ATOMIC ENERGY CENTRAL SCHOOL NO 3, MUMBAI PERIODIC TEST 1 (2025-26) ENGLISH COMMUNICATIVE (101)

CLASS 10 MM: 40 TIME- 90 MINUTES

SECTION A - READING (10 MARKS)

Q1 Read the Passage given below.

The quality of education in any country largely depends on the infrastructure of its educational institutes. Well-developed infrastructure creates a healthy learning environment, promotes better academic performance, and helps students develop holistically. Unfortunately, many schools and colleges in India, especially in rural and underprivileged areas, lack the basic infrastructure needed for effective learning.

One of the most crucial areas for improvement is classroom facilities. Many schools still operate in overcrowded or poorly ventilated rooms. Properly designed classrooms with adequate seating, lighting, and ventilation are essential to keep students attentive and comfortable. Digital classrooms with smart boards and projectors can enhance learning by making lessons more interactive and engaging.

Sanitation and hygiene are equally important. A large number of government schools do not have clean and separate toilets for boys and girls, leading to absenteeism, especially among girls. Providing clean drinking water, handwashing stations, and regular maintenance of sanitation facilities should be a top priority.

Libraries and laboratories are vital components of a well-rounded education. Many schools lack well-stocked libraries or science labs, limiting students 'exposure to reading materials and practical experiments. Establishing updated libraries and well-equipped labs can improve students 'curiosity, creativity, and scientific temper.

Another important area is the infrastructure for sports and physical activity. Many educational institutes do not have playgrounds or sports equipment, depriving students of physical development and stress relief. Schools and colleges should invest in sports grounds, courts, and indoor games to promote a healthy and active lifestyle. With the rise of technology, internet connectivity and computer labs have become essential. Providing computers with internet access helps students learn digital skills, access online educational resources, and stay updated with the modern world.

In addition, infrastructure for students with disabilities should not be overlooked. Ramps, railings, special toilets, and learning aids should be provided to ensure inclusive education for all. Safety and security measures must also be in place, including boundary walls, CCTV surveillance, emergency exits, and fire safety equipment to create a safe environment for students and staff.

Lastly, proper teacher training rooms, staff rooms, and administrative offices are essential for the smooth functioning of educational institutions. In conclusion, improving infrastructure in educational institutes is not just about building structures but about creating spaces that

support learning, inclusion, safety, and growth. With the right investment and planning, we can ensure that every child in India receives quality education in a safe and supportive environment.

Based on the reading of the above passage, answer the following questions by choosing the most appropriate options. $(1 \times 10 = 10 \text{m})$

- 1. Why is classroom design considered a key area of improvement in educational infrastructure?
- A. To reduce the number of students in school
- B. To create a comfortable and focused learning environment
- C. To make the school look attractive
- D. To keep students inside during recess
- 2. What is the likely impact of not having clean & separate toilets in schools, especially for girls?
- A. Increased physical activity

- B. Improved discipline
- C. Better sanitation awareness
- D. Decrease in student enrolment and attendance
- 3. How do well-stocked libraries and labs contribute to student development?
- A. They foster curiosity and creativity
- B. They promote rote learning
- C. They help reduce the number of teachers required
- D. They make students competitive with each other
- 4. What is the main reason for promoting digital classrooms in schools?
- A. To replace teachers with technology
- B. To reduce textbook usage
- C. To make learning more interactive and engaging
- D. To reduce electricity consumption
- 5. Why is infrastructure for students with disabilities important in schools?
- A. To ensure inclusive education and equal opportunities
- B. To meet government quota requirements
- C. To gain media attention
- D. To reduce the number of students
- 6. How can the lack of sports infrastructure affect students?
- A. It helps them focus only on studies
- B. It reduces noise in school
- C. It negatively impacts physical health and stress management
- D. It improves attendance
- 7. What role do safety and security measures play in educational institutions?
- A. They increase the cost of schooling
- B. They protect students and staff from potential risks
- C. They create a fear-based environment
- D. They reduce teacher-student interaction
- 8. Why is internet access and computer education necessary today in schools?
- A. To reduce the need for books
- B. To prepare students for the digital world
- C. To entertain students
- D. To reduce homework

- 9. Which of the following best describes the aim of improving educational infrastructure?
- A. Creating spaces that support learning, inclusion, and safety
- B. Increasing the number of staff
- C. Building larger school buildings
- D. Reducing the number of holidays
- 10. What combination of improvements would most directly lead to holistic student development?
- A. Libraries, sanitation, digital access, and sports facilities
- B. New uniforms and strict discipline
- C. Longer school hours and more exams
- D. Monthly inspections and regular punishment

SECTION B - WRITING (08 MARKS)

Q2. You are Rohan/Rohini, a student of Class 10 in Green Valley Public School, Pune. Write a formal letter to your school principal complaining about the poor condition of the school washrooms and requesting immediate action. Mention the problems faced by all, the effects it has, and suggest some solutions of your own. **(8m)**

SECTION C - GRAMMAR (6 MARKS)

Q3. Edit the following paragraph. There is one error in each line. Identify the incorrect word and write the correct word in. $(1/2 \times 6 = 3m)$

	Incorrect	Correct
Many people enjoys eating junk food everyday.		
It is taste good but is harmful for health.		
Eating too many oily food can cause problems.		
Children is especially fond of chips and burgers.		
Parents should teach there children healthy eating habits.		
Also, school must encourage student to eat fruits.		

Q4. Rearrange the following words to make meaningful sentences. $(1 \times 3 = 3m)$

- 1. to/in/the/field/decision-making/critical/is/thinking/process /any /collaboration /essential
- 2. rapidly /artificial /transforming /industries /intelligence /across /is /world /various /the
- 3. solving /collaboration /modern /workplace /problem /in /the /enhances /efficiency /of /the

SECTION D - LITERATURE (16 MARKS)

Q5. Read the extract and answer the questions that follow.

 $(1 \times 4 = 4m)$

Though next morning it was raining,

He began her vocal training.

"But I can't sing in this weather".

"Come my dear - we'll sing together.

Just put on your scarf and sash,

Koo-oh-ah! ko-ash! ko-ash!"

So the frog and nightingale

Journeyed up and down the scale

For six hours, till she was shivering

and her voice was hoarse and quivering.

1. The frog's ultimate aim was to	·
a. make the nightingale a sensation	b. make the nightingale as good a singer as him
c. maintain his supremacy in the bog	d. make a lot of money
2. The animals 'reaction to the nightingale's	song caused the frog to
a. turn a blind eye	b. be green with envy
c. drive himself up the wall	d. turn blue in the face
3. Identify the reason why the nightingale ac	ecepted the frog's tutelage.
a. She was not confident of herself.	
b. She wanted to become as good a singer as	s the frog.
c. She wanted to become a professional sing	er.
d. She was not a resident of Bingle Bog.	
4. The nightingale was sorrowful and pale be	ecause she
a. had been practicing in the rain	b. had been performing all night
c. was losing confidence in herself	d. was falling ill

Q6. Answer ANY FOUR of the following questions in brief.

 $(2 \times 4 = 8m)$

- 1. The story 'Two Gentlemen of Verona' is full of surprises. Briefly mention any two such instances.
- 2. Support the opinion that the narrator of 'Two Gentlemen of Verona 'was kind and sensitive.
- 3. "The incidental expenses are so heavy," she confides to inquiring friends. Who is the speaker? What is she referring to here?
- 4. Bring out the irony in the frog's statement 'Your song must be your own'.
- 5. Describe how the monuments and statues brave the ravages of time.
- 6. Validate the poet's reference to Time, as being sluttish.

Q7. Answer ANY ONE of the following questions in detail.

 $(4 \times 1 = 4m)$

- 1. A person who is vain is full of self importance and can only think of himself/herself and can go to great lengths to prove his/her superiority. Do you think Mrs. Packletide is vain? Give reasons in support of your answer.
- 2. When Lucia gets well she writes a letter to Nicola and Jacopo to express her feelings of gratitude and admiration for them. As Lucia, write the letter.



ATOMIC ENERGY CENTRAL SCHOOL - 3,MUMBAI ANUSHAKTINAGAR

PERIODIC TEST - 1 (2025 - 26) CLASS 10 - MATHEMATICS

Time Allowed: 1 hour and 30 minutes

Maximum Marks: 40

General Insturctions:-

- 1. All the questions are compulsory.
- 2. Section A contains 10 questions carrying 1 marks each, Section B contains 3 questions carrying 2 mark each, Section C contains 2 questions carrying 3 mark each, Section D contains 2 questions carrying 5 marks each,
- 3. Section E contains 2case based questions carrying 4 marks each.

	Section A(10*1marks=10marks)	
1	The prime factorisation of 432 is:	[1]
	a) $2^{4} \times 3^{3}$ b) $2^{3} \times 3^{4}$ c) $2^{3} \times 3^{3}$ d) $2^{4} \times 3^{4}$	
2	$(2 + \sqrt{2})$ is	[1]
	a) an integer b) a rational number c) A real number	
	d) an irrational number	
3	HCF (132, 77) is:	[1]
	a) 77 b) 44 c) 11 d) 22	
4	If 5 is a zero of the quadratic polynomial, x^2 - kx - 15 then the value of k is	[1]
	a) - 2 b) - 4 c) 2 d) 4	
5	A quadratic polynomial, one of whose zeroes is $2 + \sqrt{5}$ and the sum of whose zeroes is 4, is:	[1]
	a) $x^2 - 4x - 1$ b) $x^2 + 4x + 1$ c) $x^2 - 4x + 1$	
	d) $x^2 + 4x - 1$	
6	The sum and product of the zeroes of the polynomial x^2 - $6x + 8$ are respectively	[1]
	a) 6 and 8 b) $\frac{-3}{2}$ and -1 c) $\frac{-3}{2}$ and 1	
	d) $\frac{3}{2}$ and 1	
7	The zeroes of the quadratic polynomial $x^2 + kx + k$, $k \neq 0$,	[1]
	a) cannot be both negative b) cannot be both positive	
0	c) are always unequal d) are always equal	-47
8	The solution of the pair of equations $x + y = a + b$ and $ax - by = a^2 - b^2$ is:	[1]
	a) $x = -a$, $y = b$ b) $x = b$, $y = a$ c) $x = a$, $y = b$	
0	d) $x = a, y = -b$	F4.1
9	The larger of two supplementary angles exceeds the smaller by 18 degrees. What is the measure	[1]
	of larger angle?	
10	a) 54° b) 99° c) 81° d) 36°	[11]
10	If a pair of linear equations in two variables is consistent, then the lines represented by two equations are	[1]
	a) always coincident b) intersecting or coincident	
	c) always intersecting d) parallel	
	$\underline{Section \ B(3*2marks = 6marks)}$	
11	Prove that 5 - $\sqrt{3}$ is an irrational number, given that $\sqrt{3}$ is an irrational number.	[2]
12	Write a quadratic polynomial, sum of whose zeros is $2\sqrt{3}$ and their product is 2.	[2]
13	Is the pair of linear equationconsistent? Justify your answer.	[2]
	x + 3y = 11, 2(2x + 6y) = 22	
	Section C(2*3marks=6marks)	
14	Prove that $5\sqrt{2}$ - 3 is an irrational number, given that $\sqrt{2}$ is an irrational number	[3]
15	Find the zeroes of quadratic polynomial x^2 - $2x$ - 8 and verify the relationship between the	[3]
	zeroes and their coefficients.	

Section D(2*5marks= 10 marks)

- Solve the system of equations 2x 5y + 4 = 0, 2x + y 8 = 0 graphically and find the vertices [5] and area of the triangle formed by these lines and the y - axis.
 - [3+2]
- 17 [A] If p and q are the zeroes of the polynomial $p(x) = 2x^2 + 5x 4$. Find the values of (1-p) (1**q**).
 - [B] Find the zeroes of the quadratic polynomial $4\sqrt{3}x^2 + 5x 2\sqrt{3}$.

Section E(2*4marks = 8 marks)

18 Read the following text carefully and answer the questions that follow:

[4]

February 14 is celebrated as International Book Giving Day and many countries in the world celebrate this day. Some people in India also started celebrating this day and donated the following number of books of various subjects to a public library:

History = 96, Science = 240, Mathematics = 336.

These books have to be arranged in minimum number of stacks such that each stack contains books of only one subject and the number of books on each stack is the same.

- [a] How many books are arranged in each stack? (1)
- [b] How many stacks are used to arrange all the Mathematics books? (1)
- [c] Determine the total number of stacks that will be used for arranging all the books. (2)

OR

[c] If the thickness of each book of History, Science and Mathematics is 1.8 cm, 2.2 cm and 2.5 cm respectively, then find the height of each stack of History, Science and Mathematics books. (2)

Read the following text carefully and answer the questions that follow:

[4]

Two schools **P** and **Q** decided to award prizes to their students for two games of Hockey ₹ x per student and Cricket ₹ y per student. School **P** decided to award a total of ₹ 9,500 for the two games to 5 and 4 students respectively; while school **Q** decided to award ₹ 7,370 for the two games to 4 and 3 students respectively.



- [a] Represent the following information algebraically (in terms of x and y). (1)
- [b] What is the prize amount for hockey? (1)
- [c] Prize amount on which game is more and by how much? (2)

[c] What will be the total prize amount if there are 2 students each from two games? (2)

ATOMIC ENERGY CENTRAL SCHOOL-3, MUMBAI PT 1 2025-26

CLASS: X DURATION: 1 Hr.

SUBJECT: ARTIFICIAL INTELLIGENCE MAX. MARKS: 25

ANSWER TH	IE FOLLOWII	NG (1 mark each)		
		sed to help in goal se	tting:	
a) Goal	b) Stress	c) Management	d) Emotion	
2) A parking	sign is an ele	ment of	communication.	
ANSWER TH	IE FOLLOWIN	NG (1 mark each)		
		intelligence ar	e good at learning w	hile singing.
4) Smart was	shing machine	e an example of an Ar	tificially Intelligent o	levice. True or false?
5) The famou	ıs AI test that	evaluates a machine'	s ability to exhibit in	itelligent behaviour
indistinguish	able from tha	nt of a human is called	l:	
a) Alan Tur	ing Test	b) Einstein Test	c) Watson Test	d) Isaac Asimov Test
6) Write and	explain in on	e line, one example o	f what is smart but n	ot an AI device of AI.
7) Give an ex	ample of soci	al media where we us	se AI.	
8) Artificial N	Veural Netwo	rks are inspired by	structure an	d functioning.
9) The theory	y of Multiple I	ntelligence was first	suggested by	
10) Tara is no	ew in town. V	Vhat application of AI	can help her with na	avigation?
11) There is	a chatbot on a	a website, which guid	es me through the p	rocess of using something. The
chatbot belor	ngs to	domain.		
Answer the	following. Aı	ıy one. (2 marks ea	<u>ich)</u>	
12) Explain a	ıny two types	of 'Cs' of effective co	ommunication.	
13) Discuss a	ıny two qualit	ties of self-motivated	people.	
Answer the	<u>following. Aı</u>	ny 2 (2 marks each	1	
14) Describe	any two SDG	S.		
15) Define Al	ſ.			
16) Explain N	Natural Langu	age Processing and h	ow is it being used i	n AI.
Answer the	following. Aı	ny 2 (4 marks each	1	
17) Explain a	iny four areas	of application of AI.		
18) Different	iate between	the three domains of	AI?	
19) Explain A	AI, machine le	arning and deep lear	ning with the help of	a diagram.



ATOMIC ENERGY CENTRAL SCHOOL - 3,MUMBAI ANUSHAKTINAGAR

PERIODIC TEST - 1 (2025 - 26)

CLASS 10 - SOCIAL SCIENCE

Time Allowed: 1 hour and 30 minutes **Maximum Marks:** 40

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General Instructions:

- 1. The question paper comprises 20 questions. All questions are compulsory.
- 2. Questions number 1 to 10 are MCQs of 1 mark each.
- **3.** Question no. 11 to 13 are Very Short Answer Type Questions, carrying 2 marks each.
- **4.** Question number 14 to 16 are Short Answer Type Questions, carrying 3 marks each.
- **5.** Question no. 17 is the case based question with three sub questions and is of 4 marks.
- **6.** Questions no from 18 and 19 are long answer type questions, carrying 5 marks each.
- **7.** Question no. 20 is map based, carrying 1 mark of half mark each.
- **8.** There is no overall choice in the question paper. However, an internal choice has been provided in few questions. Only one of the choices in such questions have to be attempted.

	Which of the following factors played an important role in developing nationalist				
	sentiments?				
1	a) Technology b) Conservatism c) Industrialization d) Language	[1]			
2	Which of the following arrangement is called a system of checks and balances?	[1]			
	a) Majoritarianism b) Conflict resolution				
	c) Vertical distribution d) Horizontal distribution				
3	Reserved constituencies are a good example of which arrangement?	[1]			
	a) Power shared among different parties				
	b) Power shared among social groups				
	c) Power shared among different levels of government				
	d) Power shared among different organs of government				
4	Why do different persons have different notions of development?	[1]			
	A. Because people are different B. Because life situations are different.				
	C. Because nationality is different. D. None of these.				
5	In the economic sphere, liberalism stood for	[1]			
	a) government by consent b) the right to vote and property				
	c) the freedom of market and the abolition of state imposed restrictions on the				
	movement				
	d) to have freedom of speech				
6	Read the following events relating to the year 1848 and tick the INCORRECT	[1]			
	event.				
	a) National workshops to provide employment were set up				
	b) Barricades were erected and Louis Philippe was forced to flee				
	c) Food shortages and widespread unemployment brought the population of Paris				
	out on the roads				
	d) National Assembly proclaimed a Constitutional Monarchy, granted suffrage to				
	all adult males above 18 and guaranteed the right to work				

7	What is the reason for the lack of water infiltration in desert soil?			
	a) Low precipitation b) Very less rainfall			
	c) Formation of Kanker layer d) High temperature			
8	The land with deep channels that is unfit for cultivation is called:			
	a) Pastures b) Barren land c) Fallow land d) Badlands			
9	On which of the following basis does the United Nations Development Programme			
	(UNDP) publish the Human Development Report ? a) National Income, Health and Banking			
	b) Gross Domestic Product, Technology and Innovation			
	c) Manufacturing, Infrastructure and Health			
	d) Education, Health and Per Capita Income			
10	Since countries have different, comparing total income will not tell	[1]		
	us what an average person is likely to earn.	[-]		
	a) economic policies b) reserves			
	c) resources d) population			
11	Who was Giuseppe Garibaldi? What was his contribution in the freedom	[2]		
	Movement of Italy?			
	Or			
	'The decade of 1830 had brought great economic hardships in Europe.'			
	Support the statement with arguments.			
12	"The development goal of different categories of people may differ". explain with	[2]		
	the help of two examples.			
13	What are the two reasons of power sharing?			
14	Although average incomes are useful for comparing countries, they also hide [3]			
	disparities? Explain the meaning of this statement.			
	Or			
	Crude oil reserves are limited all over the world. If people continue to extract it at			
	the present rate, the reserves would last only 35 - 40 years more. Explain any three			
	ways to solve this problem.			
15	Highlight any three measures adopted by the Belgian Government to accommodate	[3]		
	regional and cultural diversities.			
16	What type of soil is found in river deltas of eastern coast? Write its main features?	[3]		
17	Read the following text carefully and answer the questions that follow:	[4]		
	Sri Lanka emerged as an independent country in 1948. The leaders of the Sinhala			
	community sought to secure dominance over the government by virtue of their			
	majority. As a result, the democratically elected government adopted a series of			
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	interests. As a result, the relationsbetween the Sinhala and Tamil communities strained over time.				
	1. What is the predominant religion in Sri Lanka? (1)				
	2. What was the main objective of the Sinhala leaders in Sri Lanka after independence? (1)				
	3. How did the majoritarianism policy affect the Sri Lankan Tamils, and what were their main grievances? (2)				
18	18 "The development of nationalism did not come about only through wars and territorial expansion. Culture played an important role in creating the idea of the nation." Elaborate upon the statement.				
	Or				
	What steps did the French revolutionaries take to create a sense of collective identity among the French people				
19	What are the different types of soil found in India? What are the characteristic features of alluvial soil? [5]				
	Or				
	What is soil erosion? How can we prevent it?				
20	On the political outline map of India given below, identify the soil types.	[1]			





ATOMIC ENERGY CENTRAL SCHOOL - 3, MUMBAI ANUSHAKTINAGAR

PERIODIC TEST - 1 (2025 - 26)

CLASS 10 SUBLECT - SCIENCE

Time Allowed: 1 hour and 30 minutes Maximum Marks: 40

General Instructions:

- 1. This question paper consists of **14** questions in **5** sections.
- 2. All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.
- 3. **Section A** consists of **3** objective type questions carrying **1** mark each.
- 4. **Section B** consists of **3** Very Short questions carrying **02** marks each. Answers to these questions should in the range of 30 to 50 words.
- 5. **Section C** consists of **3** Short Answer type questions carrying **03** marks each. Answers to these questions should in the range of 50 to 80 words.
- 6. **Section D** consists of **3** source based/case based units of assessment of **04** marks each with sub parts.
- 7. **Section E** consists of **2** Long Answer type questions carrying **05** marks each. Answer to these questions should be in the range of 80 to 120 words.

		Section	A		
1	In the reaction	n: $CuO + H_2 \rightarrow Cu + H_2 O$,	the reducing agent i	S:	[1]
	a) H ₂ O	b) Cu	c) H ₂	d) CuO	
2.	Assertion (A): The inner walls of the small intestine have finger like projections called villi which are rich in blood.			[1]	
	Reason (R): These villi have a large surface area to help the small intestine in completing the digestion of food.				
	a) Both A and R are true and R is the correct explanation of A.				
	b) Both A and R are true but R is not the correct explanation of A.				
	c) A is true but R is false.				
	d) A is false bu	ıt R is true.			

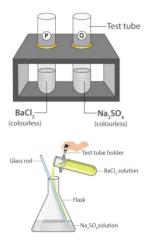
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3.	How will the image formed by a convex lens be affected, if the upper half of the lens is wrapped with a black paper?	[1]
	a) The lower half of the inverted image will not be formed.	
	b) The image of upper half of the object will not be formed.	
	c) The brightness of the image will reduce.	
	d) The size of the image formed will be one - half of the size of the image due to complete lens.	
	SECTION-B	
4.	Oil and fat containing food items are flushed with nitrogen ?Why?	[2]
5.	1. State the role played by the following in the process of digestion.	[2]
	a. Enzyme trypsin	
	b. Enzyme lipase	
	2. List two functions of finger - like projections present in the small intestine.	
6.	State the laws of reflection of light. List four characteristics of the images formed by plane mirrors.	[2]
	SECTION -C	-
7.	Identify the type of reactions taking place in each of the following cases and write the balanced chemical equation for the reactions.	[3]
	1. Zinc reacts with silver nitrate to produce zinc nitrate and silver.	
	2. Potassium iodide reacts with lead nitrate to produce potassium nitrate and lead iodide.	
8.	How are the power and focal length of a lens related? You are provided with two lenses of focal length 20 cm and 40 cm respectively. Which lens will you use to obtain more convergent light?	[3]
9.	Enlist three main events which occur during Photosynthesis . Explain.	[3]
	SECTION -D	1
10.	Read the following text carefully and answer the questions that follow:	[4]
	When a more reactive element displaces a less reactive element from its compound, it is called a displacement reaction. The reaction is of two types.	

Single displacement reaction and double displacement reaction.

Iron being more reactive than copper displaces copper from an aqueous solution of copper sulphate. This is an example of a single displacement reaction.

On adding silver nitrate solution to sodium bromide, a yellow ppt of silver bromide and solution of sodium nitrate is formed. This is an example of a double displacement reaction.

- 1. When dil. sulphuric acid is added to pieces of iron sulphide, hydrogen sulphide gas is produced and soluble ferrous sulphate is formed. Which chemical reaction is involved in this process? (1)
- 2. Mention reaction which is used for the preparation of oxygen gas in the laboratory.(1)
- 3. What are the products formed in the double displacement reaction discussed below?(2)



OR

Which elements displace aluminum from its salt?(2)

11. Read the following text carefully and answer the questions that follow:

Human digestive system is a tube running from mouth to anus. Its main function is to breakdown complex molecules present in the food which cannot be absorbed as such into smaller molecules. These molecules are absorbed across the walls of the tube and the absorbed food reaches each and every cell of the body where it is utilised for obtaining energy.

[4]

- 1. Name the glands present in the buccal cavity and write the components of food on which the secretion of these glands act upon. **(1)**
- 2. Two organs have a sphincter muscle at their exit. Name them. **(1)**What will happen if:
 - a. mucus is not secreted by the gastric glands.

		b. Villi are absent in the small intestine. (2)			
		OR			
		Bile juice does not contain any enzyme, yet it has important roles in digestion. Justify the statement. (2)			
12.	Read	the following text carefully and answer the questions that follow:	[4]		
	The ability of a medium to refract light is expressed in terms of its optical density. Optical density has a definite connotation. It is not the same as mass density. On comparing two media, the one with the large refractive				
	refrac	is optically denser medium than the other. The other medium with a lower ctive index is optically rarer. Also the speed of light through a given medium ersely proportional to its optical density.			
	1.	Determine the speed of light in diamond if the refractive index of diamond with respect to vacuum is 2.42. Speed of light in vacuum is 3×10^{8} m/s. (1)			
	2.	Refractive indices of glass, water and carbon disulphide are 1.5, 1.33 and 1.62 respectively. If a ray of light is incident in these media at the same angle (say θ), then write the increasing order of the angle of refraction in these media.(1)			
	3.	The speed of light in glass is 2× 10 8 m/s and in water is 2.25 × 10 8 m/s.(2)			
		a. Which one of the two is optically denser and why?			
		 A ray of light is incident normally at the water - glass interface when it enters a thick glass container filled with water. What will happen to the path of the ray after entering the glass? Give reason. 			
		OR			
		The absolute refractive indices of water and glass are $\frac{4}{3}$ and $\frac{3}{2}$ respectively. If the speed of light in glass is 2 × 10 8 m/s, find the speed of light in (i) vacuum and (ii) water.(1)			
		SECTION- E			
13.	1.	Explain the term corrosion with an example. Write an example. Write a chemical equation to show the process of corrosion of iron.	[5]		
	2.	What special name is given to the corrosion of iron?			
	3.	What type of chemical reaction is involved in the correction of iron?			
	4.	Name any three objects (or structures) which are gradually damaged by			

		the corrosion of iron and steel.	
14.	1.	Complete the following ray diagram:	[5]
		F — 15 cm — F — 30 cm — F	
	2.	Find the nature, position and size of the image formed.	
	3.	Use mirror formula to determine the magnification in this case.	

परमाणु ऊर्जा केन्द्रीय विद्यालय

ATOMIC ENERGY CENTRAL SCHOOL- 3, MUMBAI

आवधिक परीक्षा-1/PERIODIC TEST-I (JULY-2025)

इयत्ता / Std.: X वेळ / Time: 1.30 तास /hrs

विषय / Sub: मराठी गुण / Max. Marks: 40

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सूचना /Instructions:

- 1) दिलेल्या वेळेतच सर्व प्रश्न सोडवणे आवश्यक आहे.
- 2) उजवीकडचे अंक गुण दर्शवतात.

प्रश्न 1 खालील अपठित उतारा वाचून विचारलेल्या प्रश्नांची उत्तरे लिहा. (कोणतेही 5) 5 गुण

15 ऑगस्ट 1947 रोजी भारत स्वतंत्र होण्याच्या काही दिवस आधी, विशेष स्थापन केलेल्या संविधान सभेने निर्णय घेतला की भारताचा ध्वज सर्व पक्ष आणि समुदायांना स्वीकार्य असला पाहिजे. आरताच्या मूळ ध्वज संहितेने स्वातंत्र्य दिन किंवा प्रजासताक दिनासारख्या राष्ट्रीय दिवसांशिवाय नागरिकांना राष्ट्रध्वज फडकवण्याची परवानगी दिली नाही. भारतीय ध्वज संहिता, 2002, प्रतीक आणि नावे (अयोग्य वापर प्रतिबंध) कायदा, 1950; आणि राष्ट्रीय सन्मानाचा अपमान प्रतिबंधक कायदा, 1971 यांच्याद्वारे ध्वजाचे प्रदर्शन आणि वापर नियंत्रित केले जाते. राष्ट्रध्वजाचा घोर अपमान करणे, तसेच ध्वज संहितेच्या तरतुदींचे उल्लंघन करण्यासाठी, कायद्याने तीन वर्षांपर्यंत कारावास, किंवा दंड, किंवा दोन्ही शिक्षा, अशा तरतुदी आहेत.

अधिकृत नियमानुसार ध्वजाचा जिमनीला किंवा पाण्याला कधीही स्पर्श होऊ नये किंवा कोणत्याही स्वरूपात पडदा किंवा वस्त्र म्हणून वापरला जाऊ नये. फडकावण्यापूर्वी ध्वज जाणूनबुजून उलटा ठेवला जाऊ शकत नाही, कोणत्याही गोष्टीत बुडवला जात नाही किंवा फुलांच्या पाकळ्यांव्यितिरिक्त इतर कोणतीही वस्तू त्याच्यात ठेवू शकत नाही. तसेच ध्वजावर कोणत्याही प्रकारची अक्षरे कोरली जाऊ शकत नाहीत. उघड्यावर असताना ध्वज नेहमी सूर्योदय आणि सूर्यास्तादरम्यान फडकवावा, जरी हवामान कसेही असले तरी. 2009 पूर्वी, विशेष परिस्थितीत रात्रीच्या वेळी सार्वजनिक इमारतीवर ध्वज फडकवता येत होता; ध्वज कधीही उलटा चित्रित, प्रदर्शित किंवा फडकवला जाऊ नये. भडकलेल्या किंवा अस्वच्छ अवस्थेत ध्वज प्रदर्शित करणे हे अपमानास्पद मानले जाते आणि हाच नियम ध्वज फडकवण्यासाठी वापरल्या जाणाऱ्या ध्वजस्तंभांना आणि हॅलयाईसना लागू होतो, ज्यांची देखभाल नेहमी योग्य स्थितीत असावी.

- 1) ध्वज कधी फडकावा?
- 2) ध्वज संहितेच्या तरतुदींचे उल्लंघन केल्यास कोणता दंड आहे?
- 3) ध्वजाच्या आतमध्ये काय ठेवण्यास परवानगी आहे?
- 4) नागरिकांना राष्ट्रध्वज फडकवण्याची परवानगी कधी आहे?

5) संविधान सभेने कोणता निर्णय घेतला होता? 6) ध्वज कोणत्या अवस्थेत प्रदर्शित करणे अपमानास्पद आहे ? प्रश्न 2.(अ) खालील प्रश्नांची उत्तरे एका वाक्यात लिहा. (कोणतेही 5) 5 गुण 1) पक्षिणी घरट्याकडे धाव कधी घेते? 2) कोणत्या विचाराने पंतांची झोप उडाली? 3) लेखकाच्या मते शालीने शालीनता जाते का येते? 4) पंतांनी बिन साखरेचा चहा का सुरु केला. 5) चातक पक्षी कोणाची विनवणी करत आहे? 6) कोणाच्या कार्यक्रमाला अहोरात्र गर्दी असते? (ब) रिकाम्या जागी योग्य शब्द भरून वाक्य लिहा. (कोणतेही 5) 5 गुण 1) कुटुंबाचा मात्र माझ्या '------ बाबतीतला उत्साह अवर्णनीय होता. 2) शालीची ,----- आणि ऊब व पोटाची आग आणि अन्नाची ऊब! 3) ----- सर्वाधिक कॅलरीज असतात. 4) मी ----- साली मराठी साहित्य संमेलनाचा बिनविरोध अध्यक्ष झालो. 5) वणवा लागलासे वनीं। ----- चिंतीत हरणी।। 6) कचेरी सुटली, की मी ----- रस्त्याने धावत येऊ लागलो. (क) खालील प्रश्नांची थोडक्यात उत्तरे लिहा. (कोणतेही 1) 1) "भिक्षेकऱ्याने केलेला शालीचा उपयोग', याविषयी तुमचे मत लिहा. 2) पंतांच्या उपासाबाबत त्यांच्या पत्नीचा असलेला अवर्णनीय उत्साह तुमच्या शब्दांत वर्णन करा. 3) दोरीवरच्या उड्या मारण्याच्या प्रसंगातील तुम्हांला समजलेला विनोद स्पष्ट करा. (ड) पुढीलपैकी एका ओळीचे संदर्भासहित स्पष्टीकरण लिहा. 3 गुण 1) भुकेलें वत्सरावें। धेनु हंबरत धांवे।।

2) अग्निमाजि पडे बाळू। माता धांवें कनवाळू ।।१।।

	_	0	٦	. 1
ਧश्र	3	खालाल	व्याकरणाच	प्रश्न सोडवा.
<i>~</i> 1 •1	٠.	U ((())		<i>7</i> 1 01 01 0 11 0 11 0 11 0 11 0 11 0 11

- अ) समास ओळखा. (कोणतेही 2) 2 गुण
 - 1) पितापुत्र 2) चहापाणी 3) नवरत्न 4) आमरण -
- ब) वचन बदला. (कोणतेही 1) 1 गुण
 - 1) शाल =
 - 2) लाडू =
- क) समानार्थी शब्द लिहा. (कोणतेही 1) 1 गुण
 - 1) कचेरी =
 - 2) वृद्ध =
- ड) खालील शब्दांचे लिंग बदला. (कोणतेही 1) 1 गुण
 - 1) धेनू =
 - 2) बालिका =
- इ) खालील वाक्यातील अधोरेखित शब्दाची जात ओळखा. 2 गुण
 - 1) अब्दुलला त्यांच्याबरोबर बसायला संकोच वाटला.
 - 2) "इश्श! साखरेशिवाय लाडू आमच्या नाही घराण्यात केले कुणी!"
- इ) सूचनेप्रमाणे बदल करा. 2 गुण
 - 1) मी सगळ्या शालींचे गाठोडे बांधून निकटवर्ती मित्राकडे ठेवले. (भूतकाळ करा)
 - 2) पहिला उपाय म्हणून मी 'आहारपरिवर्तन' सुरू केले. (भविष्यकाळ करा)

प्रश्न 4. पृथ्वीचे मनोगत या विषयावर पुढील मुद्याच्या आधारे 20-22 ओळी निबंध लिहा. 6 गुण

[मुद्देः प्रास्ताविक - पृथ्वीविषयी विचार येण्याचा एखादा प्रसंग - पृथ्वीचे निवेदन - पृथ्वीचे वय- जडणघडण - सर्व सजीव -निर्जीवांची साखळी - पर्यावरणाचे संतुलन - माणसांची संख्यावाढ - पृथ्वीचा ऱ्हास - सर्वांच्याच नाशाची शक्यता - पृथ्वीचा उपदेश - 'पर्यावरणाचा समतोल राखा.]

प्रश्न 5. तुमच्या सोसायटीत / कॉलनीत दूषित पाणी येत आहे, एक जबाबदार नागरिक म्हणून महानगरपालिकेस याबद्दल तक्रार पत्र लिहा. 4 गुण

परमाणु ऊर्जा केन्द्रीय विद्यालय 3 ,मुंबई 94

आवधिक परीक्षा-1,2025-26, कक्षा दसवी

विषय-हिंदी

पूर्णांक 40

समय-90 मिनट

(प्रश्न-1)निम्नलिखित गद्यांश को ध्यान से पढ़िए और सही विकल्प च्निए। (1x5=5)

तुम्हें क्या करना चाहिए, इसका ठीक-ठीक उत्तर तुम्हीं को देना होगा, दूसरा कोई नहीं दे सकता। कैसा भी विश्वास-पात्र मित्र हो, तुम्हारे इस काम को वह अपने ऊपर नहीं ले सकता। हम अनुभवी लोगों की बातों को आदर के साथ सुनें, बुद्धिमानों की सलाह को कृतज्ञता पूर्वक मानें, पर इस बात को निश्चित समझकर कि हमारे कामों से हो हमारी रक्षा व हमारा पतन होगा। हमें अपने विचार और निर्णय को स्वतंत्रता को दृढ़ता पूर्वक बनाए रखना चाहिए। जिस पुरुष की दृष्टि सदा नीची रहती है, उसका सिर कभी ऊपर न होगा। नीची दृष्टि रखने से यद्यपि रास्ते पर रहेंगे, पर इस बात को न देखेंगे कि यह रास्ता कहाँ से जाता है। चित्त की स्वतंत्रता का मतलब चेष्टा को कठोरता या प्रकृति की उग्रता नहीं है। अपने व्यवहार में कोमल रहो और अपने उद्देश्यों को उच्च रखो, इस प्रकार नम्न और उच्चाशय दोनों बनो। अपने मन को कभी मरा हुआ न रखो। जो मनुष्य अपना लक्ष्य जितना ही ऊपर रखता है उतना ही उसका तीर ऊपर जाता है।

बह्विकल्पीय प्रश्नोत्तर-

- 1. मनुष्य को क्या करना चाहिए, इसका ठीक-ठीक उत्तर कौन देगा?
- (क) मनुष्य को उत्तर स्वयं देना होगा।
- (ख) दूसरों से उत्तर माँगना होगा।
- (ग) कोई भी उत्तर नहीं दे सकता।
- (घ) मनुष्य का वित्त उत्तर देगा।
- 2. हमारी रक्षा व पतन किस बात से होगा?
- (ख) बुद्धिमानों की सलाह न मानकर
- (क) हमारे अपने कामों से
- (ग) दूसरों का आदर न करके
- (घ) लक्ष्य को नीचा करके
- 3. हमें दृढ़तापूर्वक क्या बनाए रखना चाहिए?
- 4. अपना सिर ऊपर रखने के लिए मनुष्य को क्या करना चाहिए?
- 5. इस गद्यांश का उपयुक्त शीर्षक लिखिए |

ऐसा है आवेश देश में जिसका पार नहीं।
देखा माता का ऐसा रक्तिम श्रृंगार नहीं।
कंठ-कंठ में गान उमइते माँ के वंदन के।
कंठ-कंठ में गान उमइते माँ के अर्चन के।
शीश-शीश में भाव उमइते माँ पर अर्पण के।
प्राण-प्राण में भाव उमइते शोणित तर्पण के।
जीवन की धारा में देखी ऐसी धार नहीं।
सत्य अहिंसा का व्रत अपना कोई पाप नहीं।
विश्व मैत्री का व्रत भी कोई अभिशाप नहीं।
यही सत्य है सदा असत की टिकती चाप नहीं।
सावधान हिंसक! प्रतिहिंसा की कोई माप नहीं।
कोई भी प्रस्ताव पराजय का स्वीकार नहीं।
ऐसा है आवेश देश में जिसका पार नहीं।

प्रश्न

- (1) उपरोक्त पद्यांश में किसके आवेश' का उल्लेख ह्आ है?
- (क) माता के
- (ख) देश के
- (ग) शत्रु के
- (घ) इनमें से कोई नहीं
- (2) कवि के मतानुसार असत्य है
- (क) स्थायी (ख) व्रत
- (ग) अभिशाप
 - (घ) **अस्थायी**

- (3) 'रक्ति श्रृंगार' का अर्थ है
- (क) वीर सपूतों का रक्त बलिदान करना
- (ख) रक्त बहाना

(ग) शत्रु का खून बहाना ।

- (घ) उपरोक्त में से कोई नहीं
- (4) 'शोणित तर्पण' का क्या अर्थ है?
- (5) पद्यांश में 'माता' किसका प्रतीक है-

निम्नलिखित पांच प्रश्नों में से कोई चार कीजिए।

रचना के आधार पर वाक्य भेद च्निए |

- 1 आकाश में तारों का मेला लग गया।
- 2 त्म बाहर गए और वह सो गया |
- 3 नीरजा ने ऐसी कहानी स्नाई कि आराध्य रो पड़ी |
- 4-जो विद्यार्थी परिश्रमी होता है,वह अवश्य सफल होता है।
- 5-निम्नलिखित में से मिश्र वाक्य का उदाहरण है-

क-अवनि आई और पढने बैठ गई। ख-बच्चे दूध पीकर सो गए |

ग-अध्यापक के सामने सब शांत रहते हैं। घ-जो झूठ बोलते हैं उन पर विश्वास मत करो।

(प्रश्न-4) -पठित गद्यांश को ध्यान से पढकर प्रश्नों के उत्तर लिखिए_ 5

हालदार साहब को पानवाले द्वारा एक देशभक्त का इस तरह से मजाक उड़ाया जाना अच्छा नहीं लगा|मुड़कर देखा तो अवाक् रह गए|एक बेहद बूढ़ा मिरयल-सा लंगड़ा आदमी सिर पर गाँधी टोपी और आँखों पर काला चश्मा लगाए एक हाथ में एक छोटी-सी संदूकची और दुसरे हाथ में एक बाँस पर टंगे बहुत-से चश्मे लिए,अभी -अभी एक गली से निकला था और अब एक बंद दुकान के सहारे अपना बांस टिका रहा था|तो इस बेचारे की दुकान भी नहीं!फेरी लगता है|हालदार साहब चक्कर में पड गए|पूछना चाहते थे,इसे कैप्टन क्यों कहते हैं?क्या यही इसका वास्तविक नाम है?लेकिन पानवाले ने साफ बता दिया था कि अब वह इस बारे में बात को तैयार नहीं |ड्राईवर भी बेचैन हो रहा था| काम भी था | हालदार साहब जीप में बैठकर चले गए |

1-हालदार साहब किस बात पर आश्चर्यचित रह गए? क-पानवाले द्वारा कैप्टन का मज़ाकउड़ने पर। ख-कैप्टन की शारीरिक अवस्था को देखकर। ग-कैप्टन को चश्मा बेचते देखकर घ-ड्राईवर को बेचैन देखकर

2 -दिव्यांग होते हुए भी कैप्टन द्वारा फेरी लगाकर अपना गुजर-बसर करना दर्शाता है कि वह ------था |(रिक्त स्थान भरो) क-आत्मविश्वासी ख-स्वाभिमानी ग- सक्षम घ-स्वावलम्बी

3-पानवाला किसका मजाक उडा रहा था? क-हालदार साहब का ख- नेताजी का ग-चश्मेवाले का घ-दुकानवाले का 4-हालदार साहब जीप में बैठकर क्यों चले गए? क-ड्राईवर बेचैन था| ख-उन्हें आवश्यक कार्यालयी काम था| ग-पानवाला कैप्टन के विषय में और अधिक बात करने को तैयार नहीं था| घ-कैप्टन की शारीरिक अवस्था को देख वे निराश हो गए|

5-हालदार साहब के मन में किसके प्रति सम्मान का भाव था? क- कैप्टन के प्रति ख-पानवाले के प्रति ग- नेताजी के प्रति घ- इनमे से कोई नहीं

(प्रश्न-5)निम्न प्रश्नों के उत्तर दीजिए |

(3x2=6)

5

(क)पानवाला दिखने में कैसा था? (ख)वो लंगड़ा क्या फ़ौज में जाएगा !पागल है पागल ! कैप्टन के प्रति पानवाले के इस कथन से आप क्या समझते हैं? (ग)साधारण से चश्मेवाले को लोग कैप्टन क्यों बुलाते थे?

(प्रश्न-6)काव्यांश को ध्यान से पढकर सही उत्तर च्निए |

उधौ, तुम हौ अति बड़भागी।
अपरस रहत सनेह तगा तैं, नाहिन मन अनुरागी।
पुरइनि पात रहत जल भीतर, ता रस देह न दागी।
ज्यौं जल माहँ तेल की गागरि, बूँद न ताकौं लागी।
प्रीति-नदी में पाँव न बोरयौ, दृष्टि न रूप परागी।
'सूरदास' अबला हम भोरी, गुर चाँटी ज्यौं पागी

1-उद्धव को भाग्यवान कौन कह रहा है? क-गोपियाँ ख- गांववासी ग-कृष्ण घ-अन्य

2 -उद्धव के व्यवहार की तुलना किस-किस से की गई है? क-कमल के पत्ते से ख-तेल की गागर से ग-कडवी ककड़ी से घ- सभी विकल्प सही हैं।

3-गोपियों ने स्वयम को अबला और भोली क्यों कहा है? क-सरल हृदय ख-निस्वार्थ ग-वियोग असहनीय है घ-सभी उत्तर सही हैं।

4-गोपियों ने अपनी और कृष्ण की तुलना किस चीज़ से की है? क- चींटी से ख- गुड़ से ग-चीटीऔर गुड़ से घ- अन्य 5-आवन का अर्थ क-आगमन ख- आधार ग-पहले घ- कोई नहीं

(प्रश्न-7)निम्न प्रश्नों के उत्तर लिखिए

(6)

1-कृष्ण के प्रति अपने अनन्य प्रेम को गोपियों ने किस प्रकार अभिव्यक्त किया है? 2 -गोपियों ने उद्धव से योग की शिक्षा कैसे लोगों को देने की बात कही है?

(प्रश्न-8)कृतिका पर आधारित प्रश्न(किसी एक प्रश्न का उत्तर लिखिए) (4)

1-भोलानाथ अपने साथियों को देख सिसकना क्यों भूल जाते हैं?

2- माता का अंचल पाठमें वर्णित तत्कालीन विद्यालयों के अनुशासन से वर्तमान युग के विद्यालयों के अनुशासन की तुलना करते हुए बताएँ किआप किस को अच्छा मानते हैं और क्यों ?
