BLS INTERNATIONAL SCHOOL, HATHRAS
SESSION 2019-2020
SUMMER HOLIDAY HOMEWORK

Dear Parents,

Summer vacations are synonymous with fun, frolic, getting up late in the morning, playing for longer hours with friends, going for picnics, watching fun filled shows on T.V. but there is a lot more you can do to make their vacations more interesting and meaningful. As parents, it is important to invest your time with them now.

- Look into the eyes of your little one and thank God for giving you such wonderful gift. In a few years from now, they will be soaring into greater heights.
- Allow your child to play outdoors, get hurt and get dirty. It's Okay for them to fall down and experience pain once in a while. Comfortable life within the sofa cushions will make your child lazy.
- Take them to relatives and friends to emphasize on how to meet & greet others.
- Allow them to adapt a pet, dog, a cat, a bird or a fish to understand the importance of life.
- Teach them a few folk songs and narrate stories or share your experiences which have some learning outcomes.
- Get some story books with colorful pictures and drawing materials for your kids.
- Keep your children away from TV, Mobile Phones, Computers and other electronic gadgets; they have their whole life for that.
- Avoid giving chocolates, jellies, cream cakes, chips, aerated drinks and too many bakery products like puffs and fried items like samosas.
- Encourage your child to cultivate the reading and writing habits.
- Converse with your child preferably in English to enhance communication skills.
- Assist your ward to complete the given home task before time.(H W enclosed)
- Submit Holiday Homework on the day the school reopens i.e. 1st July 2019.
- Subject Enrichment activity of 5 marks will be evaluated on the basis of the given Holiday Homework.
- For Classes IX to XII students must utilize this period to accomplish their task of revision, project file and practical file along with given assignment and preparation for upcoming tests.
- Do the given assessments fair note books as per the streams/subjects opted in class XI & XII.

Hope you return rejuvenated and energetic on 1st July 2019 at BLS.

Principal

ENGLISH

I.   Assignment is to be done in the fair notebook.

1. Today the 24 hour television news channels give us instant news from every nook and coruer of the world. But the fact is that the importance of the newspaper remains intact. Write an article in 150-200 words expressing your views on 'The Relevance of Newspaper'. You are Adirath / Simran.

2. Despite rising taxes and increasing restrictions against tobacco use, there are still approx 250 million Smokers in India and the number is going up. Prepare a speech in 200 words on the topic 'Quick Smoking Not Life' for a group of young smokers urging them to quit smoking.

3. As a staff reporter for 'Hindustan Times' who witnessed the collapse of the building in Rani Nagar which led to the death of 65 people, write a report in 200 words for publication in the newspaper.

4. Prepare a thought provoking poster on the topic 'Stop Child Abuse'. Use catchy slogans and visuals. A well known brand of kitchen chimneys wants to sell its stock by giving a special festival discount. Frame a suitable commercial advertisement for inserting in a newspaper.

I.   Project Work: Prepare the project file on achievements of any two international authors with their work.

II.   Prepare for Periodic Test-1 – Schedule and syllabus is enclosed.

COMPUTER SCIENCE

Note: Answer the following questions in your notebook.

Q.1   How are human compared with computers with respect to speed and capacity of information processing?

Q.2   How memory of a computer can be categorized? Explain with the help of diagram.

Q.3   Define: OCR, OMR, MICR, Bar Code Reader.

Q.4   Explain IPO cycle of a computer.

Q.5   Convert the following binary numbers to decimal:
(i)   101.1101   (ii)   11101.0101

Q.6   Convert the following decimal numbers to octal:
(i)   65535   (ii)   919

Q.7   Convert these hex values to decimal:
(i)   37FD   (ii)   2C0

Q.8   Convert these decimal values to hex:
(i)   2048   (ii)   4095

Q.9   Convert the following decimal numbers to binary:
(i)   165   (ii)   298

Q.10   Convert the following decimal numbers to binary:
(i)   512   (ii)   57

BIOLOGY

I.   Do the assignment work in the fair notebook.

1. In a given habitat we have 20 plant species and 20 animal species. Should we call this as 'diversity' or 'biodiversity'? Justify your answer.
2. <u>Brassica Campestris</u> linn
    a. Give the common name of the plant.
    b. What do the first two parts of the name denote?
    c. Why are they written in italics?
    d. What is the meaning of linn written at the end of the name?
3. Neurospora – an ascomycetes fungus has been used as a biological tool to understand the mechanism of plant genetics much in the same way as Drosophila has been used to study animal genetics. What makes Neurospora so important as a genetic tool?
4. .Make a list of algae and fungi that have commercial value as source of food, chemicals, medicines and fodder.
5. Heterospory i.e., formation of two types of spores – microspores and megaspores is a characteristic feature in the life cycle of a few members of pteridophytes and all spermatophytes. Do you think heterospory has some evolutionary significance in plant kingdom?
6. Peat' is an important source of domestic fuel in several countries. How is 'peat' formed in nature?
7. What is the relationship between germinal layers and the formation of body cavity in case of coelomate, acoelomates and pseudocoetomates?
8. .Mammals are most adapted among the vertebrates. Elaborate.
9. Diatoms are also called as 'pearls of ocean', why? What is diatomaceous earth?
10. At a stage of their cycle, ascomycetes fungi produce the fruiting bodies like apothecium, perithecium or   cleistothecium. How are these three types of fruiting bodies different from each other?

II.   Project Work: Do an investigatory project in a project file and prepare for viva board practical and viva.
May choose from topics given below or may chose any other topic of your choice.
- Morphological Characters Flower Inflorescence and Leaves in Angiosperms
- Green House Effect
- Project Report on Importance of Trees
- Useful Plants and Animals
- Project Report on Cells / Cell Structure
- Enzymes
- Project Report on Biomagnifications / Bioconcentration,
- Project Report on Organic Farming / Organic Agriculture
- Biology Project Report on Cancer
- Pollution
- Viral Diseases

III.   Prepare for Periodic Test-1- Schedule & syllabus is enclosed.

CHEMISTRY`

I.   **Do investigatory project with viva in project file on topics as assigned to you.**
II.   **Prepare for Periodic Test-1 as per the schedule & syllabus enclosed.**
III.   **Do the following Assignments in your fair notebook.**

1. How is atmosphere related to kilopascal?
2. What is the difference between 5 g and 5.0 g?
3. What is the length in centimeters of a glass rod 7.82 inches long?
4. Calculate the mass of 3 molecules of nitric acid.
5. Differentiate between molecular mass and formula mass.
6. What will be the mass of one ^{12}C atom in g?
7. Calculate the total number of electrons present in 1.6g of methane.
8. How is empirical formula related to its molecular formula?
9. What is the mass in grams of one molecule of caffeine ($C_8 H_{10}N_4O_2$)?
10. Explain precision and accuracy with suitable examples.
11. Carbon and oxygen are known to form two compounds. The carbon content in one of these is 4.29% while in other it is 27.3%. Show that this data is in agreement with the law of multiple Proportions.
12. A fluoride of oxygen was prepared by mixing oxygen and fluorine in the proper ratio at 60K. This compound contains 32.1% F and 67.9% O. What is the empirical formula of the compound?

ASSIGNMENT NO. 2   (STRUCTURE OF ATOM)

Q1. What experiment led to the discovery of electrons? Draw a neat labeled diagram?

Q2. Write the difference b/w canal rays and cathode rays?

Q3. Explain with diagram Thomson's Plum pudding model of an atom?

Q4. Explain Rutherford experiment with neat labeled diagram. Write its observations & conclusions.

Q5. Explain the draw backs of Rutherford's Experiment.

Q6. Write the main postulates of Bohr's model of an atom.

Q7. Explain the first model of an atom based on quantisation of energy.

Q8. Name two properties of light radiations which indicate its particles like nature.

Q9. Name two properties of electrons which indicate its wave nature.

Q10. Explain the following (i) Black – Body radiations (ii) Photo electric effect.

Q11. Why is photoelectric effect more common in alkali metals?

Q12. Draw graph between intensity & wavelength for black body radiation at 2 temperatures. T_1 & T_2 ($T_2 > T_1$). Interpret graph.

Q13. What do you mean by 'Quantum'?

Q14. Define emission spectrum & Absorption spectrum?

Q15. What is the value of Rydberg's constant in Joules.

Q16. Write the expression for energy of nth orbit & radius of nth orbit for He^+.

Q17. Calculate the momentum of a particle which has Deboglie's wavelength of 1 mm.

Q18. Find λ of a moving e- with KE = 3×10^{-25} joules?

Q19. On the basis of uncertainty principle; show that an electron can't exist in the nucleus.

Q20. Define quantum mechanics / Name the scientists who developed Quantum mechanics.

Q21. Draw the plot of orbital wave function ϖ (r) as a function of r for 1s & 2s orbital.

Q22. How is the probability density variation of 25 orbital different from that of 1s orbital?

Q24. Explain the following:-

(a) Heisenberg's Uncertainty Principle   (c) Exclusion Principle

(b) Aufbau Principle Pauli   (d) Hund's Rule of Maximum Multiplicity.

Q25. Explain with reason why 'half filled & completed filled orbital" are stable. Explain in terms of configuration of Cr (24) & Cu (29)

Q26. How many orbitals will be present in the subshell when (a) $l = 0$ (b) $l = 1$ (c) $l = 3$

Q27. How many photons of light having wavelength $7000A^0$ are necessary to provide 1.0J of energy?

Assignment No. 3   (Chemistry In Everyday Life)

Q.1 Which class of drugs is used as sleeping pills?

Q.2 What are the main constituents of Dettol?

Q.3 What do you mean by a ' broad spectrum antibiotic'?

Q.4 Name two narcotics which are used as analgesics ?

Q.5 What problems arises in using alit me as artificial sweetner?

Q.6 Explain the following terms with an example

(i) Anti fertility drug   (ii) Antibiotics   (iii) Tranquilizers.

Q.7 Explain cleansing action of soap. Why do soaps not work in hard water?

Q.8 Explain the following with an example

(a) Non – ionic detergents   (b) Disinfectants   (c) Analgesics .

Q.9 Mention one use of each of the following drugs:

(i) Ranitidine   (ii) Paracetamol   (iii) Tincture Iodine

Q.10 (a) Define the term "Chemotherapy "

(b) While antacids and anti allergic drugs interfere with the function of histamines, why do these not interfere with the function of each other.

Q.11 Name the action of the following on the human body –

(a) Penicillin   (b) Morphine   (c) Antiseptics

Q.12 Give example of each category:

(a) Antihistamines   (b) Anti malarial   (c) Antiseptics

Q.13 Give reasons:

(a) it is safer use soaps from the environmental point of view ?

(b) Aspirin though a very good analgesic & antipyretic is banned.

PHYSICS

I. **Assignment work is to be done in fair notebook.**

1. What do you understand by significant figures? State the rules to determine significant figures.
2. What is dimensional analysis? Give all three applications each with examples along with limitations of dimensional analysis.
3. Obtain all three kinematic equations of motion by calculus method.
4. What is relative velocity? Give displacement time graph for
(i) $V_b=V_a$ (ii) $V_a>V_b$ (iii) if V_a & V_b are of opposite signs.
5. How do we add two or more vectors by Triangle law, Parallelogram law of vector addition , obtain the analytical method to find resultant of vector addition.
6. What do you understand by Dot Product & Vector Product? Give their properties.
7. What do you understand by Projectile Motion? Obtain an expression for Time of flight, Maximum Height, Horizontal Range of a projectile fired at an angle with the horizontal.
8. Explain Various kinds of inertia with a suitable example of each.
9. Establish that newton's second law is the real law of motion.
10. What is banking of track? Establish an expression for the maximum speed of car it can have without skidding.

II. Project Work: Investigatory project with viva in your project file on topics as assigned to you.

III. **Prepare for Periodic Test-1- as per the schedule & syllabus enclosed.**

MATHEMATICS

I. **Project Work.** Prepare a project file on any one of the following topics.
   1. Golden Rectangle and Golden Ratio
   2. π- worlds' most mysterious number
   3. Chronology of Indian mathematician with their contribution.

II. **Following assignments has to be done in fair notebooks.**

Q1.If A+B=225,prove that $\tan A+\tan B=1-\tan A \tan B$.

Q2.Prove that $4\sin\alpha\sin(\alpha+\frac{\pi}{3})\sin(\alpha+\frac{2\pi}{3})=\sin3\alpha$.

Q3.If $\cos(x+y)=m\cos(x-y)$,then prove that $\tan x=\frac{1-m}{1+m}\cot y$.

Q4.Prove that $\cos\frac{\pi}{8} +\cos\frac{3\pi}{8} +\cos\frac{5\pi}{8} +\cos\frac{7\pi}{8} =0$

Q5.Find the least value of $\sin^2x+\cosec^2x$.

Q6.Prove that $\frac{\cos x}{1-\sin x} =\tan(\frac{\pi}{4}+\frac{x}{2})$. 　　　　Q7.Prove that $\frac{\sec 8x-1}{\sec 4x-1} =\frac{\tan 8x}{\tan 2x}$

Q8.Prove that $\sin20\sin40\sin60\sin80=\frac{3}{16}$

Q9.If $\cos(A+B)\sin(C-D)=\cos(A-B)\sin(C+D)$ then prove that $\tan A\tan B\tan C+\tan D=0$

Q10.Evaluate $\cos\frac{\pi}{5}$.

Q11 Prove that$(1+\cos\frac{\pi}{8})$ $(1+\cos\frac{3\pi}{8})$ $(1+\cos\frac{5\pi}{8})$ $(1+\cos\frac{7\pi}{8})=\frac{1}{8}$

Q12.Solve $\tan x+\tan2x+\sqrt{3}\tan x\tan2x=\sqrt{3}$

Q13.Solve $3\tan x+\cot x=5\cosec x$. 　　　　Q14.Solve $\tan x+\sec x=\sqrt{3}$

Q15.Prove that $\sin^4\frac{\pi}{8}+ \sin^4\frac{3\pi}{8}+ \sin^4\frac{5\pi}{8}+ \sin^4\frac{7\pi}{8}=\frac{3}{2}$.

ASSIGNMENT-2

Q1 .find the principal solution of $\sqrt{3}\cosec x =-2$.

Q.2 find the principal solution of find the $\tan x=-1$.

Q3 find the general solution of $\sqrt{2}\sin x+1=0$.

Q.4 find the general solution of $\tan3x=\cot x$.

Q5. find the general solution of $2\sin^2x=3\cos x$.

Q6 solve $4\sin x\cos x+2\sin x+2\cos x+1=0$. 　　　　Q7. Solve $\sin x+\sin3x+\sin5x=0$.

Q8.if $\sec x\cos5x+1=0$,where $0<x>\frac{\pi}{2}$ then find the value of x.

Q9. If $\cos x=\cos\alpha\cos\beta$; prove that $\tan\frac{x+\alpha}{2}\tan\frac{x-\alpha}{2}=\tan^2\frac{\beta}{2}$.

Q10. Find the range of the function $f(x)=1+3\cos2x$

Q11.find the domain and range of 　$f(x) = \frac{1}{\sqrt{x-5}}$

Q12.$\sin x+\sin y=a$ and $\cos x+\cos y=b$ find $\sin(x+y)$.

Q13.prove that $\cos20+\cos100+\cos140=0$.

Q14.A positive acute angle is divided into two parts whose tangents are $\frac{1}{2}$ and $\frac{1}{3}$.prove that angle is $\frac{\pi}{4}$.

Q15.Prove that $\sqrt{2}\cos(\frac{\pi}{4}+x)=\cos x-\sin x$.

BUSINESS STUDIES

I.   Assignment Work: - Answer the following question in fair notebook.

1. "Profit can no more be the objective of Business that eating is the objective of living " Explain.
2. How does commerce remove the hindrance of exchange, time and place?
3. "A promoter is called parent of the company" Do you agree.
4. "Registration of a partnership firm is not compulsory but beneficial" do you agree. Give three reason to support your answer.
5. Distinguish between a private company and public company.
6. State any six content of Article of Association.
7. Define Memorandum of Association. And its contents.
8. What is PPP (Public private partnership) explain its features.
9. Explain three merits as well as demerits of Government Company.
10. Differentiate between private sector and public sector enterprises.

II.   Project Work: Make a project on Aids to trade as discussed in the class.

III. Prepare for Periodic Test-1 as per the schedule & syllabus enclosed.

ACCOUNTANCY

I.   Do assignments work in fair notebook.

1. What is accounting?
2. Explain about Accounting Process?
3. Differentiate between Book-keeping and Accounting on any four bases.
4. Explain any five objectives of Accounting.
5. Differentiate between Internal and External Users.

II.   Prepare for Periodic Test-1- as per schedule & syllabus enclosed.

ECONOMICS

I.   Project Work: Prepare a project file on any one of the following:

Consumer's Equilibrium; Demand; Production Function; Cost

II. Prepare for Periodic Test-1- as per the schedule & syllabus enclosed.

III. Do assignments work in fair notebook.

1. What do you mean by Production Possibility Frontier? Why it is also known as Transformation curve and Opportunity cost curve?
2. Differentiate between the following:-
(a) Micro-Economics and Macro-Economics
(b) Positive Economics and Normative Economics
(c) Budget set and Budget line
(d) Change in Demand and Change in Quality Demand
3. Explain the law of DMU and also mention its different exceptions?
4. Explain the Law of Variable Proportion with the help of hypothetical schedule and curve?
5. Explain the following:-
(a) Explicit cost (b) Implicit cost   (c) Short run   (d) Long run
6. Draw and explain the relationship between AVC, AC, MC on a single graph.

POLITICAL SCIENCE

I. Project work: Prepare the Project File with PPT slide printouts on the given topics summarised in 15-20 pages in following sequential manner on topics mentioned below along with Viva.
1. **cover page: Project title, Student information, school and session.**
2. **Second page: Content.**
3. **Third page: Acknowledgement and preface.**
4. **Fourth page: Introduction.**
5. **Fifth page: Purpose for selecting the topic.**
6. **Sixth page: Introductory questions and so on.**

Chose from the given topics, one that you are detailed with
a. Loksabha elections 2019.
b. United Nations and its principal organs.
c. Judiciary of India and conflicts between Judiciary and Legislature.
d. President- Elections and his Powers(legislative, executive and judiciary)
e. Fundamental Rights its importance and Fundamental duties.
f. Local government- elections and its importance
g. Citizenship(who are citizens, how and who acquire citizenship, how and who lost citizenship)
h. Constitutional development(1773-1949)
i. Role of Parliament.(Loksabha, Rajyasabha , President)

II. Assignment -To be done fair note book

1. Mention the sources of Indian Constitution along with the features taken from these sources.
2. What is the importance of the Right to constitutional Remedies? Explain.
3. Why is it said that the making of the Indian Constitution was unrepresentative? Does that make the constitution unrepresentative? Give reason for your answer.
4. 'Politics works as a pursuit of Common good of People'. Justify the statement.
5. Explain different kinds of liberty.

I. Prepare for PT-1

HISTORY

I.   Project work:
a.   Prepare the Project File with PPT slide printouts on the given topics summarised in 15-20 pages in following sequential manner on topics mentioned below along with Viva.
b.   cover page: Project title, Student information, school and session.
c.   Second page: Content.
d.   Third page: Acknowledgement and preface.
e.   Fourth page: Introduction.
f.   Fifth page: Purpose for selecting the topic.
g.   Sixth page: Introductory questions and so on.
b.   Chose from the given topics, one that you are detailed with
- Critique of the industrialization in Britain
- Making and unmaking of Mesopotamia
- Paradigms of Greeco- Roman civilisation
- Aspirations of women in Renaissance period

II.   Assignment -To be done fair note book
1. What significant changes did the introduction of agriculture bring about the life of the Neolithic man?
2. Throw some light on the cave painting of Altamira.
3. Describe in brief about the Assyrian Civilisation of Mesopotamia.
4. Describe the main features of Hammurabi Code of Law
5. On the world map LABEL and locate the following:- River Tigris and Euphrates, City- Ur, Urak, Tanzania, Kenya

III.   Prepare for PT-1
IV.

SOCIOLOGY

I. Project work: Prepare the Project File with PPT slide printouts on the given topics summarised in 15-20 pages in following sequential manner on topics mentioned below along with Viva.

1. cover page: Project title, Student information, school and session.
2. Second page: Content.
3. Third page: Acknowledgement and preface.
4. Fourth page: Introduction.
5. Fifth page: Purpose for selecting the topic.
6. Sixth page: Introductory questions and so on.

Choose from the given topics, one that you are detailed with

- Gender stereotypes in relationship: Is it ok for a boy to cry?
- Social media and cyber- crime
- Are school children in single sex schools happier
- Race, Nationality and Ethnicity
- Mass media
- Youth Culture
- Sociology of gender and sexuality
- Social movement
- Class conflicts and inequality
- Spirituality, Superstition and Legends

II.   Assignment -To be done in fair note book

1. What is achieved status? State its four bases with examples.
2. Caste is a closed stratification while class is an open stratification. Explain.
3. Explain the concept of C W Mills in context of social imagination.
4. Discuss with your grandparents and others about the ways in which families and school have changed and the ways in which they have remained the same.
5. Think of examples of cooperation, competition & conflict in your everyday life.

III.   Prepare for PT-1 as per the scheduled & syllabus enclosed.

FINE ART

I.   Project work:

Student will make a sculpture using card boards culpture.

II.   Do all the questions carefully in your fair notebook.

Q.1-Why do you think is art is necessary for humans?

Q.2- Explain the elements of art?

Q.3- Name the six limbs of art given by Vatsyayana?

Q.4-How is a form different from a shape?

Q.5-which are the three primary and secondary colours?

Q.6-Describe the types of art?

Q.7- Write the parts of fine arts?

Q.8-Write the period of Pre-Historic Painting?

Q.9-Write the sholok of six limbs?

Q.10-Write the definition of form?

III.   Prepare for periodic Test-1

PHYSICAL EDUCATION

1. Do the cumulative analysis in your practical file on the given information.
   Athletics – History, Type of event, Standard Track 400m, Staggers, Type of track event illustrate any two track events and any two field events.

2. Prepare a project file illustrating the proficiency in game and sports on any one of the given topics. Project file must include History, Measurement, Terminology, Latest rules , Fundamental skill & Techniques, Important Tournament & Personals.

a- Badminton

b- Boxing

c- Swimming

d-   Judo

e-   Lawn Tennis

f-   Table Tennis

INFORMATIVE PRACTICES

Project Work: Prepare a PowerPoint Presentation with maximum 15 slides on "History of Python and its inventor". Submit its hard copy on A4 sheet.

Assignment work: Convert the following: (do the following calculations in Notebook)

a.   Binary to Decimal

i. $(11001001)_2$

ii. $(1110001)_2$

iii. $(100011111)_2$

iv. $(111001111)_2$

v. $(11001100)_2$

b.   Decimal to Binary

i.   687

ii.   439

iii.   7990

iv.   450

v.   9030