



Sample Question Paper

English

Math

Science

For admission to class 11 Science

Time: 3 hrs

Total: 200 marks

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, laying 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

(5)

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

5) As used in the final paragraph, the word reprieve most nearly means

- a. permanent conclusion
- b. short continuation
- c. higher level of pain
- d. temporary break

Q2. Answer the following questions:

(15)

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.

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?

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?

Section B

Q3. Complete the passage: (6)

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

Q4. Rearrange the following words and phrases to form meaningful sentences: (4)

a. an antidote/ and pain/ is/ to stress/ laughter

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

c. are stabilized/ is improved/ body functions/ and blood circulation

d. between/ distance/ two people/ laughter/ shortest/ is the

MATHEMATICS

Q1. For what value of K, the quadratic equation $2kx^2 - 40x + 25 = 0$ has equal roots. (3)

Q2. A pair of dice is thrown once. What is the probability of getting the sum of numbers on two dice as 11. (3)

Q3. For what value of K; $2K - 7$, $K + 5$ and $3K + 2$ are the consecutive terms of an A.P. (3)

Q4. In a circle, of radius 21cm, an arc subtends an angle of 60° at the centre. Write the length of the arc. (3)

Q5. What is the mean of the data, whose median is 17 and mode is 15. (3)

Q6. Write the zeroes of the polynomial $x^2 - 5x - 6$. (3)

Q7. Show that the points L(- 2 , 3) , M (1,2) and N (7,0) are collinear . (3)

Q8. Prove that the points $(-3, 0)$, $(1, -3)$ and $(4, 1)$ are the vertices of an isosceles right triangle. (4)

Q9. Find the sum of all three digits numbers which leave remainder 3, when divided by 5. (5)

Q10. Solve the following system of linear equations graphically: $3x + y - 12 = 0$ $x - 3y + 6 = 0$ Shade the region bounded by these lines and the x-axis. (Use graph) (5)

Q11. Prove that: $(\sin\theta + \sec\theta)^2 + (\cos\theta + \operatorname{cosec}\theta)^2 = (1 + \sec\theta\operatorname{cosec}\theta)^2$. (5)

Q12. The median of the following data is 20.75. Find the missing frequencies x and y, if the total frequency is 100. (5)

Class Interval	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40
Frequency	7	10	x	13	y	10	14	9

Q13. Evaluate the following expression:

$$\cos^2 30^\circ \cos^2 45^\circ + 4\sec^2 60^\circ + \frac{1}{2} \cos^2 90^\circ - 2\tan^2 60^\circ \quad (5)$$

PHYSICS

- Q1. Define 1 volt. (1)**
- Q2. What is Ocean thermal energy? (1)**
- Q3. What is the far point for a normal person without any eye defects? (1)**
- Q4. Write two limitations of harnessing solar energy? (2)**
- Q5. What is meant by power of a lens? What is its unit? (2)**
- Q6. Why sky appears blue? (2)**
- Q7. Two lenses each of focal length +40cm and -50cm are placed side by side. What is the equivalent power of this combination? (2)**
- Q8. Calculate number of electrons in 2 Coulomb charge. ($e = 1.6 \times 10^{-19}$) (2)**

Q9. A student while studying the force experienced by a current carrying conductor in a magnetic field records the following observations-

- (i) The force experienced by the conductor increases as the current is increased
- (ii) The force experienced by the conductor decreases as the strength of the magnetic field is increased. Which of the two observations is correct and why?

(3)

Q10. What is difference between nuclear fission and nuclear fusion? Why nuclear fusion is considered safe mode of energy generation than nuclear fission?

(3)

Q11. What is Ohm's law? What are its limitations?

(3)

Q12. What is Myopia? Draw ray diagram for a myopic eye. How this defect is corrected?

(3)

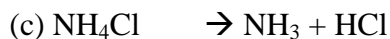
Q13. Two resistors have equivalent resistance of 5 ohm when connected in series and 1.2 ohm when connected in parallel. Determine value of individual resistance. (3)

Q14. Tick the correct option; (5)

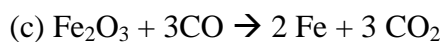
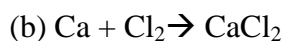
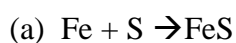
- I. Speed of light is greater in;
(a) Glass (b) Vacuum (c) Steel (d) Air
- II. For Normal incidence angle of incidence and reflection are;
(a) Equal (b) Unequal (c) 90^0 each (d) None
- III. What does CFC stands for;
(a) Chlorofluro Chlorine (b) Carbon di-oxide (c) Chlorofluro Carbon (d) None
- IV. Crowded magnetic field lines indicate -
(a) Strong magnetic field (b) Weak Magnetic field
(c) No magnetic field (d) None of these
- IV. Wavelength of which of the colour is least
(a) Violet (b) Red (c) Green (d) Orange

CHEMISTRY

Q1. Classify the following reactions as combination, displacement or decomposition reactions



Q2. Name the substances oxidized or reduced: (3)



Q3. What are acids? Give two examples each of strong acids and strong bases. (3)

Q4. What is neutralization reaction? Give an example. (3)

Q5. Define: (6)

(a) Corrosion

(b) Roasting

(c) Catenation

Q6. What is an olfactory indicator? Give an example. (4)

Q7: Show the formation of the following compounds by electron dot diagram: (6)

(i) Carbon dioxide

(ii) Sodium chloride

(iii) Methane

Q8. Write names of the following:

(3)

- (i) halogen belonging to second period
- (ii) alkali metal belonging to fourth period
- (iii) a noble gas having atomic number 8.

Q9. Balance the following reactions

(3)

- (i) $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$
- (ii) $\text{KBr} + \text{Cl}_2 \rightarrow \text{KCl} + \text{Br}_2$
- (iii) $\text{FeSO}_4 \rightarrow \text{Fe}_2\text{O}_3 + \text{SO}_2 + \text{SO}_3$

BIOLOGY

Q.1. Give one word for the following-

(5)

- a. Structure of the cell that produces energy.....
- b. Type of animals that feed only on other animals.....
- c. Structure in the plant cell responsible for heredity.....
- d. Type of reproduction in which the offsprings formed are clones of their parents.....
- e. Example of a Renewable source of energy other than wind and solar energy
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Q.2. Answer the following in the space provided-

(10)

a. What do you mean by biodiversity? Why is it important for an area to have biodiversity?

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b. Why are bacteria called prokaryotes? What are the two ways in which they are different from Eukaryotic cells?

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c. Name the major components of blood. Which component is responsible for clotting?

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d. What are insect vectors? Explain with two examples.

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Q.3. Give reasons for the following- (12)

a. We must keep our surroundings free from garbage pile ups and stagnant water accumulation.

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b. Regular exercise keeps our body and mind healthy and strong.

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c. Mere absence of diseases is not an indicator of good health.

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d. Organic agriculture is sustainable and diverse. Explain

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Q.5 Match items of Column A with those of Column B and write the correct pairs in Column X.
The first one is done for you. (6)

Column A	Column X	ColumnB
1.Cell	Cell - Schlieden and Schwann	a. Digestion
2. Liver		b. Bone and cartilage
3. Connective tissue		c. Control of blood glucose level
4. Xylem		d. Starfish
5. Hydrochloric acid		e. Ascent of sap
6. Invertebrates		f. Schlieden and Schwann