THE INDIAN COMMUNITY SCHOOL KUWAIT – KHAITAN

Dear Parent,

We are glad to inform you that K-RAYS, our exhibition of projects on Science, Mathematics, Social Science, English, Hindi, French, EVS, Computer Science, Art, Music, Dance, Arabic, Islamic Studies and Sports is going to be re-launched after a gap of two years. It is going to be organized on Thursday, 17th October, 2019 from 04:00 pm to 08:00 pm in our campus. All students from LKG to XI are expected to participate as it is going to be a rich learning experience for them. It will also provide an opportunity for innovative thinking. The participation is optional for class X and XII students.

A child may submit minimum 1 project and maximum of 2 individually or as a team. These projects shall be considered as their SEA (Subject Enrichment Activity) for that respective subject. Marks shall be awarded for the same. A child doing a project in a particular subject is exempted from the vacation assignment of that subject. Class wise/ subject wise topics are suggested along with the vacation assignments below.

All projects are to be submitted to the concerned subject teachers after the vacation. The best 10 projects from each class shall be selected, to be exhibited in K-RAYS. Class wise best 3 projects will be awarded prizes.

Please note:
- The student has to submit the vacation assignments on his/her first reporting day after the vacation. Any delay in this shall be penalized by deducting 1 mark per day.
- The project/ exhibit should be an original work done by an individual student or a team of maximum 4 students.
- As far as possible, innovative working models should be submitted, mere charts/still models will not be preferred.
- Commercially available models will not be allowed unless it is an integral part of the exhibit.
- Highly inflammable materials, any unsafe apparatus or device will not be allowed.
- First submission of the K-Rays projects is on 10th September, 2019.
- In case your ward's project is selected, you may make any modification, or prepare any supporting materials (charts, ppt. etc) if required, before the exhibition.

Thanking you.
With best regards,

Principal

26 /05/2019

ENGLISH HOLIDAY ASSIGNMENT 2019-CLASS XI

Q1. (a) Read at least five short reports in any English newspaper. Cut and paste them in your note-book. On the basis of your reading of these reports, make notes on them in points only, using headings and sub-headings and also suggest a suitable title. Use recognizable abbreviations wherever necessary.

(b) Make a summary of these passages in not more than 80 words.

Q2. Visit any one of the following places and write a factual description about what you saw there and how this experience affected your life. (150 words) (hospital/ orphanage/ old age home/ blind school/School for special children or any other such place)

Q3. Read a newspaper every day and select at least one main news of your interest. Write a paragraph of 150-200 words on 30 News items.

Q4. Make a comparative study of an Indian author who writes in English with that of a writer of any other nationality who writes in English. There is no restriction to the genre of writing that you choose. The work is to be presented in manuscript, neatly enclosed in a file.

{The assignment except should be neatly handwritten and **submitted in an A4 size folder**}

Project-Book Review – Class XI

Format:

1. Title of the Book   2. Author of the Book: Who has written the book?

3. Best Selling Information: Was the book a top-selling book – under what category?

4. Genre: Does the book come under the category of Fiction or Non Fiction?
Fiction includes: Classic, Comic/Graphic Novels, Fantasy, Crime/Detective, Mystery, Mythology, Science Fiction, Suspense/Thriller etc.
Non-Fiction includes: Biography/Autobiographies, Narrative Nonfiction, Essays etc.

5. Name of the Publisher   6. Achievements: Has the book won any awards/achievements? Has the author won any awards for the book? In what year?

7. About the Author: 8. Summary:.

9. Plot details: 10. Setting: Where has the book been set – historical moment in time/ geographic location? At what time/what year/season? This helps initiate the main backdrop and mood for the story.

1   If $2\tan(\alpha) = 3\tan(\beta)$, prove that $\tan(\alpha - \beta) = \frac{\sin(2\beta)}{5-\cos(2\beta)}$.

2   Prove that : $\tan(60 + A).\tan(60 - A) = \frac{2\cos 2A + 1}{2\cos 2A - 1}$

3   If $\cos\alpha + \cos\beta = 0 = \sin\alpha + \sin\beta$ then find the value of $\cos 2\alpha + \cos 2\beta$.

4   Prove that : $cos^2\left(\frac{\pi}{8}\right) + cos^2\left(\frac{3\pi}{8}\right) + cos^2\left(\frac{5\pi}{8}\right) + cos^2\left(\frac{7\pi}{8}\right) = 2$

5   If $\tan A = \frac{1}{7}$ and $\tan B = \frac{1}{3}$ show that $\cos 2A = \sin 4B$

6   If $\cos(\alpha + \beta) = \frac{4}{5}$, $\sin(\alpha - \beta) =$
    $\frac{5}{13}$ and α and β lies between 0 and $\frac{\pi}{4}$, show that $\tan 2\alpha = \frac{56}{33}$

7   Show that : $\frac{2\sin\theta - \sin 2\theta}{2\sin\theta + \sin 2\theta} = tan^2\left(\frac{\theta}{2}\right)$

8   If $\sin\theta = \frac{1}{2}\left(x + \frac{1}{x}\right)$, show that $\sin 3\theta + \frac{1}{2}\left(x^3 + \frac{1}{x^3}\right) = 0$

9   Prove that : $\frac{\sec 8A - 1}{\sec 4A - 1} = \frac{\tan 8A}{\tan 2A}$

10   Prove that : $sin^3 A + sin^3\left(\frac{2\pi}{3} + A\right) + sin^3\left(\frac{4\pi}{3} + A\right) = -\frac{3}{4}\,\text{Sin } 3A$

11   Find the real numbers x and y if $(x - iy)(3 + 5i)$ is the conjugate of $-6 - 24i$

12   Find the polar form of the complex numbers (i) $\frac{1+2i}{1-3i}$ (ii) $-\sqrt{3} + i$ (iii) $\frac{1}{1+i}$ (iv)
    $\frac{-16}{1+i\sqrt{13}}$

13   Evaluate $\left[i^{18} + \left(\frac{1}{i}\right)^{25}\right]^3$

14   If $Z_1 , Z_2 , Z_3 , \dots\dots\dots\dots\dots\dots\dots\dots\dots Z_n$ are complex numbers such that $|Z_i| = 1$,
    prove tha1t

    $|z_1 + z_2 + -------- + z_n| = \left|\frac{1}{z_1} + \frac{1}{z_2} + ----- + \frac{1}{z_n}\right|$

15   Find the modulus of the complex number $\frac{1+\cos\theta + i\sin\theta}{1+\cos\theta - i\sin\theta}$

16   Find the square root of 7-24i

17   Evaluate : $\left(-\sqrt{-1}\right)^{4n+3}$, $n\epsilon N$

18   If $Z_1 = 2 - i$, $Z_2 = 1 + i$, find $\left|\frac{Z_1 + Z_2 + 1}{Z_1 - Z_2 + i}\right|$

19   If $(1 + i)(2 + i)(3 + i) ------- (n + i) = x + iy$, find $(2)(5)(10) - --- (n^2 + 1)$

20   If z is a complex number such that $|z + 2| \leq 5$,then find the greatest value of $|z + 5|$

21   Find the value of $2x^4 + 5x^3 + 7x^2 - x + 41$ when x = -2-$\sqrt{3}i$

Class XI- Info

1. Table : Metro

Column name	Datatype	Size	Constraint	Description
MNO	Int	4	Primary key	Metro number
ORIGIN	Varchar	15	Not null	Origin station
DESTINATION	Varchar	15	Not null	final destination
DISTANCE	Int	3	Check > 10	Total distance in Km
TIME	Decimal	4,2	Default value= 11	Starting time from origin
SEATS	Int	3	Check >0	Number of seats

Write the Mysql Command for the following :

1. To create the above table with proper syntax and Constraints .
2. To Count the total number of records in the table.
3. To change the destination of all metros with ABC station to XYZ.
4. To increase the capacity by 5% for the destination ABC.
5. To Delete the column SEATS.
6. To display the origin starts with 'S' in the descending order of time.
7. To add a new column called type to store 20 characters into it .
8. To display the details of all the metros whose origin contains 'S'
9. To display number of metros starting from the origin.
10. To display origin which has exactly 5 characters.
11. To display Origin contains 2nd character is U and 4th character is 'A'
12. To Increase the capacity by 50.
13. To Delete the table metro to display origin which has exactly 5 characters.

2. Table : LIBRARY

Bno	Title	Author	Subject	Publisher	Qty	Price
1	Data Structure	Sawhney	DS	Mc-Graw	4	217
2	Dos guide	Norton	OS	PHI	3	175
3	Turbo C++	Robert	PROG	Galgotia	5	270
4	D-base Dummies	Palmer	DBMS	Pustak M.	7	130
5	Mastering Windows	Cowart	OS	BPB	1	225

Write the mysql Command /Output for the following :

1.   Create the above table called LIBRARY with proper syntax and constraints:
2.   List all the books with price between 200 to 500 and value not exceeding 2000 .
3.   Increase the price for all OS Books by 5% whose quantity is more than 2.
4.   Arrange all the books according to the subject in asc order and price in desc order.
5.   List all the books with price not less than 130 in ascending orders of Quantity.
6.   Add the 5th row into the table Library .
7.   Add a new column Email of size 30 and store abc@hotmail.com into it.
8.   Find the value of all the books in the library in descending order of the author .
9.   Display all the publisher and the title of each subject which is 500Rs or above.

Q1	a	What are the functional components of a digital computer?	1
	b	How can computer software be classified?	1
	c	What is the importance of an OS?	2
	d	Distinguish between CPU and ALU.	2
	e	What is the role of memory in computer functioning?	2
	f	What is Application Software? Why is it required?	2

Q2　a　Convert the following: 　　　　　　　　　　　　　　　　5
        (i)　　　$(7AB4)_{16}$ to binary.
        (ii)　　$(145)_{10}$ to Octal.
        (iii)　　$(101011111)_2$ to decimal and hexadecimal.
        (iv)　　$(478)_{10}$ to hexadecimal

    b　Solve the following: 　　　　　　　　　　　　　　　　4
        (i)　　　11000 + 11
        (ii)　　10000.111 + 1100.001

    c　What is the use of ASCII and UNICODE ? 　　　　　　1

Q3　a　Name the three basic logic gates? 　　　　　　　　　1

    b　What is the other name for NOT gate? 　　　　　　　1

    c　State (i) Identity law and verify them using Truth Table. 　　4
        (ii) Involution law and verify them using Truth Table.

    d　Draw the Boolean gate and its truth table for the following: 　4
        (i)　　　NOR
        (ii)　　AND

    e　Prove the following us ing Truth Table: 　　　　　　　4
        (i)　　　B (A + B)=B
        (ii)　　A'B'C + A'B C + A B' C = A' C + B' C

    f　Draw the Logic circuit for the following Boolean Expression: 　4
        (i)　　　Y = A' B' C' D + A B' C' D + A B C' D + A B C D'
        (ii)　　F(x,y)= x . y + x' . y'

    g　　Write Boolean expression for the Logic Circuit given below: 　1

        (i)
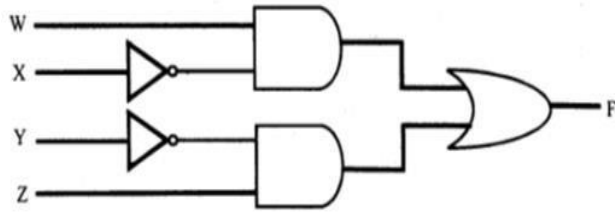
      (ii)   1
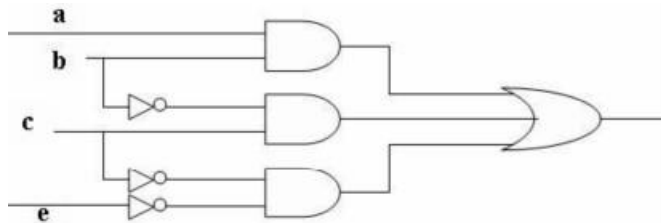
Q4   a   What is the importance of a Primary key in a table?   1

b   Differentiate between DDL and DML commands..   1 c   A table "PRICE" in a database has degree 3 and cardinality 8. What is the   1 number of rows and columns in it?

c   Write a MySQL command for creating a table "DEPARTMENT" whose   1
          structure is given below:
          Table: DEPARTMENT

Field Name	Datatype	Size
ID	NUMBER	8
NAME	Varchar	25

d   Modify table DEPARTMENT, add another column called DEPTNO of   1
          NUMBER type, size 1 into it..

e   In DEPTNO column of the table DEPARTMENT the entry was wrongly   1   entered as 50.Write a command to change it to 20.   f   Remove the column DEPTNO.   1 g
          Rename the column Name as EMPNAME.   1 h   Change the Datatype of ID to Varchar.   1 i   Delete the table DEPARTMENT
     1

THE INDIAN COMMUNITY SCHOOL- KUWAIT

PSYCHOLOGY HOLIDAY ASSIGNMENT

CLASS XI

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1. Case study:
   Conduct a case study on any individual, group/organization, concept related to psychology using methods like observation, interview and survey. Case study should be minimum 20 pages (spiral bind)
2. Complete record work. All three practicals should be written neatly in the record.
3. Write an autobiography of your life or narrate your own experiences/lessons learnt from it. You can narrate any significant event/episode from your life.
4. Watch any movie having a psychological theme or based on psychological disorder and write a review of the movie.
5. Read all the concepts given in boxes in chapters 1-9, paraphrase them and write them in your own words in a separate note book.
6. Learn and revise chapters 1 and 2

AHoliday Assignment 2019

Physical Education - XI

One mark questions

1. What do you mean by BMI?
2. Enlist the elements of yoga?
3. What do you mean by Special Olympic Bharat?
4. What do you mean by wellness?
5. What do you mean by coordinative abilities?
6. What is Olympic motto?
7. Who can participate in Paralympic Games?
8. What is body composition?

Three marks questions

9. What is adapted physical education and explain any three principles?
10. Define strength and discuss its types in brief?
11. Elucidate the objectives of modern Olympic Games?
12. What do you mean by pranayama? Mention the types of pranayama?

Five marks questions

13. Define physical education and explain its objectives in detail?
14. Explain the components of Physical Fitness in detail.
15. Describe in detail about the role of various professionals for children with special needs.

Class 11- Chemistry

Vacation Assignment(2019-2020)

1. The density of 3 mol of NaCl is 1.25 gL^{-1} , Calculate molarity of a solution (at wt.of Na= 23, Cl =35.5)
2. a)Calculate the mass of $CaCO_3$ required to completely react with 25 ml of 0.75M HCl.
   b) Calculate the volume of CO2 released at STP.

3. Boron consists of two isotopes whose atomic weights are 10.01 and 11.01. The atomic weight of natural Boron is 10.81. Calculate the percentage of each isotopes in natural Boron.
4. State Heisenberg's Uncertainty Principle. Give its mathematical expression. A microscope using suitable photons is employed to locate an electron in an atom within a distance of 0.1 Å. What is the uncertainty involved in the measurement of its velocity?
5. Indicate the number of unpaired electrons in : (a) P, (b) Si, (c) Cr, (d) Fe and (e) Kr.
6. The unpaired electrons in Al and Si are present in 3p orbital. Which electrons will experience more effective nuclear charge from the nucleus?
7. What would be the IUPAC name and symbol for the elements with atomic number 104, 119, 109, 110 and 111.
8. Give the electronic configuration and in terms of period group and block where would you locate the elements with Z= 17, 19. 24, 26, 33, 35, 36.
9. How would you justify the presence of 18 elements in the 5th period of the Periodic Table?
10. Explain why cations are smaller and anions larger in radii than their parent atom?

11. Which of the following species will have the largest and the smallest size Mg, Mg^{2+}, Al, Al^{3+}?
12. Which of the following pairs of elements would have a more negative electron gain enthalpy? (i) O or F (ii)F or Cl (iii) O or S. Give reason to support your answer.
13. Calculate molarity of 30g of $Co(NO_3)_2$. H_2O in 4.3L os solution.
14. Calculate mass of urea (NH_2CONH_2) required in making 2.5kg of 0.25molal aqueous solution.
15. Calculate the molarity of 30ml of 0.5M H_2SO_4 diluted to 500ml.

K-RAYS SUGGESTED TOPICS

CHEMISTRY

1. Fun with chemicals.
2. An alternate source of energy (Bio diesel)
3. Green chemistry

1. Check the dimensional consistency of the following equations:
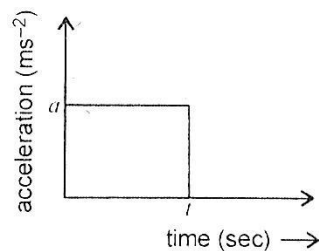
    (i) de-Broglie wavelength $\lambda = \dfrac{h}{mv}$

    (ii) Escape velocity, $v = \sqrt{\dfrac{2GM}{R}}$

    (iii) $E = mc^2$

    (iv) $T = 2\pi\sqrt{\dfrac{l}{g}}$

2. A lorry and a car moving with same velocity are brought to rest by the application of brakes which provides equal retardation. Which of them will come to rest in a short distance?

3. Acceleration time graph of a body is shown in the figure. Draw the velocity time graph.

4. A body goes from A to B with a velocity of 40 m/s and from B to A with a velocity of 60 m/s. What is the average velocity and average speed of the journey?

5. An electron starting from rest and moving along a straight line has a velocity that increases linearly with time, ie $v = kt$ where $k = 2$ m/s^2. What is the distance covered by the electron in the first 3 s?

6. Find the dimension of a/b in the equation:

$$F = a\sqrt{x} + bt^2$$

7. An object accelerates uniformly along a straight track with acceleration of 10m/s². At t = 0 it is at $x = 8$ m and moving with a velocity of 3 m/s. What is the position and velocity of the object when t = 3 s.

8. The frequency of vibration of a stretched string depends upon:

    (i) its length l

    (ii) its mass per unit length m and

    (iii) the tension t on the string.

    Obtain an expression for frequency.

9. If a net horizontal force of 130 N is applied to a person with mass 60.0 kg. What horizontal acceleration is produced?

10. What magnitude of net force is required to give a 135kg object an acceleration of magnitude 1.40 m/s².

11. A driver takes 0.2s to apply the brakes after he sees a need for it. If he is driving car at a speed of 54 km/h and the brakes causes a deceleration of 6.0m/s², find the distance travelled by the car after he sees the need to put the brakes.

12. A crate with mass 32.5 kg initially at rest on a warehouse floor is acted on by a net horizontal force of 140 N.

    What acceleration is produced? How far does the crate travel in 10.0 s? What is its speed at the end of 10.0 s?

13. At the surface of Jupiter's moon Io, the acceleration due to gravity is 1.81 m/s². A watermelon weights 44.0 N at the surface of the earth.

    What is the mass on the earth's surface? What are its mass and weight on the surface of Io?

14. A bullet, traveling at 350 m/s, strikes a block of soft wood, which it penetrates to a

depth of 0.130 m. The block of wood is clamped in place and doesn't move. The mass of the bullet is 1.80 g. Assume a constant retarding force.

How much time is required for the bullet to stop? What force, in newtons, does the wood exert on the bullet?

15. Two crates, of mass 75 kg and 110 kg, are in contact and at rest on a horizontal surface. A 730N force is exerted on the 75kg crate. If the coefficient of kinetic friction is 0.15, calculate the acceleration of the system, and the force that each crate exerts on the other.

16. A child sits on a merry-go-around, 1.5 meters from the centre. The merry-go-around is turning at a constant rate, and the child is observed to have a radial acceleration of 2.3 m/s^2. How long does it take for the merry-go-around to make one revolution?

17. The position of a stone dropped from a cliff is given by x = 5t^2. What is the magnitude of the velocity of the stone at t = 2s?

18. A truck of mass 3000 kg is moving at 10 m/s and is acted by two forces, a forward force of 1000N and a retarding force of 400N. (a) What is the rate at which it is gaining speed? (b) How far will it travel in 10 seconds?

19. A 20g bullet is shorted from a 5 kg gun with a velocity of 40 m/s. What is the recoil velocity of the gun?

20. A cricket ball of mass 0.2 kg moves with a velocity of 20 m/s is brought to rest by a player in 0.1s. Find (a) the impulse of the ball and (b) the average force applied by the player.

K RAYS – SUGGESTED TOPICS

PHYSICS

1. Law of conservation of energy
2. Centre of mass
3. Law of conservation of momentum
4. Law of conservation of angular momentum
5. Pressure , Density

INDIAN COMMUNITY SCHOOL - KUWAIT

HOLIDAY'S ASSIGNMENT (2019-2020)

SUB: Biology (L- 16, 17, 18, 19)   Std: XI

1. Name the vestigial organ of human digestive system.

2. What type of circulation is found in sponges and coelenterates?

3. Discuss about PEM and its types.

4. Enlist respiratory organs found in different animal groups.

5. Name the proteins of blood plasma involved in the process of blood clotting. Also mention their

   function.

6. Define cardiac output. Which two factors define the cardiac output?

7. How JGA and ANF help in Osmoregulation?

8. Nonfunctioning of oxyntic cells interferes digestion" . Discuss.

9. Discuss the mechanism of exchange of O_2 and CO_2 at the lung alveoli.

10. Enumerate various pulmonary volumes.

11. Define ECG. What do different waves indicate? Give significance of ECG.

12. What is counter current mechanism? Discuss its role in loop of Henle.

13. Discuss the gastric and intestinal glands of human digestive system.

14. What is (i) pleura (ii) Glisson's capsule (iii) Pericardium

15. Draw a labelled diagram of internal structure of human heart.

16. Give the cause and symptoms of occupational respiratory disorders.

17. How is digested fat absorbed in the alimentary canal?

18.Name the factors which deviate the oxygen dissociation curve

19. Discuss the main steps in the digestion of proteins.

20. Discuss the mechanism of formation of nephric filtrate.

K-RAYS SUGGESTEDN TOPICS

BIOLOGY

1. Traditional Ayurvedic cure for diseases.
2. Working model of different organ system.
3. Biotechnology and Gene therapy

Holiday Assignment 2019

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