

JKG International School, Indirapuram
Holiday Assignment
Session: 2019-20
Class: IX

Dear Parent,

Korean Culture Centre of Embassy of the Republic of Korea is organizing Essay writing and Painting Competition named "All India 7th Korea-India Friendship Competition 2019." The Essay writing competition will be there for the students of classes VI to XII.

Category	Topic	Word Limit
Grade VI to IX (Junior)	My Favorite South Korean Person	150-300 words
Grade X to XII (Senior)	South Korea-My favorite Destination	300-500 words

It should be done on A4 size ruled sheet.

The painting Competition will be there for the students of classes I to XII. The students can select any one topic of their own choice.

- 1- South Korea – as I see it (technology, Beauty, Tourism, Sports, Culture etc.)
- 2- Legendary Indian Princess Huh Hwang – ok to Korea. (Ayodhya, Queen Heo Memorial)
- 3- Korea and India's Independence movement (March Ist Movement, 15th August – Liberation day)

Entry Specifications

- 1- The painting must be original & work done on paper.
- 2- Paper can be of any kind.
- 3- Any kind of coloring can be used including crayons, water colors, acrylic colors, oil colors, charcoal, paints, oil paints etc.

Junior Group (Grade I to VII)	A4 Size
Senior Group (Grade VIII to XII)	A3 Size

NO ENTRY FEE

Note:

- **There is No Participation Fee of any Kind.**
- **Free Trip to South Korea for Top 3 winners of each competition.**
- **Cash Prizes of ₹ 1, 19,000 (Essay comp.)**
- **Cash Prizes of ₹ 75,000 (Painting comp.)**
- **Consider it as a part of Holidays Home Work.**

Subjects	Chapters/ Units
English	Do English Plus Assignment No. 5, 6, 7, 8 (Factual Passage) Do Assignment No. 5, 6, 7, 8 (Discursive Passage). Do Assignment No. 5, 6, 7, 8 (Part 1 Writing) Do Assignment No. 5, 6, 7, 8 (Part 2 Grammar)
Mathematics	Do the given Assignment.
Science	Do the given Assignment.
Social Science	<ul style="list-style-type: none"> • Prepare a scrap book (Best of waste): Prepare from Paper cutting from newspaper or magazines related to analysis on development of education, infrastructure & Impact on employment generation in India. • Mention the main organs of the government and their work.
Hindi	<ul style="list-style-type: none"> • संत कवि कबीर एवं रहीम के 10-10 दोहे ए-4 शीट पर लिखें। • अपने घर के आस-पास दिखने वाले किसी पक्षी का नाम भेजन, खाने का तरीका, रहने की जगह और अन्य पक्षियों से संबंध आदि के आधार पर एक चित्रात्मक विवरण तैयार करें।
Computer	Make a presentation on <ul style="list-style-type: none"> • The Latest Super Computer • Types of Microcomputers

Note: Prepare for UT-I.

Holiday Assignment Physics

- Q1. What does the odometer of an automobile measure?
- Q2. A bus decrease its speed from 80 km/h to 60 km/h in 5 s. Find the acceleration of the bus.
- Q3. What is the quantity measured by the area occupied below the velocity-time graph?
- Q4. A racing car has a uniform acceleration of 4m/s^2 . What distance will it cover in 10 s after start?
- Q5. Differentiate between scalars and vectors.
- Q6. Derive second equation of motion graphically.
- Q7. Draw the graph for uniform retardation-
- (a) Position-time graph
 - (b) Velocity-time graph
 - (c) Acceleration-time graph
- Q8. An object has moved through a distance. Can it have zero displacement? If yes, support your answer with an example.
- Q9. A train starting from a station and moving with uniform acceleration attains a speed of 40km/h in 10 minutes. Find the acceleration.
- Q10. What does the path of an object look like when it is in uniform motion?
- Q11. What is the momentum of a body of mass m , moving with velocity v ?
- Q12. Newton's first law of motion is also called_____.
- Q13. The people in the bus are pushed backwards when the bus starts suddenly due to_____.
- Q14. When a carpet is beaten with a stick, dust comes out of it. Explain.
- Q15. What is the momentum of a body of mass 200g moving with a velocity of 15m/s?
- Q16. Why does boat moves backwards when the sailor jumps in the forward direction?
- Q17. Whish of the following has more inertia:
- (a) A rubber ball and a stone of the same size?
 - (b) A bicycle and a train
 - (c) A five rupees coin and a one-rupee coin?
- Q18. Explain why some of leaves may get detached from tree if we vigorously shakes its branch.
- Q19. If action is always equal to the reaction, explain how horse can pull a cart.
- Q20. A force of 15 N acts for 5 s on a body of mass 5 Kg which is initially at rest. Calculate.
- (a) Final velocity of the body
 - (b) The displacement of the body.
- Q21. Differentiate between mass and weight.
- Q22. State Newton's second law of motion and derive it mathematically.
- Q23. The inability of the body to change its state of rest or motion is called_____.
- Q24. If the force acting on the body is zero. Its momentum is _____.
- Q25. Which law explains swimming?

Holiday Assignment Chemistry

1. Suggest a method to liquefy atmospheric gas.
2. Why does our palm feel cold when we put some acetone or petrol on it?
3. Name the process which occurs when a drop of dettol is added to water.
4. Which causes more severe burns – boiling water or steam?
5. Convert the following temperatures to Celsius scale.
 - a) 500 K
 - b) 490 K
 - c) 300 K
 - d) 390 K
6. Identify solute and solvent in tincture of iodine.
7. Give four points of difference between boiling and evaporation.
8. Which gas is called dry ice? Why?
9. Design an experiment to show that ammonium chloride undergoes sublimation.
10. How do solution colloid and suspension differ from each other?
11. Name the technique to separate
 - a) butter from curd
 - b) salt from sea water
 - c) camphor from salt
 - d) wheat grain from husk
 - e) tea leaves from tea
 - f) iron pins from sand
12. Sea water can be classified as homogenous as well as heterogeneous mixture, comment.
13. A solution contains 60 ml of alcohol mixed with 200 ml of water. What is percentage concentration of the solution?
14. A solution of urea in water contains 16 gm of it in 120 gm of solution. Find out the mass percentage of the solution.
15. Is water an element or a compound? Give reasons in support of your answer.
16. Define Chromatography and give its two applications.
17. What are the two components of a colloidal solution?
18. Classify each of the following as physical or a chemical change. Give reasons.
 - a) churning of milk cream to get butter
 - b) burning of kerosene
 - c) change in the colour of black tea on adding lemon juice to it.
 - d) drying of a shirt in the sun.
 - e) burning of a candle
19. List two points of difference between homogenous and heterogeneous mixture.
20. Convert the following temperatures into Kelvin scale.
 - a) 35⁰ C
 - b) 273⁰ C
 - c) 30⁰ C
 - d) 45⁰ C

Holiday Assignment Biology

1. What is neuron? Write the functions and structure of neuron.
2. Why are xylem and phloem called complex tissues? How are they different from one another?
3. Write four differences between bones and cartilage.
4. Differentiate between parenchyma, collenchyma and sclerenchyma.
5. Name the following
 - a) tissue present in the brain
 - b) connective tissue with a fluid matrix
 - c) tissue that transports food in plant
 - d) tissue that connects muscle to bone in humans.
6. What are functions of stomata?
7. Differentiate between plant and animal cell and explain with the help of labelled diagram.
8. Why is plasma membrane called semi permeable membrane?
9. Why are mitochondria called the power- house of a cell? Describe the structure and functions of mitochondria with the help of a suitable diagram.
10. Name two organelles in a plant cell that contain their own genetic material and ribosome's.
11. Where are proteins synthesized in the cell?
12. What is membrane biogenesis?
13. Give three features of cardiac muscles.
14. What happens to the cells formed by meristematic tissue?
15. Why are plants and animals made up of different types of tissues?
16. What type of tissue is blood? Write any two functions of blood.
17. What happens if
 - a) ribosomes are removed from the cell
 - b) golgi apparatus is removed from the cells
 - c) plasma membrane ruptures
18. State reasons for the following:
 - i) cell is called as the structural and functional unit of life
 - ii) plastids are able to make their own protein
 - iii) plant cells shrink when kept in hypertonic solution
19. Why does the skin of your finger shrink when you wash clothes for a long time?
20. Where will you find more number of ribosome's – in cancer cells or in fat cells.

Holiday Assignment Mathematics

- Q1. The supplement of an angle is one third of itself. Determine the angle and its supplement.
- Q2. If a ray OC stands on line AB such that $\angle AOC = \angle COB$, show that $\angle AOC = 90^\circ$.
- Q3. If $\angle XYZ = 64^\circ$ and XY is produced to a point P. Draw the figure from the given information. If ray YQ bisects $\angle ZYP$, find $\angle XYQ$ and reflex $\angle QYP$.
- Q4. $\angle AOC$ and $\angle BOC$, form a linear pair. If $\angle AOC = a$, $\angle BOC = b$ and $a - 2b = 30^\circ$, find the values of a and b.
- Q5. Find the value of y where AOB forms a straight and OC is a ray such that $\angle AOC = (4y)^\circ$ and $\angle BOC = (6y + 30)^\circ$.
- Q6. AB, CD and EF are three concurrent lines passing through the point O such that OF bisects $\angle BOD$. If $\angle BOF = 35^\circ$, find $\angle BOC$ and $\angle AOD$.
- Q7. If two straight lines are perpendicular to the same line, prove that they are parallel to each other.
- Q8. Express the following in the form of $\frac{p}{q}$
- (i) $0.0\overline{32}$ (ii) $4.3\overline{8}$ (iii) $1.\overline{3}$

Q9. Simplify the following:

- (i) $\left(\frac{64}{125}\right)^{-\frac{2}{3}} + \left(\frac{625}{256}\right)^{\frac{1}{4}} + \frac{\sqrt{25}}{\sqrt[3]{64}}$
- (ii) $\left(\frac{x^a}{x^b}\right)^{a+b} \cdot \left(\frac{x^b}{x^c}\right)^{b+c} \cdot \left(\frac{x^c}{x^a}\right)^{c+a}$
- (iii) $\sqrt{3} \times 5^{-3} \div \sqrt[3]{3^{-1}} \times \sqrt{5} \times \sqrt[6]{3} \times 5^4$
- (iv) $\sqrt[4]{81} - 8\sqrt[3]{216} + 15\sqrt[5]{32} + \sqrt{225}$

Q10. Simplify:

- (i) $\frac{2\sqrt{6}}{\sqrt{3}+\sqrt{2}} + \frac{6\sqrt{2}}{\sqrt{6}+\sqrt{3}} - \frac{8\sqrt{3}}{\sqrt{6}+\sqrt{2}}$
- (ii) $\frac{4+\sqrt{5}}{4-\sqrt{5}} + \frac{4-\sqrt{5}}{4+\sqrt{5}}$
- (iii) $\frac{3}{5-\sqrt{3}} + \frac{2}{5+\sqrt{3}}$

Q11. Find the value of p if:

- (i) $2^{5p} \div 2^p = 5\sqrt{2^{20}}$
- (ii) $(27)^p = 9 \div 3^p$

Q12. Evaluate:

(a) If $\frac{3+\sqrt{7}}{3-\sqrt{7}} = a + b\sqrt{7}$, find the value of a and b.

(b) If $x = \frac{2-\sqrt{5}}{2+\sqrt{5}}$ and $y = \frac{2+\sqrt{5}}{2-\sqrt{5}}$, find $x^2 - y^2$

(c) If $x = 3 + \sqrt{8}$, find $x^2 + \frac{1}{x^2}$

Q13. Represent the following numbers on a number line.

i) $\sqrt{4}$

ii) $\sqrt{6.7}$

Q14. Factorise

(i) $a^7 - ab^6$

(ii) $4a^2 - 9b^2 - 2a - 3b$

(iii) $a^2 - b^2 - 2(ab - ac + bc)$

Q15. Without actual division, prove that $2x^4 - 6x^3 + 3x^2 + 3x - 2$ is exactly divisible by $x^2 - 3x + 2$.

Q16. Plot the following points on the graph and write in which quadrant or on which axis they lie. $(2,3), (3,-4), (7,-2), (3,0), (4,7), (5,-5), (2,0), (0,5), (0,-2), (0,0), (1,4), (3,4), (-5,4)$

Q17. If the point $(3,4)$ lies on the graph of $3y = ax + 7$, find the value of a.

Q18. Evaluate using identities. 101×102 .

Q19. If both $x - 2$ and $x - \frac{1}{2}$ are factors of $px^2 + 5x + r$, show that $p = r$.

Q20. Simplify $(2x - 5y)^3 - (2x + 5y)^3$