

ARMY PUBLIC SCHOOL JAMMU CANTT
HOLIDAYS HOMEWORK (SESSION – 2018 – 2019)

ENGLISH

1. Present a comical strip of the poem "The frog and nightingale".
2. Read any children's magazine or novel and create (1) question paper for unseen passages.
Minimum 3 passages with questions.
3. Read the first 7 chapters of the novel "The story of my life".
4. Write a diary entry on one of the worst days of your vacation.
5. Write 25 idiomatic Phrases.
6. Change the following words into the noun forms:-

1. Attend	11. Emerge	21. Breathe	31. Choose
2. Artistic	12. Emote	22. Solemnly	32. Give
3. Fail	13. Wait	23. Dirty	33. Open
4. Move	14. Arrange	24. Humorous	34. Look
5. Foolish	15. Exemplify	25. Satisfy	35. Describe
6. Action	16. Harm	26. Arrive	36. Expect
7. Dance	17. Survive	27. Prepare	37. Suppose
8. Practice	18. Submissive	28. Create	38. Publish
9. Belong	19. Successful	29. Convey	39. Know
10. Punish	20. Relate	30. Seek	40. Knew
			41. Dive
7. Revise the Syllabus and prepare for the cycle test to begin from July 2018.

HINDI

प्रश्न 1 'बढते वृद्धाश्रम ,घटते मूल्यों 'के प्रति युवा-पीढी के कर्तव्य लिखो ।

प्रश्न 2 अव्ययीभाव, तत्पुरुष, द्विगु,द्वन्द्व, कर्मधारय और बहुव्रीहि समास की पहचान और उनके दस-दस उदाहरण लिखकर लाएँ ।

प्रश्न 3 रामायण पढ़कर या देखकर उसके किन्हीं पाँच मुख्य पात्रों का चरित्र-चित्रण करें ।

प्रश्न 4 निम्न अशुद्ध शब्दों के शुद्ध रूप लिखें ।

तत्कालिक,वाल्मीकी,आधीन,पुज्य,अनुग्रहीत,द्रष्टा,श्रंगार,अनेकों,यथेष्ट,ग्रहस्थय,प्रफुलित,
उतेजना,सदृश्य,उज्ज्वल,सषुप्त,आशीर्वाद,कृत्यकृत्य,पुरुस्कार,निश्चित,सन्यासी

प्रश्न 5 ग्रीष्मावकाश का अनुभव अपने शब्दों में लिखें ।

प्रश्न 6 एक से सौ तक हिन्दी(शब्दों) में गिनती लिखें ।

प्रश्न 7 भारतीय ऋतुओं के नाम लिखें ।

प्रश्न 8 विद्यालय पत्रिका हेतु स्वरचित कविता व लेख लिखें ।

निर्देश –ग्रीष्मावकाश कार्य व्याकरण पुस्तिका में करें ।

SCIENCE

CHEMISTRY

- 1) How can you correlate the concept of acidity with the digestion in stomach. How does gelucil or eno helps in providing relief?
- 2) Collect ph paper from a chemist and test the ph of the following solutions and tabulate your observation .. paste all strips in your copy
 - a) Soda
 - b) tomato juice
 - c) coffee
 - d) milk
- 3) Dip and iron nail in a glass of water and leave it for 10 days. Observe the changes happened to the iron nail , note the changes and write the complete reaction.
Click a photo of your observations and paste it in your copy
- 4) What are the environmental issues that may arise due to wastage caused by the rusting of iron?
- 5) What are the different forms of calcium carbonate used in daily life? How are they different from each other and write their uses.
- 6) Note the pH of milk, add a drop of lime juice to it and observe how much time is taken for it to set as curd, note the pH again and give reason why there is a change in pH
- 7) Crush beetroot in a mortar and take juice of it by filtering. Take this juice in four different containers and add few drops of following solution, observe and tabulate the result and paste photographs in your notebook
 - a) Vinegar
 - b) lime juice
 - c) soap solution
 - d) neem extract
- 8) Which salt is used as the bleaching powder? What are the uses of bleaching powder?
- 9) Interact with elder members of the family and find out what traditional methods were used to treat acidic effects caused by bee sting , insect bite etc record the information in science note book
- 10) During dilution, why is it said that the acid should be added to water and not the other way round?

PHYSICS

Q1. Draw symbols of some commonly used components in a circuit.(atleast10)

Q2. Define and drive ohms law and apply it in the circuit having

Potential difference	5v	10v
Current	6A	12A

Q3. Draw circuits having

Resistance	20 ohm
Voltmeter	5v
Current	6A
Battery	20v

Q4. Explain heating effect of current with the help of some examples and define its unit and formula. Give some examples.

- Q5. Do an activity and make a circuit showing bulb to glow.
- Q6. Prove how magnetic needle show deflection.
- Q7. List some of the elements showing the magnetic effects of current.(atleast 5)
- Q8. Explain the principle and working of electric motor.
- Q9. Explain the main difference between electric motor and electric generator.
- Q10. With the help of an activity show that electric current and magnet are related to each other.

BIOLOGY

1. Draw the well labelled diagrams of the following:
 - a. Human digestive system
 - b. Human respiratory system
 - c. Opening and closing of stomata
 - d. Human circulatory system
 - e. Double circulation in humans.
2. Why is cigarette smoking injurious to health. Draw a poster on SAY NO TO CIGARETTE SMOKING.
3. (i) Explain why the rate of photosynthesis in plants is low both at lower and higher temperature. (ii)
Is green light most or least useful in photosynthesis and why?
4. Why is more concentrated yellowish urine excreted in summers? What precautions can we take to avoid it.
5. Leaves of a healthy potted plant were coated with Vaseline to block the stomata. Will this plant remain healthy for long? Give three reasons for your answer.
6. Give the reasons for the following :
 - a. The glottis is guarded by epiglottis.
 - b. The lung alveoli are covered with blood capillaries.
 - c. The wall of trachea is supported by cartilage rings.
7. With the help of a schematic diagram, trace the sequence of events occurring, when you step on a sharp object. Name this action.
8. Explain the process of digestion and absorption of food in our body.
9. (a) Explain with the help of diagram, how Amoeba takes its nutrition. (b)
Assume that you are a veterinary surgeon and you had removed a good length of small intestine of a bear that was suffering from an intestinal tumor. Now would you suggest a plant based or a meat based diet for the bear after its recovery. Give reasons. (c) Do you think plant-based food should be preferred over non vegetarian food? How can you spread your message.
10. You are required to make a table of the diseases/disorders related to Digestive system, respiratory system and circulatory system from your locality and family. Gather information from the people regarding these diseases.

MISC

1. you all are required to register yourself with VIRTUAL SCIENCE PORTAL (www.scienceindia.com) and signup for uploading science articles/ blog. The unique school registration code is ARMY889.
Username / Emailid – apsjc2012@gmail.com ; password – apsjc12345.
Incase you don't have access to internet, submit the hard copy of the same to your science teacher.
2. Our school has launched a recycling program ' Behtar India Program'. You can contribute to this drill by collecting old newspaper, books and notebooks ; make bundle of the material collected by you. Write your name with class details on the cover page of the bundle.
3. You all will bring one innovative idea for the societal needs through science and technology and submit it separately to your science teacher.

MATHS

1. What is Lemma?
2. Show that the square of any positive integer is of the form $3m$ or $3m+1$ for some integer m .
3. Prove that the product of three consecutive positive integers is divisible by 6.
4. Find the HCF of 81 and 237 and express it as a linear combination of 81 and 237.
5. Find the largest number that divides 2053 and 967 and leaves a remainder of 5 and 7 respectively.
6. Check $5n$ can end with the digit 0 for any natural number n .
7. Prove that $3+2\sqrt{5}$ is irrational.
8. Find which of the following numbers are terminating and non-terminating. i) $29/343$ ii) $3/8$
iii) $77/210$ iv) $35/50$
9. Show that $n^2 - n$ is divisible by 2 for every positive integer n
10. Show that the product of 3 consecutive positive integers is divisible by 6.
11. Show that for odd positive integer to be a perfect square, it should be of the form $8k + 1$.
12. Find the greatest number of 6 digits exactly divisible by 24, 15 and 36.
13. Prove that $(\sqrt{n} + 1 + \sqrt{n} - 1)$ is irrational, for every $n \in \mathbb{N}$

CHAPTER-02

1. Define a polynomial with real coefficients.
2. If 1 is zero of the polynomial $p(x) = ax^2 - 3(a-1)x - 1$, then find the value of a .
3. If the sum of the squares of zeros of the quadratic polynomial $f(x) = x^2 - 8x + k$ is 40, find the value of k .

4. If α and β are the zeros of the quadratic polynomial $f(x) = 2x^2 - 5x + 7$, find a polynomial whose zeros are $2\alpha + 3\beta$ and $3\alpha + 2\beta$.
5. If α and β are the zeros of quadratic polynomial $p(s) = 3s^2 - 6s + 4$, find the values of $\frac{\alpha}{\beta} + \frac{\beta}{\alpha} + 2\left(\frac{1}{\alpha} + \frac{1}{\beta}\right) + 3\alpha\beta$.
6. If two of the zeros of the polynomial $f(x) = x^3 - 4x^2 - 3x + 12$ are $\sqrt{3}$ and $-\sqrt{3}$, then find its third zero.
7. Find the values of a and b so that $x^4 + x^3 + 8x^2 + ax + b$ is divisible by $x^2 + 1$.
8. Find all other zeros of the polynomial $x^4 + x^3 - 34x^2 - 4x + 120$, if two of its zeros are 2 and -2 .
9. Find the zeros of the polynomial $2s^2 - (1 + 2\sqrt{2})s + \sqrt{2}$ and verify the relations between the zeros and coefficients of the polynomial.
 $+3/2$ respectively. Also find its zeros.
10. If α and β are the zeros of the polynomial $x^2 - 5x + k$ such that $\alpha - \beta = 1$, find value of k .
11. Find the value of K such that $3x^2 + 2kx + x - k - 5$ has the sum of the zeros as half of their product.
12. If the polynomial $x^4 + x^3 + 8x^2 + ax + b$ is divisible by $(x^2 + 1)$ find a and b .
13. Verify that $3, -1, -1/3$ are the zeros of the cubic polynomial $P(x) = 3x^3 - 5x^2 - 11x - 3$ and then verify the relationship between zeroes and the coefficients.
14. Find a quadratic polynomial whose zeroes are $2 + \sqrt{3}$ and $2 - \sqrt{3}$
15. One zero of the quadratic polynomial $2x^2 - 8x - m$ is $5/2$. Find the other zero and the value of m .

CHAPTER-03

1. Show graphically that the system of equations: $3x - y = 2, 9x - 3y = 6$
2. Solve the system of equations by using the method of substitution
- $$\frac{2x}{a} + \frac{y}{b} = 2, \quad \frac{x}{a} - \frac{y}{b} = 4$$
3. Solve $\frac{1}{2(2x+3y)} + \frac{12}{7(3x-2y)} = \frac{1}{2}, \quad \frac{7}{2x+3y} + \frac{4}{3x-2y} = 2$
4. Solve $x + y = a + b, \quad ax - by = a^2 - b^2$
5. Find the values of p and q for which the following system of equations has infinite number of solutions: $2x + 3y = 7, (p+q)x + (2p-q)y = 21$
6. The sum of the digits of a two digit number is 8 and the difference between the number and that formed by reversing the digits is 18 . Find the number.
7. Two years ago, a father was five times as old as his son. Two years later, his age will be 8 more than three times the age of the son. Find the present ages of father and son.
8. A boat goes 12 km upstream and 40 km downstream in 8 hours. It can go 16 km upstream and 32 km downstream in the same time. Find the speed of the boat in still water and the speed of the stream.

9. Solve the following system of linear equations graphically: $3x+y-11=0$, $x-y+1=0$ Shade the region bounded by these lines and y-axis. Also, find the area of the region bounded by the lines and y-axis.
10. Find the values of a and b for which the following system of linear equations has infinite number of solutions, $2x+3y=7$, $a(x+y)-b(x-y)=(3a+b-2)$
11. solve the pair of linear equations:

$$\frac{1}{2(2x+3y)} + \frac{12}{7(3x-2y)} = \frac{1}{2}, \quad \frac{7}{2x+3y} + \frac{4}{3x-2y} = 2$$

12. Solve for x and y: $(a-b)x + (a+b)y = a^2 - 2ab - b^2$, $(a+b)(x+y) = a^2 + b^2$
13. A train covered a certain distance at a uniform speed. If the train would have been 10 km/h faster, it would have taken 2 hours less than the scheduled time. And, if the train were slower by 10 km/h, it would have taken 3 hours than the scheduled time. Find the distance covered by the train.
14. Solve the following system of linear equations graphically
 $3x+y-11=0$, $x-y-1=0$
 a) Shade the region bounded by these lines and y-axis.
 b) Find area of the region bounded by these lines and the y-axis.
 c) Determine vertices of the triangle formed by the lines representing the above equations and the y-axis.

CHAPTER-4

1. In a three digit number, middle digit is 4. Product of the other two digits is 18. If we subtract 297 from the number, the digits get reversed. Find the number.
2. In a two digit number, product of the digits is 12. Difference of the digits is 1. Find the number.
3. To cover a distance of 120 kms downstream and 80 kms upstream a boat takes 2 hours. If the speed of the boat in still water is 100 kms/hr, find the speed of the stream.
4. To cover a distance of 150 kms downstream and 130 kms upstream a boat takes two hours. If the speed of the stream is 20 kms/hr, find the speed of the boat in still water.
5. Find the value of k if the roots of $kx^2 + 3x + 7 = 0$ are real and equal.
6. Solve using quadratic formula: (i) $x^2 - 2x - 3 = 0$ (ii) $2x^2 + 4x - 5 = 0$
7. Solve using factorization method: (i) $x^2 - 7x + 12 = 0$ (ii) $x^2 - 4x - 12 = 0$
8. Solve by the method of completion of squares: (i) $x^2 - 2x + 7 = 0$ (ii) $x^2 - 3x + 2 = 0$
9. Solve : $\frac{1}{a-b+x} = \frac{1}{x} + \frac{1}{a} - \frac{1}{b}$
10. Solve for x: $a^2b^2x^2 - (4b^4 - 3a^4)x - 12a^2b^2 = 0$
11. Find the value of K for which roots of the equation $x^2 - 8kx + 2k = 0$ are real and equal.
12. If the roots of quadratic equation $(b-c)x^2 + (c-a)x + (a-b) = 0$ are equal then prove that $2b = a + c$

13. Find a natural number whose square diminished by 84 is equal to thrice of 8 more than given number.
14. If the roots of $ax^2 + bx + c = 0$ are equal in magnitude but opposite in sign then prove that $b=0$
15. Solve $x = \sqrt{6 + \sqrt{6 + \sqrt{6}}} \dots\dots\dots$

CHAPTER-5

1. Find a, b and c such that the following numbers are in AP: a, 7, b, 23, c.
2. Find the 11th term from the last term of the A.P: 10, 7, 4,, -62.
3. Which term of A.P 134, 129, 124,, is its first negative term.
4. Find the ratio of 10th term from beginning and 20th term from the end of the AP: 3, 8, 13,, 253.
5. If the pth, qth and rth term of a AP be x, y and z respectively. Show that :
 $x(q-r) + y(r-p) + z(p-q) = 0$
6. Find the middle term of the sequence formed by all three digit numbers which leave a remainder 3, when divided by 4. Also, find the sum of all numbers on both sides of the middle terms separately.
7. The sum of the first n terms of an A.P is $4n^2 + 2n$. Find the nth term of this A.P
8. If a, b, c are in A.P then show that $\frac{1}{bc}, \frac{1}{ca}, \frac{1}{ab}$ are also in AP.
9. Divide 48 into four parts which are in AP such that the products of extremes to the product of means is 7:15.
10. Solve, $1+6+11+16+\dots\dots\dots+x=148$
11. In an AP, sum of first ten terms is -150 and the sum of its next ten terms is -550. Find the AP.
12. The sum of three numbers in AP is 12 and the sum of their cubes is 288. Find the numbers.
13. If the mth term of an AP is $\frac{1}{n}$ and nth term is $\frac{1}{m}$, show that the sum of mn term is $\frac{1}{2}(mn+1)$.
14. If the sum of m terms of an AP is the same as the same as the sum of its n terms, show that sum of its (m+n) term is zero.
15. The sum of n, 2n and 3n terms of an AP are S_1, S_2 and S_3 respectively. Prove that $S_3 = 3(S_2 - S_1)$
16. The ratio of the sums of m and n terms of an AP is $m^2 : n^2$. Show that the ratio of mth and nth term is $(2m-1) : (2n-1)$
17. The sum of three numbers in AP is 12 and the sum of their cubes is 288. Find the numbers.

S.ST

Geography

- Q1. How does urbanization and urban lifestyle lead to over exploitation of water resources? Explain.
- Q2. What is the importance of water resources?
- Q3. How has irrigation changed the cropping pattern ? What is its impact on the social landscape?
- Q4. Explain the roof top rainwater harvesting technique.
- Q5. Mention four advantages of Multipurpose projects.
- Q6. Explain the quantitative and qualitative aspects of water scarcity.
- Q7. **Collect paper cuttings on water scarcity in India during 2018.**

Economics

- Q1. What is under employment ? Explain with an example.
- Q2. Distinguish between Organised and Unorganised sectors of economy.
- Q3. Distinguish between Public and Private sectors.
- Q4. Distinguish between Final and intermediate goods.
- Q5. Why is the tertiary sector becoming so important in India? Give five reasons?
- Q6. Suggest some ways which will help to create employment in rural areas?
- Q7. **Collect paper cuttings on latest economic reforms in India.**

CIVICS:

1. How have Belgium and Sri Lanka dealt with the question of power sharing differently?
2. Differentiate horizontal and vertical power sharing in modern democracies?
3. Describe any three demands of the Sri Lankan Tamils. How did they struggle for their demands?
4. Why was it felt earlier that undivided political power was better? What changes this notion and why?
5. Why did some leaders fear when the demand for formation of states on languages was raised?
What was the outcome?
6. Argue in favour and against the local self government in India?
7. What is the basic nature of federal system?
8. Describe the features of 73rd amendment act of 1992.
9. Explain the features of federalism.
10. Examine the distribution of power between centre and states.
11. discuss the various steps taken towards democratic decentralisation after 1992 in India?
12. Differentiate between holding and coming together federation.
13. Examine centre -states relations in India.
14. Why power sharing is desirable?
15. Examine the ethnic composition of Belgium