show the formation of image in a convex lens when an object is placed between F_1 and $2F_1$.
- State the size and nature of the image.
- A lighted candle is placed at 0.05 m from a convex lens of focal length 10 cm. Find the position of the image formed by the lighted candle.

...