Kāsiga School

ENGLISH
Section A

The worst days of any summer are the rainy ones. We spend all year looking forward to nice weather and long, hot days. All of winter, with its dreary gray days and bitter cold, we dream of those endless days at the beach, lying on the sand and soaking in the bright and burning sun. And then, summer comes, and it rains. As a child, I would wake up to rainy summer days and come close to crying. It wasn't fair. We suffered through months of school and miserable weather for those scant ten weeks of freedom and balmy weather. Any day that I could not spend at the beach or playing ball with my friends seemed like a punishment for something I didn't even do.

On those rainy summer days, I had nothing fun to do and could only sit inside, staring out at the rain like a Dickensian orphan. I was an only child, so there was no one else to play with. My father worked from home, so I was not truly alone, but he could not actively play with me since he was technically at work. It was those days that I would resign myself to whatever was on television or any books that I could find lying around. I'd crawl through the day and pray each night that the rain would not be there the next day.

As an adult, though, my opinion of summer rain has changed. When you have to work every day, summer is not as eagerly anticipated. Mostly, the days run together, bleeding into each other so that they no longer seem like separate entities and instead feel like continuations of the same long day. Everything seems monotonous and dull, and an ennui or listlessness kicks in. Such a mindset makes you cheer for anything new or different. I spend the winter dreaming of summer and the summer dreaming of winter. When summer comes, I complain about how hot it is. And then I look forward to the rain, because the rain brings with it a cold front, which offers a reprieve- admittedly one that is all too short—from the torture of 100° and humid days. Rainy days are still the worst days of the summer, but summer rain today means positively beautiful—and considerably cooler—weather tomorrow.

Q1. Tick the correct option: **(.5x4=2)**
1) The passage makes use of language that is
A. metaphorical
B. rhetorical
C. formal
D. ambiguous

2) According to the passage, summer is different for adults because
A. rain brings with it cold temperatures for the following days
B. the weather is much warmer than it is for children
C. they do not get a long time off from work for the season
D. they better know how to occupy their downtime

3) According to the passage, which of the following is a true statement about the narrator as a child?
A. He or she was often bored on summer days.
B. He or she preferred cooler weather.

C. He or she liked staying indoors.

D. He or she had no siblings.

4) Compared to how he or she was as a child, the narrator as an adult is

A. more realistic

B. less excitable

C. more idealistic

D. less calm

Q2. Answer the following questions: (9)

A. The author of this passage describes his or her feelings about rainy summer days.

In general, how do you feel about such days? Do you agree with the author's opinions, or do you not mind this type of weather? Briefly explain your views below.

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B. In paragraph 4, the author describes why he or she no longer looks forward to summertime the way he or she used to do as a child. What do you think of this change? Do you believe that you will come to feel this way one day? Why or why not?

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C. The author writes in paragraph 4 that he or she "spends the winter dreaming of summer and the summer dreaming of winter." On the other hand, many people would say that they have specific favorite seasons or times of year. How do you feel? Do you have a favorite season, or do you always look forward to whatever is to come? Why?

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Section B
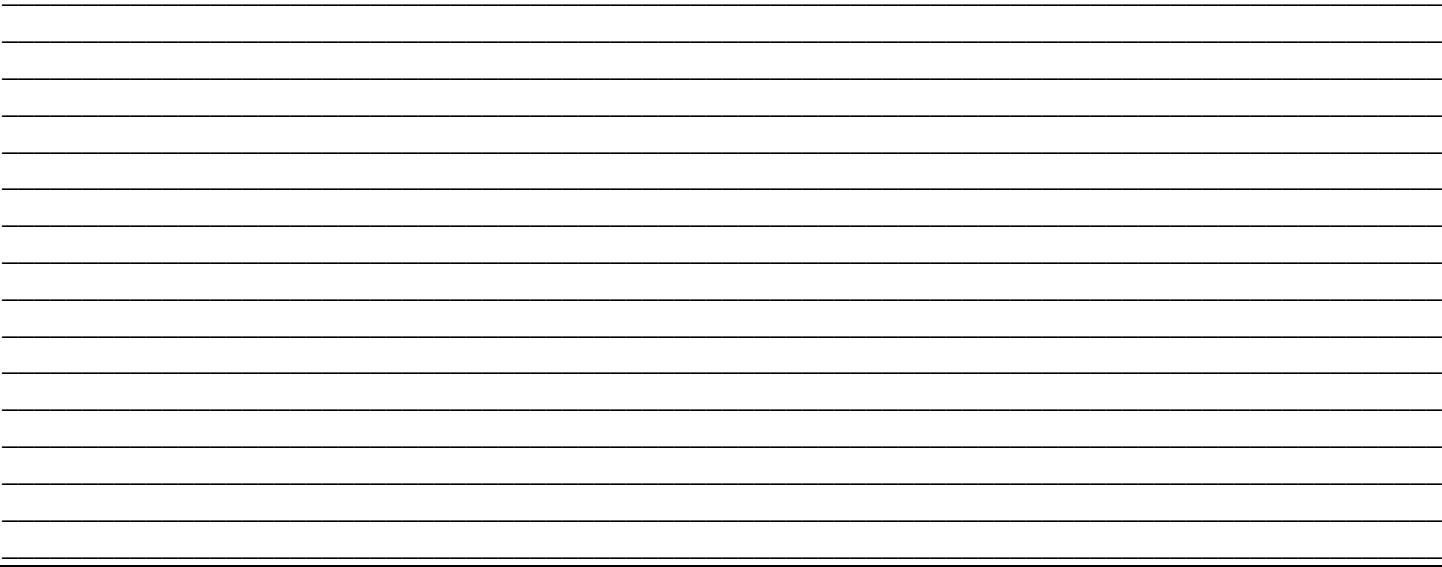
Q3. Complete the passage: (.5x6=3)

Rivers are considered holy _____ India but they are hardly treated _____ respect. All kinds of dust and filth find _____ way into rivers. If we have to treat and purify the water _____ drinking it, how can the fish survive in _____ waters? Every year river Gomti becomes _____death bed of thousands of fish because of the polluted water.

Q4. Rearrange the following words and phrases to form meaningful sentences. (2)
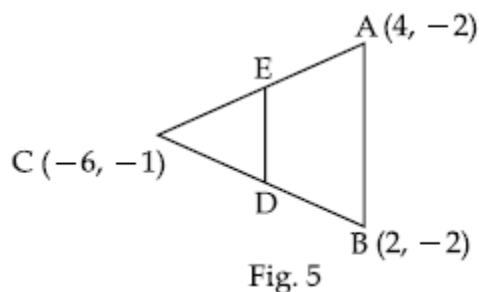
1. an antidote/ and pain/ is/ to stress/ laughter

_____

2. for toning/ a good exercise/ up/ it is/ facial muscles

_____

1. You are Amit/Amita. Write an e-mail to your younger brother/sister, who has recently joined a boarding school, emphasizing the importance of a good breakfast in about 100 words

(4)

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2. You are Ashish/Astha, a resident of 254, Vigyan Vihar, Ambala, Punjab. You are worried to see your friends' habit of using the internet as a homework tool. Write a letter to the editor of The Indian Times, expressing your concern over the youth who seem to be so dependent upon the computers in the present times. Word limit: 120-150. **(5)**

_____
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MATHEMATICS

1. For what value of k the equation $4x^2 - 2(k+1)x + (k+1) = 0$ has real and equal roots ?   **3**

2. How many terms of the A.P. 9, 17, 25, ... , must be taken to get a sum of 450 ?   **3**

3. If mode of the following data is 7, find the value of k?   **3**

   2, 4, 6, 7, 5, 6, 10, 6, 2k+1, 9, 7, 13.

4. The sum of the digits of a two digit number is 12. The number obtained by interchanging the two digits exceeds the given number by 18. Find the number.   **3**

5. An urn contains 8 red, 6 white, 4 black balls. A ball is drawn at random from the urn. Find the probability that the drawn ball is.   **3**
   (i)   red or white   (ii)   neither black nor white

6. In Fig.5, in $\triangle ABC$, D and E are the mid-points of the sides BC and AC respectively. Find the length of DE. Prove that $DE = \dfrac{1}{2} AB$.   **3**

Fig. 5

7.   **3**

Prove that: $\dfrac{\tan\theta}{1-\cot\theta} + \dfrac{\cot\theta}{1-\tan\theta} = 1 + \sec\theta\,\csc\theta.$

8. Divide $30x^4 + 11x^3 - 82x^2 - 12x + 48$ by $(3x^2 + 2x - 4)$ and verify the result by division   **4**
algorithm.

SCIENCE

Each question carries 1 mark. Tick the correct option-

SECTION A - PHYSICS

1. **What is the minimum resistance which can be made using five resistor each of 1/5Ω**

(i)   1/5 Ω

(ii)   1/25 Ω

(iii)   1/10 Ω

(iv)   25 Ω

2. **Electrical resistivity of a given material wire depends upon**

(i)   Length

(ii)   Its thickness

(iii)   Its shape

(iv)   Nature of the material

3. **Which of the following terms does not represent power in a circuit?**

(i) I^2R

(ii) IR^2

(iii)   VI

(iv) V^2/R

4. **The device used for producing electric current is called a**

(i)   Generator

(ii)   Galvanometer

(iii)   Ammeter

(iv)   Motor

5. **At the time of short circuit , the current in the circuit**

(i)   Reduces substantially

(ii)   Does not change

(iii)   Increases heavily

(iv)   Vary continuously

6. **What is the nature of image formed by a concave mirror for different positions of the object?**

(i)   Real and inverted

(ii)   Virtual and erect

(iii)   Both (i) and (ii)

(iv)   None of the above

7. If the radius of curvature of a concave mirror is 20cm, what will be its focal length?

(i)   20cm

(ii)   15cm

(iii)   10cm

(iv)   5cm

8. **During refraction of light, which of the following physical quantity remain constant?**

    (i)   Velocity

    (ii)   Wavelength

    (iii)   Frequency

    (iv)   None of the above

SECTION B – BIOLOGY

1. **A random change in the frequency of alleles in any population over several generations due to errors in the gametes is called**

A)   Gene flow   B) Genetic Drift   C)   Genetic error   D)   Genetic crash
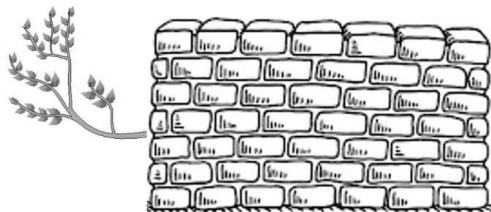
2. **Villi present on the inner lining of the intestinal wall**

 A)   Secretes enzymes for digestion   B)   Secretes hormones

C) Decreases the surface area for absorption   D)   Increases the surface area for absorption

3. **Choose the correct option for the flow sequence of the message inside our body when we accidently touch an open flame with our hand.**

(A) Receptor in hand ☐ Sensory Neuron ☐ Spinal Cord ☐ Motor Neuron ☐ Hand Muscle

(B) Receptor in hand ☐ Sensory Neuron ☐ Brain ☐ Motor Neuron ☐ Hand Muscle

(C) Receptor in hand ☐ Motor Neuron ☐ Brain ☐ Sensory Neuron ☐ Hand Muscle

(D) Receptor in hand ☐ Motor Neuron ☐ Spinal Cord ☐ Sensory Neuron ☐ Hand Muscle

4. **In the picture, growth of a plant out of a wall can be observed. Can you tell which of the following factors resulted in such a growth?**

(A)   Geotropism (B)   Phototropism   (C)   Hydrotropism   (D) Chemotropism

5. **In an unfortunate event, a person damaged his pancreatic gland. Which of the following problems is he likely to face?**

(A)   He won't be able to grow after the event

(B)   He won't be able to digest sugar after the event

(C)   His neck might become swollen

(D)   All of the above

6. **The place where fertilization takes place in the human body is**

A)   Uterus   B)   Oviduct   C)   Ovary   D) vagina

7. **The theory of Natural Selection was proposed by**

A)   Lamarck   B)   Haldane   C)   Mendel D)   Darwin
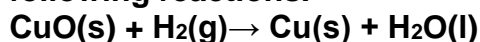
8. **Identify the proper food chain**

A)   Grass ----- frog ---- insect ----- snake

B)   Insect --- frog ---- grass ---- snake

C)   Grass---- insect ----- frog ------ snake

D)   Grass --- frog ---- snake ----- insect

SECTION C – CHEMISTRY

1. **What type of reaction is respiration**

A.   Exothermic   B.   Endothermic

C.   Reduction reaction   D.   Combination reaction

2. **Identify the substances that are oxidised and the substances that are reduced in the following reactions.**
$CuO(s) + H_2(g) \rightarrow Cu(s) + H_2O(l)$

A.   Cu is oxidised, H_2O is reduced   B.   CuO is oxidised, H_2O is reduced

C. H_2 is oxidised, CuO is reduced   D. H_2 is oxidised, H_2O is reduced

3. **The milkiness (on passing excess carbon dioxide gas through lime water) disappears dueto the formation of:**

A. Calcium carbonate $CaCO_3$ B. Calcium hydrogen carbonate $CaHCO_3$

C. Calcium oxide CaO D. Calcium Nitrate $Ca(NO_3)_2$

4. Sodium is kept immersed in kerosene oil because:

A. It reacts with moisture in the air

B. Immersing in kerosene cuts off the supply of air

C. The reaction of sodium with air is very violent.

D. All of the above.

5. Which among the following contains triple bond:
A. C_2H_4 B. C_2H_2 C. C_3H_4 D. C_2H_6

6. Where would you locate an element with electronic configuration 2, 8, 7 in the modern periodic table?

A. Group 7 and period 2   B. Group7 and period 3

C. Group 17 and period 3   D. Group17 and period 3

7. An element has 13 protons. The group and period to which it belongs:

A. 3rd period and 13^{th}group   B. 2ndperiod and 13th group

C. 3rd period and 3^{rd}group   D. 2nd period and 3^{rd}group

8. C=O represents the functional group:

A. Alcohols   B. Carboxylic acids   C. ketones   D. Acids

9. Which metal cannot displace hydrogen from the Acids?

A. Na   B. K   C. Cu   D. Mg