

Atomic Energy Central School No. 4 Rawatbhata

Class 10 - Mathematics
Periodic Test-I (2019-20)

Maximum Marks: 40

Time Allowed: 1 hour and 30 minutes

General Instructions:

Note: All questions are compulsory, There is no overall choice, however in some of the questions, internal choice is available.

Section A

1. The least positive integer divisible by 20 and 24 is 1
a) 480 b) 240
c) 360 d) 120
2. For every natural number 'n', 6^n always ends with the digit 1
a) 4 b) 8
c) 6 d) 0
3. The polynomial $9x^2 + 6x + 4$ has 1
a) two real zeroes b) one real zero
c) no real zeroes d) many real zeroes
4. Solution of $\frac{x}{a} + \frac{y}{b} = 2$ and $ax - by = a^2 - b^2$ is 1
a) $x = a$ and $y = b$ b) $x = a^2$ and $y = b^2$
c) $x = -a^2$ and $y = -b^2$ d) $x = -a$ and $y = -b$
5. $4x^2 - 2x - 3 = 0$ have 1
a) Real roots b) Real and Distinct roots
c) No Real roots d) Real and Equal roots
6. If product of two numbers is 3691 and their LCM is 3691, find their HCF. 1
7. Form a quadratic polynomial, one of whose zero, is $2 + \sqrt{5}$ and the sum of zeroes is 4. 1

OR

Find the zeroes of the polynomial $(x - 2)^2 + 4$.

8. Find the value of k so that the following system of equation has infinite solutions: 1
 $3x - y - 5 = 0$, $6x - 2y + k = 0$
9. The product of two consecutive positive integers is 306. Form the quadratic 1

equation to find the integers, if x denotes the smaller integer.

OR

Write the value of λ for which $x^2 + 4x + \lambda$ is a perfect square.

10. Find whether the pair of linear equations $y = 0$ and $y = -5$ has no solution, unique solution or infinitely many solutions 1

OR

For what value of k the following pair of linear equations has unique solution?

$$7x + 8y = k$$

$$9x - 4y = 12$$

Section B

11. Express $2.\overline{24}$ as a fraction in simplest form. 2

OR

Find the HCF and LCM of 612 and 1314 using prime factorisation method.

12. Form a quadratic polynomial whose zeroes are $\frac{3-\sqrt{3}}{5}$ and $\frac{3+\sqrt{3}}{5}$. 2

13. Solve: $2x^2 - x + \frac{1}{8} = 0$ 2

Section C

14. Prove that $15 + 17\sqrt{3}$ is an irrational number. 3

15. Find the zeroes of the polynomial $y^2 + \frac{3}{2}\sqrt{5}y - 5$ by factorisation method and verify the relationship between the zeroes and coefficient of the polynomials. 3

OR

If the zeros of the polynomial $x^3 - 3x^2 + x + 1$ are $(a - b)$, a and $(a + b)$, find the values of a and b .

16. Find the angles of a cyclic quadrilateral ABCD in which $\angle A = (4x + 20)^\circ$, $\angle B = (3x - 5)^\circ$, $\angle C = (4y)^\circ$ and $\angle D = (7y + 5)^\circ$. 3

17. The perimeter of right-angled triangle is five times the length of its shortest side. The numerical value of the area of the triangle is 15 times the numerical value of the length of the shortest side. Find the lengths of the three sides of the triangle. 3

Section D

18. If two zeroes of a polynomial $x^3 + 5x^2 + 7x + 3$ are -1 and -3 , then find the third zero. 4

19. Solve: $\frac{2}{3x+2y} + \frac{3}{3x-2y} = \frac{17}{5}$ and $\frac{5}{3x+2y} + \frac{1}{3x-2y} = 2$ 4

20. If $x = -4$ is a root of the equation $x^2 + 2x + 4p = 0$, find the values of k for which the equation $x^2 + px(1 + 3k) + 7(3 + 2k) = 0$ has equal roots. 4

OR

If the roots of the quadratic equation

$(c^2 - ab)x^2 - 2(a^2 - bc)x + b^2 - ac = 0$ in x are equal then show that either $a = 0$ or $a^3 + b^3 + c^3 = 3abc$

Atomic Energy Central School No. 4 Rawatbhata
Class 10 - Science

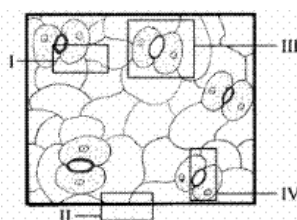
Periodic test-I (2019-20)

Maximum Marks: 40

Time Allowed: 1 hour and 30 minutes

Section A

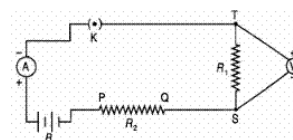
1. The colour of solid product formed on heating ferrous sulphate is **1**
 - a) reddish brown
 - b) green
 - c) black
 - d) colourless
2. In the reaction : $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$ the reducing agent is : **1**
 - a) H_2O
 - b) H_2
 - c) CuO
 - d) Cu
3. Shown below are four parts of a slide of an epidermal peel, marked I, II, III and IV. Which part out of these four should be focused under high power to view complete stomata ? **1**



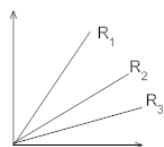
- a) II
 - b) III
 - c) I
 - d) IV
4. A student sets up her circuit, for finding the equivalent resistance of a series combination of two given resistors R_1 and R_2 , in the manner as shown. She did not obtain the correct results in her experiment because of a mistake in her circuit. **1**

This mistake can be corrected by shifting the

- a) ammeter and connecting it between K and T
- b) ammeter and connecting it across P and Q
- c) voltmeter and connecting it across T and P with correct polarity
- d) voltmeter and connecting it across P and Q



5. A student carries out an experiment and plots the V-I graph (V has been 1 plotted on the vertical axis and I has been plotted on the horizontal axis) of three samples of nichrome wire with resistances respectively as shown in the figure. Which of the following is correct?



- a) $R_3 > R_2 > R_1$
- b) $R_1 > R_2 > R_3$
- c) $(R \propto \frac{1}{\text{slope of V-I graph}})$
- d) $R_3 = R_2 = R_1$

6. Why should a magnesium ribbon be cleaned with a sandpaper before burning 1
in air?
7. Identify the oxidising agent in the following: 1
 $\text{MnO}_2(\text{s}) + 4\text{HCl} \rightarrow \text{MnCl}_2(\text{aq}) + \text{Cl}_2(\text{g}) + 2\text{H}_2\text{O}$
8. Write balanced chemical equation for the following. 1
Zinc carbonate \rightarrow Zinc oxide + Carbon dioxide.
9. Define corrosion. 1
10. How many joule are there in 1 kWh? 1

Section B

11. When solutions of silver nitrate and sodium chloride are mixed, white 3
precipitate forms. The ionic equation for the reaction is $\text{Ag}^+(\text{aq}) + \text{Cl}^- \rightarrow \text{AgCl}(\text{s})$
- i. a. What is the name of the white precipitate?
b. Is it a soluble or insoluble compound?
- ii. Is the precipitation of silver chloride a redox reaction?

OR

What does one mean by exothermic and endothermic reactions ? Give examples.

12. Describe double circulation in human beings. Why is it necessary? 3
- OR
- Differentiate between arteries and veins.
13. What is bile? What is its role in the digestion of food? 3
14. What is Joule's heating effect? How can it be demonstrated experimentally? 3
List its four applications in daily life.

OR

What is meant by electric power ? Give its units. How is it related to V and I?

15. What is meant by electric current? Write its SI unit. Calculate the amount of 3
charge that flows through a conductor when a current 5A flows through it for 2 min.

Section C

16. (a) What are precipitation reactions? Write an equation for the same.
(b) how can we prevent rancidity? (any three) 5
17. Explain the location, structure and functions of kidney in human beings. Also 5
draw an appropriate diagram of human excretory system.
- OR
- Explain the nutrition process in an Amoeba with the help of a diagram.
18. What is meant by resistance of a conductor? Name and define its SI unit. List 5
the factors on Which the resistance of a wire affected, if (i) its length is
doubled, (ii) its radius is doubled?

Atomic Energy Central School No. 4 Rawatbhata

Class 10 - Social Science

Periodic Test - I (2019-20)

Maximum Marks: 40

Time Allowed: 1 hour and 30 minutes

General Instructions:All questions are compulsory. There is no overall choice, however in some questions, internal choices have been given.

Section A

1. What did the term 'picket' refer to? 1
- a) Boycott of clothes and goods b) Protest by blocking shop entrances
c) Stealing from shops d) Import of goods
2. He composed the song 'Vande Mataram': 1
- a) Rabindranath Tagore b) Sarat Chandra Chatterjee
c) Bankim Chandra Chattopadhyay d) Natesa Sastri
3. Ravines refers to the 1
- a) Bad land created at Kuluvalley b) Bad land created at Chambal valley
c) Bad land created at Godavari valley d) Bad land created at Ganga valley
4. The 'community government' is not elected by people belonging to which language community – no matter where they live 1
- a) Sri Lankan Tamils b) German-speaking
c) French-speaking d) Dutch-speaking
5. Sustainable development is necessary because 1
- a) Human nature b) Development of a country
c) Market will get disturbed d) Resources will deplete
6. Who was the Sanyasi leader of the Awadh peasants? 1
7. Which resources are surveyed and determined on the basis of their quantity and quality for utilisation? 1
8. Which country do 'Indian Tamils' belong to? 1

OR

What is vertical division of powers?

9. Define average income. 1

OR

Define infant mortality rate.

10. Which is the main cause of land degradation in Madhya Pradesh? 1

OR

What is the main cause of land degradation in Punjab?

Section B

11. Explain the role of Ambedkar in uplifting the dalits or the depressed classes. **3**
12. List the problems caused due to the indiscriminate use of resources by human being? **3**

OR

What are the different factors that determine land use?

13. Explain the consequences of the majoritarian policies adopted by the Sri Lankan government. **3**
14. What is human development index? Who has prepared it? Write about basic components of human development measurement. **3**
15. On the political outline map of India given below, identify the soil types in (i), (ii), (iii). **3**



Section C

16. Why did Mahatma Gandhi relaunch the Civil Disobedience Movement with great apprehension? Explain. **5**
17. Which is most widely spread and important soil of India? State the characteristics of this type of soil. **5**
18. Write a paragraph on your notion of what should India do or achieve to become a developed country. **5**

OR

Why are better public facilities needed for the development of the country?

Explain any four public facilities.

General Instructions: All questions are compulsory.

Section A

1. Read the passages given below and answer the questions that follow them: (8 marks) 8

The introduction of films in the late nineteenth century was truly a revolution in the field of entertainment. Since then, many things have changed. From the silent era to now, an era of dizzying realistic animation and sound effects, every aspect associated with film-making has witnessed a multitude of changes. There are some limitations a filmmaker has to observe while making a film which prevents a film from being an exact reflection of society.

The first and the most important aspect that a filmmaker has to care for is that his or her film should be a commercially viable one. This simple requirement puts unlimited constraints on a filmmaker as he can only make films that he can sell to the common people who watch films for the sake of entertainment. Sometimes unnecessary controversies are rigged by filmmakers to arouse interest and generate publicity for their films and a syrup of sex and violence is poured unnecessarily onto the initial plot line to make a film more spicy for the people we refer to as “front row audience” in a cinema hall. Another thing that is required to make a film based on real or historical themes commercially successful is making some changes in the storyline itself. Hence, the film ceases to be an exact reflection of a historical society. Take for example the recent controversy over the film Jodhaa Akbar. Even the film’s director Ashutosh Gowariker has accepted that 70% of the film is not based on history. Now a question arises can a film that is 70% fiction be considered a reflection of any society of any era? Another good example of this would be the film Hotel Rwanda based on the Hutu-Tutsi conflict in Rwanda. The film has veered away from the mainly autobiographical storyline at many places. In the words of legendary Japanese filmmaker Akira

Kurosawa, “In all my films, there’s three or maybe four minutes of real cinema.”

- a. What was the great revolution in the field of entertainment in the late nineteenth century?
- b. What is the first limitation of a filmmaker?
- c. What is the main aim of a filmmaker?
- d. What puts unlimited constraints on a filmmaker?
- e. What do filmmakers do to arouse interest?
- f. How does a filmmaker charm the front row audience?

g. Why is a filmmaker forced to change the real or historical storyline? Give an example.

h. Who is Akira Kurosawa and what did he say about his films?

Section B

2. Write a story in 150-200 words from the outline given below : 10

One day, I was playing football in a park with my friends. Suddenly I saw an old man, just collapsing on the pavement. All of us rushed to him.....

3. Look at the words and phrases given below. Rearrange them to form meaningful sentences as given in the example. 4

Example: to be broken / health myths / that need / are / a few / there /
There are a few health myths that need to be broken.

a. contains / only animals / no plant food / cholesterol, / manufacture it /

b. and / are / cholesterol / free from / all dry fruits / oil seeds / so / are

c. cholesterol / free from / made from plants / is / any oil / always /

d. one of the / oil / mustard / best / oil / the / oils / such / best / olive / healthiest /
among / etc / are / and

Section C

4. Read the extract given below and answer the questions that follow: 4

The way a crow

Shook down on me

The dust of snow

From a hemlock tree.

a. Name the poem and the poet.

b. What does the crow do?

c. What does a 'hemlock tree' represent?

d. What is a crow generally associated with?

OR

Read the following extracts and answer the question/complete the sentences that follow:

But if it had to perish twice

I think I know enough of hate

To say that for destruction ice

Is also great.

And would suffice.

a. Who knows enough of hate?

b. What is great for destruction of the world and why?

c. What is the rhyme scheme in this stanza?

d. What does the word 'suffice' mean?

5. Why did Lencho write a letter to God? 2

6. What did Lencho hope for? 2

7. Did Lencho try to find out who had sent the money to him? Why/Why not? 2

8. Do you think that Mrs. Pumphrey was really responsible for Tricki's illness? 2

9. Why was the author delighted to keep Tricki with him? 2

10. What was Mrs. Pumphrey's reaction after hearing Tricki's good health? 2

11. How did Hari Singh justify to himself his intention of stealing Anil's money? 2

OR

Why did Hari Singh's heart sink when Anil met him in the morning?

प्र.1 निम्नलिखित गद्यांश को पढ़कर पूछे गए प्रश्नों के सही उत्तर दीजिए:-

मनुष्य एक सामाजिक प्राणि है। समाज में उसके मित्र भी होते हैं, शत्रु भी, परिचित भी, अपरिचित भी। जहाँ तक शत्रुओं, परिचितों और अपरिचितों का प्रश्न है, उन्हें पहचानना बहुत कठिन नहीं होता, किन्तु मित्रों को पहचानना, मुख्यतः सच्चे मित्रों को पहचानना बहुत कठिन होता है। यह प्रायः देखा गया है कि एक ओर तो बहुत से लोग अपने-अपने स्वार्थवश सम्पन्न, सुखी और बड़े आदमियों के मित्र बन जाते हैं, या ज्यादा सही यह होगा कि वह दिखाना चाहते हैं कि वे मित्र हैं। इसके विपरीत जहाँ तक गरीब, निर्धन और दुखी लोगों का प्रश्न है, मित्र बनना तो दूर रहा लोग उनकी छाया से भी दूर भागते हैं। इसीलिए कोई व्यक्ति हमारा वास्तविक मित्र है या नहीं, इस बात का पता हमें तब तक नहीं लग सकता जब तक हम विपत्ति में न हों। विपत्ति में नकली मित्र तो साथ छोड़ देते हैं और जो मित्र साथ नहीं छोड़ते, वास्तविक मित्र वे ही होते हैं। इसीलिए यह ठीक ही कहा जाता है कि विपत्ति में ही सच्चे मित्र की पहचान होती है।

क. मनुष्य कैसा प्राणि है? 1

ख. आधुनिक युग में मित्रता किसपर आधारित नहीं है? 1

ग. लोग कुछ व्यक्तियों को मित्र क्यों नहीं बनाना चाहते? 1

घ. वास्तविक मित्र कैसा होता है? 1

ङ. नकली मित्र कैसा होता है? 1

प्र.2 निम्नलिखित प्रश्नों में से किन्हीं चार प्रश्नों के उत्तर दीजिए। 2X4=8

क. चौराहों पर लगी मूर्ति के प्रति आपके और दूसरे लोगों के क्या उत्तरदायित्व होने चाहिए?

ख. बालगोबिन भगत जी ने पुत्र की मृत्यु पर पुत्रवधू को रोने के स्थान पर उत्सव मनाने के लिए क्यों कहा? पाठ के आधार पर लिखिए।

ग. नेताजी का चश्मा पाठ के आधार पर पान वाले का चित्रण कीजिए।

घ. भगत के व्यक्तित्व और उनकी वेशभूषा का वर्णन अपने शब्दों में कीजिए।

इ. पाठ के आधार पर बालगोबिन भगत के मधुर गायन की विशेषताएँ लिखिए।

प्र.3 पठित गद्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए-

हालदार साहब की आदत पड़ गई, हर बार कस्बे से गुजरते समय चौराहे पर रुकना, पान खाना और मूर्ति को ध्यान से देखना। एक बार जब कौतुहल दुर्दमनीय हो उठा तो पानवाले से ही पूछ लिया, क्यों भई क्या बात है यह तुम्हारे नेताजी का चश्मा हर बार बदल कैसे जाता है।

पानवाले के खुद के मुँह में पान ठुँसा हुआ था। वह एक काला, मोटा और खुशमिजाज आदमी था। हालदार साहब का प्रश्न सुनकर वह आँखों-ही -आँखों में हँसा। उसकी तोंद थिरकी। पीछे घूमकर उसने दुकान के नीचे पान थूका और अपनी लाल-काली बत्तीसी दिखाकर बोला, कैप्टन चश्मेवाला करता है।

क. बत्तीसी दिखाने से क्या अभिप्राय है? 1

ख. हालदार साहब ने पानवाले से क्या पूछा? 2

ग. हालदार साहब को कौन-सी आदत पड़ गई थी? 2

प्र.4 निम्नलिखित प्रश्नों के उत्तर दीजिए- 2X4=8

क. उद्घव के व्यवहार की तुलना किस-किसके की गई है?

ख. गोपियाँ उद्भव को भाग्यवान क्यों कहती हैं?

ग. मरजादा न लही के माध्यम से कौन-सी मर्यादा न रहने की बात की जा रही है?

घ. गोपियाँ स्वयं को भोली क्यों कहती हैं?

प्र.5 निर्देशानुसार उत्तर दीजिए- 1X4=4

क. वे घर से दूर थे अतः उदास थे। (संयुक्त वाक्य में बदलिए)

ख. ज्यों ही मैं घर पहुँचा, त्यों ही वर्षा होने लगी। (वाक्य का प्रकार बताइए)

ग. हमें स्वयं करना पड़ा और पसीने छूट गए। (मिश्र वाक्य में बदलिए)

घ. घंटी बजती है और बच्चे कक्षा में आ जाते हैं। (सरल वाक्य में बदलिए)

प्र.6 माता का आँचल पाठ में आए ऐसे प्रसंगों का उल्लेख कीजिए जो आपके दिल को छू गए हों। 5

अथवा

आपके विचार से भोलानाथ अपने साथियों को देखकर सिसकना क्यों भूल जाता है?
प्र.7 नियमित व्यायाम का महत्त्व बताते हुए छोटे भाई को एक पत्र लिखिए। 5
