

STEPHENS

INTERNATIONAL PUBLIC SCHOOL



Holidays' Homework

Session – 2021-22

Class : 12th-A

Subject : English

Task – 1

- (A) On the eve of World Environment Day, your school has decided to have a face painting competition. Draft a notice in not more than 50 words for your school notice board giving necessary information. You are Nimita/Naresh the Head Boy/ Girl J M K International School Jharkhand.
- (B) Students leave their prestigious seats in IIT, IIM etc. and pursue high level courses abroad. Government spends a lot of money on these students and all this money goes waste when students opt for courses in foreign countries. Write an article on Brain Drain Among Youth in about 150 -200 words.

Task – 2

- (A) You are Deepika/Deepak. Your father, Shri Abhinav Dhar of Varanasi wants you to draft an invitation to be sent to friends and relatives on the occasion of your elder brother's marriage. Prepare the invitation giving necessary details in not more than 50 words.
- (B) M/s Aryan Raj & Sons are opening a new general store 'Shop For All' in Narsimha Enclave, Vipin Garden, Delhi. The inauguration ceremony is fixed for Sunday, the 19th of July 2022 at 11 a.m. Prepare a draft of formal invitation letter for the purpose.

Task 3

- (A) You want to do a short term online course on etiquette development during the summer holidays. Write a letter to the Director of Personal Care Hyderabad enquiring about the course details. Sign as Kumud of 148 Raja Garden, Jammu.



(B) You are Sudhir Jain, the Head Boy of APS Nagrota. An excursion has been scheduled from your school to Jodhpur. Write a letter to the Secretary of Youth Hostel, Koti Jodhpur requesting him to provide accommodation for 25 boys and 35 girls for five days. (120-150 words)

Task – 4

Read any short story book or novel and summarize it in the form of Power Point Presentation (slides). The slides must be in the following order:

- General information about the book.
- Author's description.
- Character's description.
- Summary of the story.
- Moral/ what you get from the story.

Note – You can include different pictures related to the text in the slides. Presentation in the form of a paragraph will not be accepted. It must be in points. The slides must not be more than 15.



Subject : Chemistry

Students are required to write down the following practicals in their Chemistry Lab Files during the summer holidays.

1. Preparation of one lyophilic and one lyophobic colloidal sol
 - (a) Lyophilic sol: starch solution
 - (b) Lyophobic sol: Ferric hydroxide solution
2. To prepare crystals of potash alum $[K_2SO_4, Al_2(SO_4) \cdot 24H_2O]$.
3. To prepare potassium ferric oxalate $K_3 [Fe (C_2O_4)_3] \cdot 3H_2O$
4. Determination of one cation and one anion from given salt.
 - (a) Ammonium Chloride (NH_4Cl)
 - (b) Lead Nitrate $[Pb(NO_3)_2]$
 - (c) Aluminum sulphate $Al_2(SO_4)_3$

Subject : Physics

Students are required to write down the Aim, Theory, Procedure and Precautions for the following practicals in their Physics Lab Files during the summer holidays. Do not write the observations or calculations.

1. To find the resistance of a given wire using metre bridge and hence determine the specific resistance of its material.
2. To determine resistance per cm of a given wire by plotting a graph of potential difference versus current.
3. To verify the laws of series combination of resistances using a metre bridge.
4. To verify the laws of parallel combination of resistances using a metre bridge.
5. To find the focal length of a convex lens by plotting graphs between u and v or between $1/u$ and $1/v$.

Investigatory Projects:

1. Half wave rectifier
2. Full wave rectifier
3. Light dependent resistor
4. And gate
5. Or gate
6. Not gate
6. Diffraction of light
7. Transformer
8. Lenz's law of electromagnetic induction

Problems for practise:

- Q1. Two identical metallic spheres, having unequal opposite charges are placed at a distance of 0.90 m apart. After bringing them in contact with each other, they again placed at the same distance apart. Now the force of repulsion between them is 0.025 N. Calculate the final charge on each of them.

- Q2. The charges $q_1 = 1.5 \text{ mC}$, $q_2 = 0.2 \text{ mC}$, $q_3 = -0.5$ are placed at 3 different point ABC. If $r_1 = 1.2$, $r_2 = 0.6$, calculate the magnitude and the resultant force on q_2 .
- Q3. Four charge $+q$, $+q$, $-q$ and $-q$ are placed respectively at the corners A, B, C and D of a square of side a , arranged in the given order. Calculate the intensity of electric field at the center of the square where Q is a charge.
- Q4. An electron is liberated from the lower of the two large parallel metal plates separated by a distance of 20mm. The upper plate has a potential of 2400V relative to the lower plate. Will an electron in an electric field move towards higher potential or lower potential? How long does it take to reach the upper plate?
- Q5. A particle of mass 10^{-3} kg and charge $5\mu\text{C}$ is thrown at a speed 20 ms^{-1} against a uniform electric field of strength $2 \times 10^5 \text{ N C}^{-1}$. How much distance will it travel before coming to rest momentarily?
- Q6. Two point charges q_1 and q_2 of $2 \times 10^{-8} \text{ C}$ and $-2 \times 10^8 \text{ C}$ respectively are placed 0.4m apart. Calculate the electric field at the centre of the line joining the two charges.
- Q7. The sides of a rectangle ABCD are 15cm and 5cm point charge of -5 micro coulomb and $+2$ micro coulomb are placed at vertices A and D respectively. Calculate the electric potential at vertices A and C. Also calculate the work done in carrying a charge of $+3$ micro coulomb from C to A.
- Q8. Three point charges $+Q$, $-2Q$ and $-3Q$ are placed at the vertices of an equilateral triangle ABC of side. If these charges are displaced to the mid points A_1 , B_1 and C_1 respectively, calculate the amount of work done in shifting the charges to the new locations.
- Q9. Explain the difference in the behaviour of a conductor and a dielectric in the presence of an external electric field.
- Q10. A parallel plate capacitor of capacitance $20\mu\text{F}$, is connected to a 100 V, supply. After sometime, the battery is disconnected, and the space, between the plates of the capacitor is filled with a dielectric, of dielectric constant 5. Calculate the energy stored in the capacitor (i) Before, (ii) After the dielectric has been put in between its plates.

Subject : Biology

A. Students are required to do the following in their holidays' homework for Biology.

1. To prepare Biology Investigatory Project for Board External Practicals on any one of the topics as discussed by the concerned Biology teacher.
2. To write the following practicals in your Biology practical files.
 - (i) Prepare a temporary mount to observe POLLEN GERMINATION.
 - (ii) Identification of stages of gamete development i.e. T.S. of testis and T.S. of ovary through permanent slides.
 - (iii) T.S. of blastula through Permanent slides.
 - (iv) Controlled pollination – emasculation, tagging and bagging.
 - (v) Flowers adapted to pollination by different Agencies. (wind, insects, birds)

B. Answer the following questions in your Biology notes copy.

- Q1. Name the functions of the following:-
 - (a) Corpus luteum
 - (b) Endometrium
 - (c) Acrosome
 - (d) Sperm Tail
- Q2. Describe menstrual cycle in detail with a suitable diagram.
- Q3. Describe double fertilisation with the help of a suitable diagram.
- Q4. Mention the site of zygote formation in the ovule of a flowering plant. What happens to sepals, petals and stamens after fertilisation? State the fate of zygote, ovule and ovary in these plants.
- Q5.
 - (a) Can a plant flowering in Mumbai be pollinated by pollen grains of the same species growing in New Delhi? Provide explanations to your answer.
 - (b) Draw the diagram of a pistil where pollination has successfully occurred. Label the parts involved in reaching the male gametes to its desired destination.
- Q6.
 - (a) Describe the endosperm development in coconut.
 - (b) Why is tender coconut considered a healthy source of nutrition?
 - (c) How are pea seeds different from castor seeds with respect to endosperm?
- Q7.
 - (a) Give an example of an angiosperm that produces seeds without fertilization. Name the process.
 - (b) Explain the two ways by which seeds develop without fertilization.
- Q8. Draw a labelled diagram of ovum surrounded by few sperms.
- Q9. In our society women are often blamed for giving birth to daughters. Can you explain why this is not correct?
- Q10. Write a brief note on pregnancy hormones and embryonic development.

Subject : Mathematics

SECTION – A

- This assignment have to be written on Assignment sheet.
- Make cover page for your assignment sheet with your name, roll no. , class and section.
- Make a file of this assignment.

CHAPTER – Relation and Function and Chapter 2 Inverse Trigonometric Functions

- Q1. Let Z be the set of all integers and R be the relation on Z defined as $R = \{(a, b); a \in Z, \text{ and } (a - b) \text{ is divisible by } 5\}$. Prove that R is an equivalence relation.
- Q2. Let $A = R - \{3\}$ and $B = R - \{1\}$ consider the function $f: A \rightarrow B$ defined by $f(x) = \left(\frac{x-2}{x-3}\right)$ show that f is one-one and onto.
- Q3. Prove that relation R in the set $A = \{5, 6, 7, 8, 9\}$ given by $R = \{a, b\} : |a - b| \text{ is divisible by } 2\}$ is an equivalence relation. Find all elements related to the element 6.
- Q4. Let $A = \{1, 2, 3, \dots, 9\}$ and R be the relation $A \times A$ defined $(a, b) R (c, d)$ if $a + d = b + c$ for $(a, b), (c, d)$ in $A \times A$. Prove that R is an equivalence relation. Also obtain the equivalence class $[(2, 5)]$.
- Q5. Show that the function $f: R \rightarrow \{x \in R; -1 < x < 1\}$ defined by $f(x) = \frac{x}{1+|x|}$, $x \in R$ is one-one and onto.
- Q6. Show that $f: N \rightarrow N$ given by $f(x) = \begin{cases} x+1 & \text{if } x \text{ is odd} \\ x-1 & \text{if } x \text{ is even} \end{cases}$ is both one-one and onto.
- Q7. Find values of $\tan^{-1}(1) + \cos^{-1}\left(\frac{-1}{2}\right) + \sin^{-1}\left(\frac{-1}{2}\right)$.
- Q8. Simplify:-
- $\cot^{-1}\left(\frac{1}{\sqrt{x^2-1}}\right)$
 - $\tan^{-1} \frac{\sqrt{1+x^2}-1}{x}$
 - $\cos^{-1}\left(\cos \frac{7\pi}{6}\right)$

Learn domain and range of Inverse trigonometrical functions.

CHAPTER – MATRICES

- Q1. If a matrix has 12 elements, what are the possible orders it can have?
- Q2. If $\begin{bmatrix} x-y & z \\ 2x-y & w \end{bmatrix} = \begin{bmatrix} -1 & 4 \\ 0 & 5 \end{bmatrix}$, find the value of $x + y$.

- Q3. For a 2×2 matrix, $A = [a_{ij}]$ whose elements are given by $[a_{ij}] = \frac{i}{j}$, write the value of a_{12} .
- Q4. If $A = \begin{bmatrix} \cos\alpha & -\sin\alpha \\ \sin\alpha & \cos\alpha \end{bmatrix}$, then for what value of α is A an identity matrix?
- Q5. If $\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} \begin{bmatrix} 3 & 1 \\ 2 & 5 \end{bmatrix} = \begin{bmatrix} 7 & 11 \\ K & 23 \end{bmatrix}$, then write value of K.
- Q6. Write A^{-1} for $A = \begin{bmatrix} 2 & 5 \\ 1 & 3 \end{bmatrix}$ using elementary transformations.
- Q7. Express the matrix $A = \begin{bmatrix} 3 & 2 & 5 \\ 4 & 1 & 3 \\ 0 & 6 & 7 \end{bmatrix}$ as the sum of a symmetric and a skew symmetric matrix.
- Q8. Find the matrix A such that $\begin{bmatrix} 2 & -1 \\ 1 & 0 \\ -3 & 4 \end{bmatrix} A = \begin{bmatrix} -1 & -8 \\ 1 & -2 \\ 9 & 22 \end{bmatrix}$

CHAPTER – DETERMINANTS

- Q1. If $|A| = 6$ and $O(A) = 3$ then $|2A|$.
- Q2. If order of a matrix A is 3×3 and $|A| = 3$; then $|A(\text{adj } A)|$
- Q3. Find x if $\begin{bmatrix} 5 & 3x \\ 2y & z \end{bmatrix} = \begin{bmatrix} 5 & 12 \\ 6 & 4 \end{bmatrix}$
- Q4. Solve the equation $\begin{vmatrix} x+a & x & x \\ x & x+a & x \\ x & x & x+a \end{vmatrix} = 0 \quad a \neq 0$.
- Q5. Solve the system of linear equations:-
 $8x + 4y + 3z = 18$, $2x + y + z = 5$ and $x + 2y + z = 5$
- Q6. A school wants to award its students for the values of honesty, regularity, and hard work with a total cash award of Rs. 6000, three times the award money for hard work added to that given for honesty amounts to Rs. 11000. The award money given for honesty and hard work together is double the one given for regularity. Represent the above situation algebraically and find the award money for each value, using matrix method.

CHAPTER – CONTINUITY AND DIFFERENTIABILITY

- Q1. If $x = \sin^{-1}(3t - 4t^3)$ and $y = \cos^{-1} \sqrt{1-t^2}$ then find $\frac{dy}{dx}$.
- Q2. Find $\frac{dy}{dx}$, if $x = a \{ \cos t + \log(\tan t/2) \}$, $y = a \{ \sin t \}$.

Q4. If find $y = a (\sin \theta - \cos \theta)$ and $x = a (\cos \theta + \sin \theta)$, find $\frac{d^2y}{dx^2}$.

Q5. Find the unknown constant if the functions are continuous

$$f(x) = \begin{cases} kx+1, & x \leq \pi \\ \cos x, & x > \pi \end{cases}$$

Q6. The function $f(x)$ is defined as follows: $f(x) = \begin{cases} x^2 + ax + b, & 0 \leq x < 2 \\ 3x + 2, & 2 \leq x \leq 4 \\ 2ax + 5b, & 4 < x \leq 8 \end{cases}$

if f is continuous on $[0, 8]$, find the values of a and b .

SECTION – B

Students are required to write down the following activities in their mathematics lab manuals during the summer holidays.

Activities

1. To verify that relation R in the set L of all lines in a plane defined by $R = \{(l, m); l \parallel m\}$ is an equivalence relation.
2. To demonstrate a function which is not one-one but is onto.
3. To demonstrate a function is one-one but not onto.
4. To draw a graph of $\sin^{-1} x$ using the graph of $\sin x$ and demonstrate the concept of mirror reflection. (about the line $y = x$)
5. To sketch the graph of a^x and $\log_a x$ $a > 0, a \neq 0$ and to examine that they are mirror images of each other.
6. To find analytically the limit of a function $f(x)$ at $x = c$ and also to check the continuity of the function at that point.

Subject : Accountancy

PROJECT WORK:

COMPREHENSIVE PROJECT: CHOOSE ANY ONE FROM THE FOLLOWING:

1. Collection of source documents, recording accounting transactions using vouchers as well as preparation vouchers.
2. A comprehensive project taking any sole proprietorship business and this project must state the following:
 - (i) Journal Entries
 - (ii) Ledgers
 - (iii) Preparation of Trial Balance
 - (iv) Trading Account
 - (v) Profit and Loss Account
 - (vi) Balance Sheet
 - (vii) Use pie chart or Bar diagram to show incomes, profit and loss and Assets and liabilities.
3. Prepare a bank reconciliation statement using a given cashbook as well as the passbook which must have 20 to 25 transactions

SPECIFIC PROJECT: CHOOSE ANY ONE FROM THE FOLLOWING:

1. Ratio analysis
2. Cash flow statement
 - Choose one company and prepare profit and loss account and balance sheet and calculate different ratios
 - Choose one company and prepare his cash flow statement

GENERAL QUESTIONS

Solve 10-10 questions of following topics:

- Profit and loss appropriation account
- Past adjustments
- Guarantee of profit to a partner
- Interest of drawings

Subject : Business Studies

- **Solve 5–5 case studies of following chapters:-**
 1. Nature and significance of management
 2. Nature and principles of management
 3. Business environment
 4. Planning

PROJECT WORK:

CHOOSE ANY ONE FROM THE FOLLOWING:

1. Project work on Marketing

You are required to collect the information on any topic out of the following for the project work on marketing. The topics are as follows:

- Toothpaste
- Noodles
- Shampoo
- Bathing soap
- Pen
- Mobile
- Hair oil
- Salt
- Jams
- Any other product of your choice

2. Project on element of business environment:

- (a) Changes witnessed over the last few years on mode packaging and its economic impact.
- (b) Changing role of women in the last 25 years relating to joint families.
- (c) The trend in the changing interest rates and their effect on savings.
- (d) A study on child labour laws, its implementation and consequences.

3. Principles of management:

You are required to visit any one of the following:

- (i) A Departmental store
- (ii) An industrial unit
- (iii) A Fast food outlet
- (iv) Any other organization

You are required to observe the applications of the General principles of management advocated by Fayol or enquire about the application of Scientific management techniques by F.W Taylor in the unit visited.

Subject : Economics

A. GENERAL QUESTIONS:

- Q1. What is deficient demand in an economy? What is its impact on output, employment and prices?
- Q2. What is 'excess demand' in macroeconomics?
- Q3. Differentiate induced and autonomous investment. Explain and show them with the help of a diagram also?
- Q4. Distinguish between average propensity to consume and marginal propensity to consume using a numerical example
- Q5. Do you agree that MPS cannot be negative, but APS can be?

B. PROJECT WORK

- Micro and Small scale industries
- Food supply channel in India
- Contemporary Employment in India
- Disinvestment policy of the government
- Goods and services tax Act and its Impact on GDP
- Health Expenditure (of any state)
- Human development Index
- Inclusive Growth strategy
- Self-help group
- Trends in credit availability in India
- Monetary policy committee and its functions
- Role of RBI in control of credit
- Government budget and its components
- Trends in budgetary condition of India
- Exchange Rate determination- Methods and Techniques
- Currency war reasons and repercussions
- Livestock Backbone of rural India
- Alternate fuel types and importance
- Minimum support prices
- Relation between Stock Price Index and Economic Health of Nation
- Waste Management in India – Need of the hour
- Minimum Wage Rate – approach and Application
- Digital India- Step towards the future
- Rain Water Harvesting – a solution to water crises Vertical Farming – an alternate way
- Silk Route- Revival of the past
- Make in India – The way ahead
- Bumper Production- Boon or Bane for the farmer
- Rise of Concrete Jungle– Trend Analysis – Organic Farming – Back to the Nature
- Any other newspaper article and its evaluation on basis of Economic principles

Note:-

Each student has to choose any one from the above topic for project.

Project topic must be done in project sheets.

There must be 20-25 sheets for a given project.

Relevant pictures must be pasted in blank page of sheets.

Subject : Political Science

A. Project Work.

Some suggested topics are:

- The importance of elections in a democratic country especially in India.
- Partition – Theory behind it and its legacy.
- One Party Dominance – Congress to BJP.
- Change in India's Foreign Policy.
- India's relation with its neighbours – (Choose any one country)
- Emergency – Reasons and Consequences
- Coalition Politics – Emergence and success of UPA and NDA
- New centre of power -EU, BRICS, ASEAN, SAARC (Choose Any one and explain.
- UN and its agencies.
- Environment – Sustainable development – Need of the hour.
- Globalisation – Economic, Political and Cultural Impact on Third World
- Choose Any other topic based on the syllabus.

General Instructions:

1. It should be a handwritten project on a A4 size sheet.
2. Project should be summed up in 12-15 pages.
3. It should be well researched and pictorial.
4. Title/ Cover page, acknowledgement, list of contents, Bibliography, headings and sub-headings are a must.

B. Read and revise the chapters taught in the class.

C. Read the newspaper daily especially the editorial page.

D. Answer the following questions in a separate notebook.

1. Write a note on the role and the limitations of SAARC as a forum for facilitating economic cooperation among the South Asian Countries.
2. What are the major differences between SAARC and European Union as an alternative centres of power?
3. Explain Japan and South Korea as New centre of power.
4. Analyse India's changing relationship with post-communist Russia.
5. Critically evaluate the difficulties involved in implementing the suggested reforms to reconstruct the UN.
6. Explain any four reasons as to why India should be given a permanent membership in the UN Security Council.

Subject : History

GENERAL QUESTIONS:

- Q1. Why were the power of the jotedar, within the village, more effective than that of zamindar? Explain?
- Q2. How the zamindar manage to retain control over their zamindari?
- Q3. Why fifth report became the basis of intense debate in England?
- Q4. Why did the Santhals revolt against the British rule?
- Q5. What explain the anger of the Deccan ryots against the money-lender?
- Q6. Read a biography of any one leaders of the revolt of 1857 and check the source, do these include reports newspaper or any difference. Prepare a report on your findings.

Note: Learn the chapters 1, 2, 5, 10

FEW SUGGESTIVE TOPICS FOR PROJECT:



1. The mysteries behind the mounds of dead- Mohenjo- daro.
2. Buddha path to enlightenment.
3. "Mahatma Gandhi"- A legendary soul.
4. Insight and Reflection of Bernier's notions of The Mughal Empire.
5. An depth study to understand spritual archeology in the sub continent
6. The Bhakti or Sufi movement in India.

LIST OF MAP WORK

- Mature Harappan sites
- Mahajanpad and cities
- Distribution of Ashokan inscriptions
- Main center of the revolt 1857

NOTE:

- Each student has to choose any one topic from the above topic for the project
- Project must be done in a project sheets or use separate file for project.
- Relevant picture must be pasted in project work
- Map work must be done in a map book.
- Write the answer of **general questions on separate notebook.**

Subject : Physical and Health Education

- A. Anyone IOA recognised sport/ game of choice, labelled diagram of field and equipment. Also mention its rules, terminologies and skills.**
- **Project has to be written on the basis of following guidelines:-**
 1. History of the game.
 2. Draw the diagram of court/field of related game Specifications of playfield and sports equipments.
 3. Latest general rules of the game.
 4. Fundamental skills of the game.
 5. Terminology.
 6. Important tournaments of the game.
 7. Indian & International players
- B. (i) Make a video of performing any 3 yoga asanas and explain its steps and benefits.**
- (ii) Procedure for asanas, benefits and contraindications for any 2 asanas for each lifestyle diseases.**
- C. Fitness Tests Administration.**

Subject : Applied Arts

1. Make a poster on community and nature development on A3 size sheet (portfolio) using acrylic colours. (3 sheets)
2. Make an advertisement of commercial product on A3 size sheet (portfolio) using acrylic colours. (3 sheets)

Subject : Hindustani Music

PROJECT WORK

- Q1. Discuss in detail Raag Bhairav and write in Notation the Compositions of Raag Bhairav.
- (i) It's Aroha, Avroha
 - (ii) It's Thaata
 - (iii) It's Jati
 - (iv) It's Timing
 - (v) It's Vadi, Samvadi Swar
- Q2. Write in Tala Notation, Thah (Single) and Dugun (Double) of Jhap Tala and Rupak Tala.
- Q3. Describe the various parts of the Tanpura along with its tuning.

Subject : Computer Science

(Do any 15 Programs after verification of output as expected)

1. A list contains the following elements:
3, 25, 13, 6, 35, 8, 14, 45
Write a function to swap the content with the next value divisible by 5 so that the resultant List will look like: 25, 3, 13, 35, 6, 8, 45, 14
2. Write a program to accept values from a user in a tuple. Add a tuple to it and display its elements one by one. Also display its maximum and minimum value.
3. Write a program to input any values for two tuples. Print it, interchange it and then compare them.
4. Write a Python program to input 'n' classes and names of their class teachers to store them in a dictionary and display the same. Also accept a particular class from the user and display the name of the class teacher of that class.
5. Write a program to store student names and their percentage in a dictionary and delete a particular student name from the dictionary. Also display the dictionary after deletion.
6. Write a Python program to input names of 'n' customers and their details like items bought, cost and phone number, etc., store them in a dictionary and display all the details in a tabular form.
7. Write a Python program to capitalize first and last letters of each word of a given string.
8. Write a Python program to remove duplicate characters of a given string.

9. Write a Python program to compute sum of digits of a given string.
10. Write a Python program to find the second most repeated word in a given string.
11. Write a Python program to change a given string to a new string where the first and last chars have been exchanged.
12. Write a Python program to multiply all the items in a list.
13. Write a Python program to get the smallest number from a list.
14. Write a Python program to append a list to the second list.
15. Write a Python program to generate and print a list of first and last 5 elements where the values are square of numbers between 1 and 30 (both included).
16. Write a Python program to get unique values from a list.
17. Write a Python program to convert a string to a list.
18. Write a Python script to concatenate the following dictionaries to create a new one:

```
d1={'A':1,'B':2,'C':3}          d2={'D':4}
```

 Output should be: `={'A':1,'B':2,'C':3,'D':4}`
19. Write a Python script to check if a given key already exists in a dictionary.
20. Write a Python script to print a dictionary where the keys are numbers between 1 and 15 (both included) and the values are square of keys.
 Sample Dictionary

```
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100, 11: 121, 12: 144, 13: 169, 14: 196, 15: 225}
```
21. Write a Python script to merge two Python dictionaries. Write a Python program to sort a dictionary by key.
22. Write a Python program to combine two dictionary adding values for common keys.

```
d1 = {'a':100,'b': 200, 'c':300}          d2 = {'a':300, 'b':200, 'd':400}
```

 Sample output: `{'a':400,'b':400,'d':400,'c': 300}`
23. Write a Python program to find the highest 3 values in a dictionary.
24. Write a Python program to sort a list alphabetically in a dictionary.
25. Write a Python program to count number of items in a dictionary value that is a list.

