HOLIDAY HOMEWORK (SUMMER VACATION)
CLASS-XI

Subject – CHEMISTRY

1. Which two postulates of kinetic theory is responsible for the deviation of a gas from ideal behaviour?
2. What is Boyle's temperature?
3. Convert 30^0C to Kelvin and Fahrenheit scale.
4. Derive the relation $p_{gas} = \chi_{gas} . P$. where the terms have there usual meaning.
5. How does real gas differ from Ideal gas? Describe behaviour if real gas in terms of compressibility factor.
6. State the conditions under which a gas shows the ideal behaviour.
7. What are Critical temperature, Critical pressure and Critical volume of a gas?
8. Define Vapour pressure of a liquid. What are the factors on which the vapour pressure of a liquid depends?
9. What is the effect of temperature on surface tension?
10. How does viscosity change with temperature?
11. In terms of Charles' law explain why –273 °C is the lowest possible temperature.
12. Critical temperature for carbon dioxide and methane are 30.98 °C and –81.9 °C respectively. Which of these has stronger intermolecular forces and why?
13. What is the significant figures in 1.050×10^4?
14. What is the S.I. unit of Density?
15. What do mean by Mole fraction?
16. What do you mean by accuracy and precision?
17. What is limiting reagent?
18. What is the relation between temperature in degree Celsius and degree Fahrenheit?
19. Calculate the formula mass calcium chloride.
20. Why is it not possible to cool a gas to Absolute zero temperature?

Subject:Maths

1. From 50 students taking examination in Mathematics, Physics and Chemistry, each of the students has passed in at least one of the subjects, 37 passed Mathematics, 24 Physics and 43 Chemistry. At most 19 passed Mathematics and Physics, atmost 29 Mathematics and Chemistry and at most 20 Physics and Chemistry. What is the largest possible number that could have passed in all the three subjects?

2. A and B are two finite sets such that $n(A) = m_1$ and $n(B) = m_2$, then find the least and the greatest values of $n(A \cup B)$.

3. Set A has three elements and set B has six elements. What can be the minimum number of elements in the set $A \cup B$? Find also the maximum number of elements in $A \cup B$.

4. In a beauty contest, half the number of judges voted for Miss A; $\dfrac{2}{3}$ of them voted for Miss B; 10 voted for both and 6 did not vote for either Miss A or Miss B. Find how many judges, in all, were present there.

5. Two sets A and B are such that $n(A \cup B) = 21$, $n(A^c \cup B^c) = 9$, $n(A \cap B)^c = 7$. Find $n((A \cap B)^c)$.

6. A wheel of a motor is rotating at 1200 r.p.m. If the radius of the wheel is 35 cm, what linear distance does a point of its rim traverse in 30 second?

7. In an examination 43% passed in math, 48% passed in physics and 52% passed in chemistry. Only 8% passed in all the three. 14% passed in math and physics and 21% passed in math and chemistry and 20% passed in physics and chemistry. Number of students who took the exam is 200. Let set P, set C and set M denote the students who passed in physics, chemistry and math respectively.

8. How many students passed in Math only?

9. Find the ratio of the number of students passing in Math only to the students passing in chemistry only.

10. Find the ratio of the number of students passing in Physics only to the students passing in either Physics or Chemistry or both.

11. Find domain of $f(x) = \dfrac{1}{\sqrt{[x]^2 - [x] - 6}}$, where $[x]$ is greatest integer $\leq x$.

12. Find the domain and range of $f(x) = \dfrac{1}{\sqrt{9 - x^2}}$.

13. Find the domain of the function $f(x) = \dfrac{1}{\log_{10}(1 - x)} + \sqrt{x + 2}$.

14. Prove that: $\cos^2 A + \cos^2 B - 2\cos A \cos B \cos(A + B) = \sin^2(A + B)$.

15. If $\sin\alpha + \sin\beta = a$ and $\cos\alpha + \cos\beta = b$, show that $\cos(\alpha + \beta) = \dfrac{b^2 - a^2}{b^2 + a^2}$.

16. If $\cos(\theta + 2\alpha) = n\cos\theta$, show that $\cot\alpha = \dfrac{1+n}{1-n}\tan(\theta + \alpha).$

17. Prove that $\sqrt{2 + \sqrt{2 + 2\cos 4\theta}} = 2\cos\theta$.

18. In any triangle ABC, prove that $\dfrac{b-c}{a} = \dfrac{\sin\dfrac{B-C}{2}}{\cos\dfrac{A}{2}}$.

19. Two trees, A and B are on the same side of a river. From a point C in the river the distance of the trees A and B is 250m and 300m, respectively. If the angle C is 45°, find the distance between the trees.

20. If $\tan\dfrac{\theta}{2} = \sqrt{\dfrac{1-e}{1+e}}\tan\dfrac{\phi}{2}$ show that $\cos\phi = \dfrac{\cos\theta - e}{1 - e\cos\theta}$.

Subject:ENGLISH

To read the book given for extra reading "THE CANTERVILLE GHOST" and write the following answers:

a) Character sketches of Sir Simon Canterville, Mr. Otis and Miss Virginia Otis.

b) Describe the funeral of Sir Simon Canterville

Subject: Accountancy:

Class XI - Students have been asked to practice additional questions from the chapters (from Reference Book) that have been completed so far..for a test after the vacation.

Subject: History

1. Prepare a project report on any of the following themes of World History
    (a) History of Human Evolution
    (b) Mesopotamian Cities
    (c) Devolopment of writing
    (d) Hunter gatherer societies of the world
    (e) Reign of Augustus

(f) Slavery in the Roman Empire

The Project work can culminate in the form of power point presentation

Subject:INFORMATICS PRACTICES (065)

Q.1 a.While working a Form in NetBeans, Mr. Munish Jha wants to display a list of tourist places to allow the users to select their own tourist place. Suggest him to choose most appropriate control unit out of ListBox and ComboBox.
b.What is the purpose of *default* keyword while using SWITCH statement?
c.What will be values of *a* and *b* after execution of the following code:

```
int a=1, b=0;
for(a=2;a<=4;++a)
{
        b=a++;
        --b;
}
```

d.   Write JAVA code that takes value for a number in TextField1 and square it and display the output in message dialog box.

Q.2.   (a) What is the role of JVM in platform independence in Java.
        (b) Give the syntax and example of declaring variable.
        (c) Give any two properties of TextField control in java.
        (d) Differentiate between the following :
                (i) if and switch   (ii) runtime errors and logical errors
        (e) What will be the value of following expressions if j=5,
                (1) (5*++j)%6   (2) (5*j++)%6

Q3. What is the output of following code fragment when the value of "ch" is
        a) 'A'   b) 'C'   c) 'D'   d) 'F'   ?
        switch (ch) {
                case 'A' : System.out.println("Grade A");
                case 'B' : System.out.println("Grade B");
                case 'C' : System.out.println("Grade C");
                        break;
                case 'D' : System.out.println("Grade D");
                defualt : System.out.println("Grade F");
        }
Q4. Rewrite the following fragment using **switch** :
        If (ch == 'E')
            Eastern++;
        If (ch == 'W')
            Western++;
        If (ch == 'N')
            Northern++;
        If (ch == 'S')
            Southern++;
        else
            Unknown++;

Q5. Rewrite the following code using If ElseIf?
```
switch (ch) {
        case 'A' : System.out.println("Grade A");
                    break;
        case 'B' : System.out.println("Grade B");
                    break;
        case 'C' : System.out.println("Grade C");
                    break;
        case 'D' : System.out.println("Grade D");
                    break;
        defualt : System.out.println("Grade F"); }
                                                        }
```

Q6.   What will be the content of jTextField1 after executing the following code:
```
int Num = 6;
Num = Num + 1;
if ( Num > 5)
jTextField1.setText(Integer.toString(Num));
else
jTextField1.setText(Integer.toString(Num+5));
```

Q7. A phone Number , consisting of 10 digits, is stored in a string variable strPhone. Now it is required to store this phone number in a long type variable lngPhone. Write a java statement to do this.

Q8. Give the output of the following statements.
```
jTextField1.setText(Integer.parseInt("21"+100)+100);
jTextField1.setText("CBSE\nFinal\tExam");
```

Q9. double number;
string sn;
number= Double.parseDouble(jTextField1.getText( ));
JTextField2.setText(Integer.toString(sn.length( )));
   1. How many variables and objects have been declared in the above code?
   2. Name any one native class along with its methods.

Q10. Rewrite the code using switch case -
```
char c = 'g';
if(c = = 'g')
        String x = "Greetings" ;
if(c = = 'b')
        String x = "Bye" ;
if(c = = 'd')
        String x =   "ok";
else
        String x =  "Sorry! No Message Available";
```

***

SUBJECT – BUSINESS STUDIES (XI)

1. Give an example of activity, which is economic in one sense and noneconomic in other sense.
2. Tina produces goods not for the purpose of sale but for personal consumption, will it be a
Business activity? Why?

3. What type of industry are poultry farms and dealing with saplings of plants?
4. Name the auxiliary to trade which removes the hindrance of information .
5. Abc ltd. Is planting trees on the road side, which objective it is trying to achieve?
6. What do you understand by Perpetual Succession?
7. What are different options to expand sole proprietorship business?
8. Name the person who keeps his identity secret f5roim outsiders?
9. Salman is an IAS Officer while his sister seema runs an event management co. Their friends
Ananya is a doctor and has her own clinic

    (i) Identify the economic activities in which Salman , Seema and Ananya are involved
    (ii) Distinguish between these economic activities on the basis of-
    Investment, return, code of conduct and transfer of interest.

10. Shekhar runs a bakery as sole proprietor over the years demand for his customised cakes and bakery products has increased. Now, he intends to open a coffee shop, but is in a dilemma whether to hire a manager or enter into partnership. Explain the available options and guide them in right direction.
11. If registration is optional, why do partnership firms willingly go through this legal formality and get themselves registered? Explain.

SUBJECT – ENTREPRENEURSHIP (XI)

Project on **case study on entrepreneurs** given as per the syllabus to the students,

Subject : Economics

1. Define economics.
2. How Marshall has defined economics?
3. What is the subject matter of economics?
4. What do you mean by economic activity? Give example.
5. Define the terms:-i) consumption ii) Production iii) Distribution
6. Define statistics in plural sense.
7. Define statistics in Singular sense.

8. State any two features of statistics.

9. Mention two limitations of statistics.

10. Mention difference between qualitative and quantitative data. Give examples.

11. Mention any two importance's of statistics.

12. Give the formula for finding the median in case of continuous series

13. What is meant by a central tendency?

14. Calculate the arithmetic average with the help of the following data :
82, 84, 86, 83, 80, 88, 85, 89, 79, 86 (Ans: 84.2)

15. The following table gives the daily income of 10 workers in a factory. Find the arithmetic mean using
i) Direct method (ii) arithmetic mean method and (iii) step deviation method
Workers A B C D E F G H I J
Daily income (in Rs.) 120 150 180 200 250 300 220 350 370 260

16. Calculate the Arithmetic mean from the following series. 3
Marks Less Less Less Less Less
than 10 than 20 than 30 than 40 than 50
No of students 10 30 60 80 90

17. Marks More More More More More More 3
than 0 than 10 than 20 than 30 than 40 than 50
No of students 50 42 38 28 16 3
Calculate the median from the following data

18. Calculate the mean graphically and check the result by using formula. 4
Marks 0-10 10-20 20-30 30-40 40-50 50-60 60-70
No of students 5 10 20 25 20 10 5

19. Given below are the marks obtained by students in statistics. Calculate the MEAN. 4
Marks 0-10 10-20 20-30 30-40 40-50 50-60 60-70
No. of students 2 5 8 10 8 5 2

Subject: Sociology

1. **Question no. 4,** Page 22 of Chapter 1 *'Sociology and Society'*.
Identify any personal problem that you and your friends or relatives are facing. Attempt a sociological understanding.
Write a note (of approx. 300 words) stating such a personal case, which is not mentioned in the textbook.

2**. Activity 2**, Page 06 of Chapter 1 *'Sociology and Society'*.
The Economic Survey of the Government of India suggests that access to sanitisation facilities is just 31%. Find out other such indicators of social inequality, for instance education, health, employment etc.

Subject :Psychology

In Chapter 1 of your textbook you have read about several professionals in the field of psychology. Contact a psychologist who fits into one of the categories and interview the person. Have a list of questions prepared beforehand. Possible questions could be: (i)What kind of education is necessary for your particular job? (ii) Which college/university would you recommend for the study of this discipline? (iii) Are there many jobs available today in your area of work? (iv)What would a typical day at work be like for you – or is there no such thing as "typical"? (v) What motivated you to enter this line of work?

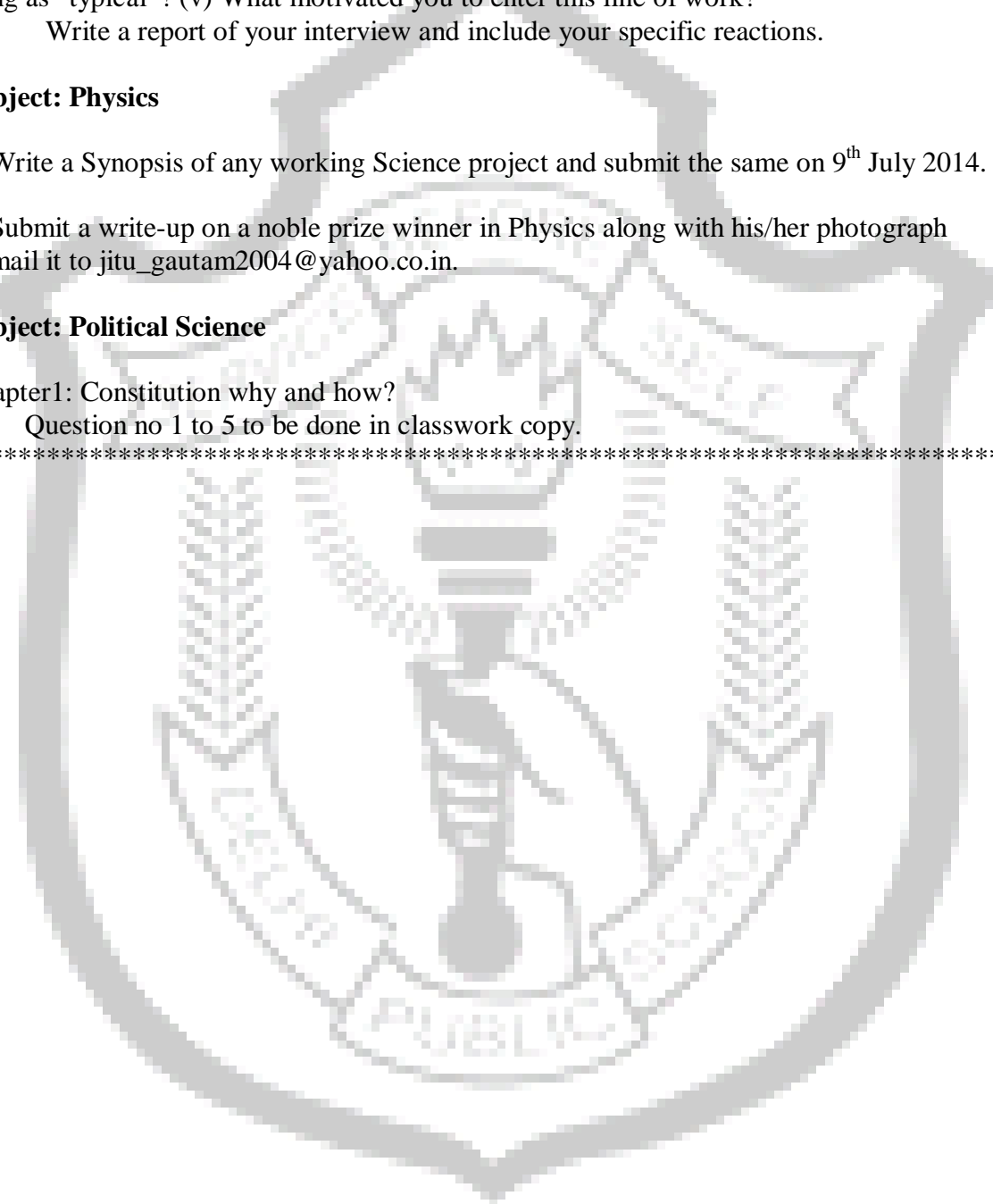   Write a report of your interview and include your specific reactions.

Subject: Physics

1. Write a Synopsis of any working Science project and submit the same on 9th July 2014.

2. Submit a write-up on a noble prize winner in Physics along with his/her photograph mail it to jitu_gautam2004@yahoo.co.in.

Subject: Political Science

Chapter1: Constitution why and how?
    Question no 1 to 5 to be done in classwork copy.
****

CLASS XI   GEOGRAPHY   ASSIGNMENT 1 – BOOK A

Chapter 1 – Geography As A Discipline
1. How is the old concept of geography different from new concept of geography?
2. Explain the four branches of Physical Geography.
3. Explain four branches of Human Geography
4. Explain four branches of Biogeography.
5. How is Regional geography different from Systematic geography?

Chapter 2 – The Origin & Evolution of the Earth
1. Explain the Big Bang theory regarding the development of the Universe.
2. Explain the theory regarding the formation of the moon.
3. What is the age of the Earth?
4. Explain the theory regarding the origin of the Earth.

Chapter 3 – Interior of the Earth
1. What is the earth's radius in km?
2. Why is the knowledge about the interior of the earth indirect?
3. Name the deepest gold mine in the world.
4. Name the two major project on which the Scientist are working.
5. What do you mean by earthquake? Explain the three earthquake waves with help of diagram.
6. What do you mean by Seismologist? Explain how the earthquake intensity is measured.
7. Explain the structure of the earth with the help of diagram.
8. How the volcanic rock is different from plutonic rock?