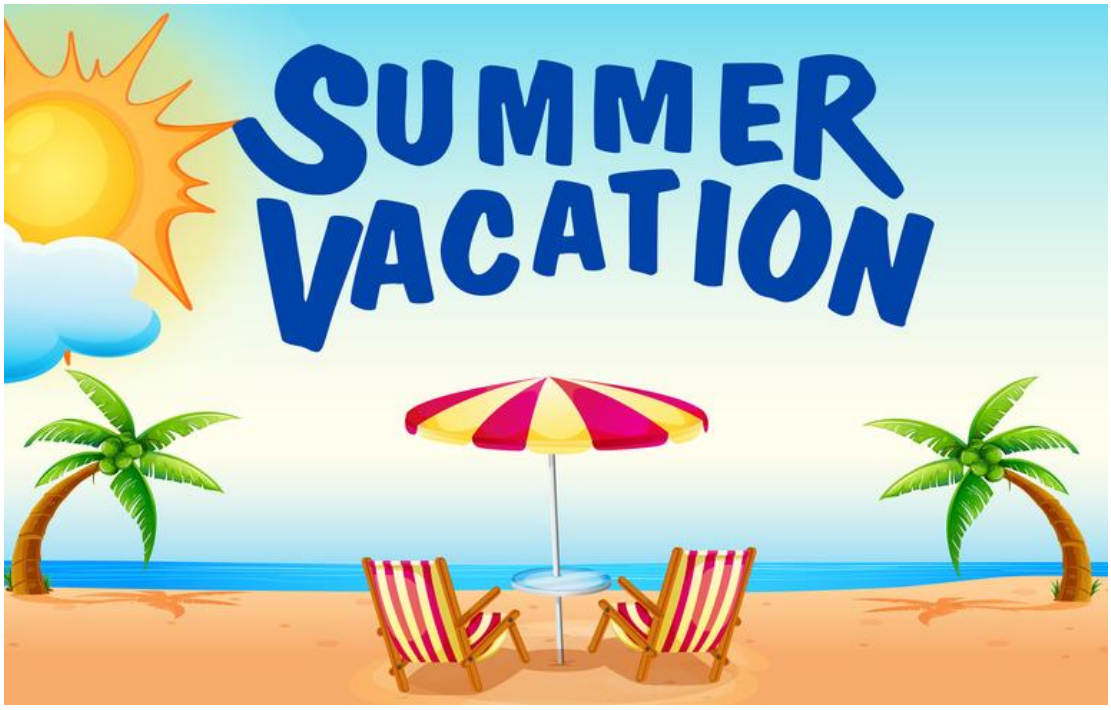
STEPHENS

INTERNATIONAL PUBLIC SCHOOL



Holidays' Homework

Session – 2025-26

Class : 11th

General Instructions:

1. Use assignment sheets to do all the written work.
2. Use a separate file (use A4 sheets) for project and activity work.
3. Make separate file for each subject.
4. Do your work neatly and beautify it.
5. Revise the syllabus taught in the class so far.

- **God gives us 24 hours in a day, let us take out a few minutes for Him and thank Him for the happy moments and also ask Him to give us strength to cope up with our difficulties.**
- **Don't be lazy and become a couch potato!! Do exercise and be fit and healthy. Revise all the concepts done in the class.**
- **Reading is fun and it helps us develop our vocabulary. Make it a habit to read story books.**

Subject : English

Task 1:

(A) Debate Writing:

Write a debate (120–150 words) either for or against the motion:
"Online Smart Classes are the Future of Education."

(B) Speech Writing:

You are Ankit/Ankita. Write a speech (200 words) on the topic: "Education Gives One Power".

Task 2:

(A) Classified Advertisement:

Write a classified advertisement in about 50 words for your company 'Organise My Trip', offering cheap air tickets and free tour guide services.

(B) Abacus Institute Advertisement:

Draft a classified advertisement for your new Abacus training institute for school children with relevant details.

Task 3: Poster Making:

(A) Design a poster for a 'Dog Show' to be held by your 'Kennel Club'.

(B) Create a poster highlighting the ill effects of junk food consumption.

Task 4: Script Writng:

Create a script and draw caricatures for a humorous one-act play. Use original dialogues and creative sketches to enhance fun and storytelling.

Task 5: Creative Writing:

Write an original article/poem/short story reflecting creativity, thoughts or personal experiences. Make sure that the work is self-created and not copied from any source.

Theme: Living Green

Subject : Physics

Q1. Using dimensional analysis, derive a formula for the velocity v of a wave on a string which depends on tension T and mass per unit length.

Q2. The pressure P inside a liquid column is said to depend on height h, density, and gravitational acceleration g. Derive the relation using dimensional analysis.

Q3. The frequency f of a vibrating string depends on tension T, length l, and mass per unit length. Use dimensional analysis to find the formula.

Q4. A ball is dropped from a height of 20 m. Find time taken to reach the ground.
Velocity with which it hits the ground (Take g = 9.8)

Q5. If the position of a particle is $x = 3t^3 - 4t^2 + t + 7$, find the expressions for velocity and acceleration. Find the velocity and acceleration at t = 2s

Q6. What is the angle between two vectors a and b with magnitudes $\sqrt{3}$ and 4, respectively, and a.b = $2\sqrt{3}$?

Q7. Find the value of λ for which the two vectors $2\hat{i} - \hat{j} + 2\hat{k}$ and $3\hat{i} + \lambda\hat{j} + \hat{k}$ are perpendicular.

Q8. A cricketer can throw a ball to maximum horizontal distance of 160 m. Calculate the maximum vertical height to which he can throw the ball? Given g = 10 m/s^2.

Q9. A ball is thrown horizontally from the top of a tower with a speed of 50 m/s. Find the velocity and position at the end of 3 second. [g = 9.8m/s^2]

Q10. A boy stands at 39.2 m from a building and throws a ball which just passes through a window 19.6 m above the ground. Calculate the velocity of projection of the ball.

Q11. What is the time of flight of a projectile on a horizontal plane, where u is the initial velocity of projectile, θ is the angle of inclination, and g is the gravitational acceleration?

Q12. A projectile has range on a horizontal plane equal to three times the maximum height attained by it. If u be the velocity of projection of the projectile, then its time of flight is:

EXPERIMENTS

1. To measure diameter of a small spherical/cylindrical body and to measure internal diameter and depth of a given beaker/calorimeter using Vernier Callipers and hence find its volume.
2. To measure diameter of a given wire and thickness of a given sheet using screw gauge.
3. To determine volume of an irregular lamina using screw gauge.
4. To determine radius of curvature of a given surface by a spherometer.

Note:- All the praticals are to be done on the pratical file.

Subject : Chemistry

Section – A

Q1. Make a periodic table highlighting the positioning of metals, non metals and metalloids.

Q2. Make a flow chart on the different atomic models along with their drawbacks.

Q3. Practise the NCERT questions and numerical section from chapter 1 to chapter 2.

Section – B

CREATIVE PROJECT IDEAS ON STRUCTURE OF ATOM (any one)

1. Make a 3D atomic model using household material (Styrofoam balls, clay, coloured paper, wire and straws)
2. Make a balloon based atomic model (balloons, marker and strings).

Section – C

EXPERIMENT

1. Preparation of standard solution of oxalic acid.
2. Determination of strength of given solution of Sodium hydroxide against standard solution of oxalic acid.

Note:- Both the praticals are to be done on the pratical file.

Subject : Biology

Section – A

ASSIGNMENTS

1. **Make a concept map:** Illustrate the hierarchy of classification, from kingdom to species.
2. **Species classification:** Classify 5-7 organisms (plants/animals) using taxonomic categories.
3. **Biodiversity exploration:** Research and write about different types of biodiversity (genetic, species, ecosystem).
4. **Case study:**
   Choose an endangered species and discuss its classification, habitat, threats, and conservation efforts.

Section – B

1. **Create a poster:** Visualize the five-kingdom classification system.
2. **Taxonomy timeline:** Create a timeline of major milestones in the development of taxonomy.

3. **Biodiversity conservation:** Design a poster/leaflet on conservation of a specific ecosystem/biodiversity hotspot.

Section – C

Exp. No. 1 Study the parts of compound microscope.

Exp. No. 2 To study specimen/Slides/Models of Bacteria, oscillatoria, spirogyra, rhizopus, myshroom, yeasts, liverwort, moss, fern, pine, one lichen.

Exp. No. 3 To study the virtual specimen of amoeba, hydra, liver fluke, ascaris, leech, earthworm, prawn, silkworm, honeybee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit.

Note: All the experiments are to be done on the practical file.

Subject : Mathematics

Total Questions: 25
Topics Covered: Sets, Relations and Functions, Trigonometric Functions, Complex Numbers, Linear Inequalities

Section A: Sets (5 Questions)

Q1. Define the following terms with an example for each:
(a) Empty Set
(b) Power Set
(c) Universal Set

Q2. If A = 1,2,3,4,5, B = 4,5,6,7,8 and C = 7,8,9,10. Find:
(a) $A \cup B$
(b) $B \cap C$
(c) $A - B$
(d) $(A \cup B) \cap C$

Q3. In a survey of 60 people, it was found that 25 people read newspaper H, 26 read newspaper T, 26 read newspaper I, 9 read both H and I, 11 read both H and T, 8 read both T and I, and 3 read all three newspapers. Find:
(a) The number of people who read at least one of the newspapers.
(b) The number of people who read exactly one newspaper.

Q4. Let $U = \{x \mid x \text{ is an integer and } -4 < x < 4\}$, $A = \{x \mid x \text{ is an integer and } 0 \le x \le 3\}$, and $B = \{x \mid x \text{ is an integer and } -2 < x < 2\}$. Find:
(a) A' (complement of A)
(b) B' (complement of B)
(c) $A' \cap B'$

Q5. Write down all the subsets of the set S = a,b,c. How many proper subsets does S have?

Section B: Relations and Functions (5 Questions)

Q6. Let A=1,2,3 and B = a,b,c. Define a relation R from A to B as R=(1,a),(1,c),(2,b),(3,a).
(a) Find the domain and range of R.
(b) Is R a function? Justify your answer.

Q7. Let $f(x) = x^2 + 1$ and $g(x) = 2x - 3$. Find:
(a) $(f + g)(x)$
(b) $(f - g)(x)$
(c) $(fg)(x)$
(d) $(gf)(x)$ and state its domain.

Q8. Find the domain and range of the real function $f(x) = 9 - x^2$.

Q9. Determine if the relation R on the set Z of all integers defined by R=(a,b):a−b is an integer is reflexive, symmetric, and transitive. Is it an equivalence relation?

Q10. If $f(x) = x + 52x - 1$, $(x) = -5$. Find the value of x for which $f(x) = 1$.

Section C: Trigonometric Functions (5 Questions)

Q11. Convert:
(a) 75∘ into radian measure.
(b) 125π radians into degree measure.

Q12. Prove the identity: $\sin^2 A \cot^2 A + \cos^2 A \tan^2 A = 1$.

Q13. Find the value of:
(a) $\sin(765^o)$
(b) $\cos(-317\pi)$

Q14. If $\cos x = \sqrt{3}$ and x lies in the third quadrant, find the values of the other five trigonometric functions.

Q15. Find the general solution for the equation $\sin(2x) = \sqrt{3}$.

Section D: Complex Numbers (5 Questions)

Q16. Express the complex number $(5-3i)^3$ in the form $a+ib$.

Q17. Find the modulus and argument of the complex number $z = -1-i^3$.

Q18. Find the multiplicative inverse of the complex number $4-3i$.

Q19. Solve the quadratic equation: $x^2 - 4x + 13 = 0$.

Q20. If $z_1 = 2+i$ and $z_2 = 1-2i$, find $|z_1 - z_2 + iz_1 + z_2 + 1|$.

Section E: Linear Inequalities (5 Questions)

Q21. Solve the inequality $3(x - 1) \leq 2(x - 3)$ and represent the solution graphically on a number line.

Q22. Solve the system of linear inequalities graphically:
$x + y \geq 5$
$x - y \leq 3$

Q23. A manufacturer has 600 litres of a 12% solution of acid. How many litres of a 30% acid solution must be added to it so that the acid content in the resulting mixture will be more than 15% but less than 18%?

Q24. Solve for x: $32x - 1 \geq 43x - 2 - 52 - x$.

Q25. Find all pairs of consecutive odd positive integers, both of which are smaller than 10, such that their sum is more than 11.

Subject : Accountancy

1. Prepare a project on the topic
   "Source of documents and preparation of vouchers"
2. Do Accounting equation from Question 9 to 15 (imaginary).
3. Prepare rules of Accounting according to traditional approach and modern approach.

Subject : Business Studies

- **Do Case Study based questions from chapters 1, 2 & 3. (minimum 05)**
- **Prepare a project on Marketing.**

Subject : Economics

A. Answer the following questions:-

1. Prepare guidelines for the construction of a table.
2. Draw a flow chart showing different kinds of tables. Also, explain various kinds of tables.
3. Draw a format of a Table. Explain different components of a table.

B. Project Work

Study of a cooperative institution.

OR

Any newspaper article and its evaluation on the basis of economic policies.

Subject : Sociology

Answer the following questions:-

Q1. Write an essay on the family as a social institution? Draw from both your reading as well as personal observation.
Q2. How will you describe marriage as a universal phenomenon? Explain its various forms.
Q3. How does Sociology study religion?

Project:-

Prepare a project report on the topics related to societal issues - be it social, cultural or economic. The topics that are to be included such as:

- Gender inequalities
- Caste inequalities
- Domestic violence

- Dowry system
- Social control etc.

- **Expected checklist for the project work.**
  - √ Introduction of Topic / Title.
  - √ Figure out the causes, events, remedies or consequences of the topic.
  - √ Advantages and disadvantages of the topic taken.
  - √ Short–term and long–term implications of the topic taken.
  - √ Relevance of data and presentation of data.

Subject : Political Science

A. Answer the following questions:-

1. What is Constitution? Why is the Constitution needed?
2. Write the Preamble of the Indian Constitution.
3. What was the significance of the Cabinet Mission Plan?
4. Write the composition of the Constituent Assembly of India.
5. Differentiate between FPTP and PR System of Election.

B. Project Work.

Some suggested topics are:

- Legislature
- Executive
- Judiciary
- Constitution
- Rights
- Freedom
- Liberty
- Justice

(You may 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.

C. Read the newspaper daily especially the editorial page. The current topics will be discussed in the class post summer break.

Subject : History

Q1. Explain geographical history of Mesopotamia.

Q2. Write a short note on the following cities of Mesopotamia civilization.

(a) Ur

(b) Uruk

(c) Mari

Q3. Describe the nature of the Roman Republic. For how long did it last, by whom was it over thrown etc.?

Q4. Describe the social political, cultural and economic condition of the Roman Empire.

Q5. Describe the circumstances favourable for Genghis Khan to establish a Unified Mongol Empire.

Q6. Make a project file on one of the following:-

(i) Ancient Mesopotamia

(ii) Genghis khan Nomadic Empire

(iii) An Empire across three continents

(iv) Paths to Modernization of China and Japan.

The Project should consist of the following heading:-

(i) Title page

(ii) Acknowledgment

(iii) Table of content

(iv) Introduction

(v) The body of project should have description of the selected topics, pictures, data and relevant information.

(vi) Conclusion should have student's observation on the topic

(vii) Bibliography and references

Activity-

Visit any museum during summer vacation. You will find many items which have been found by archeologists. Write a report on any ten items you see there like how old they are, where they were found, what is their historical value etc.

Subject : Physical Education

Learn the following topics:-

- Test for CWSN (any 4 items out of 27 items. One item from each component: Aerobic Function, Body Composition, Muscular strength & Endurance. Range of Motion or Flexibility)
- CWSN (Children with Special Needs - Divyang): Bocce/ Boccia, Sitting Volleyball, Wheel Chair Basketball, Unified Badminton, Unified Basketball, Unified Football, Blind Cricket, Goalball, Floorball, Wheel Chair Races and Throws, or any other Sport/Game of your choice.

- Children with Special Needs can also opt any one Sport/Game from the list as alternative to Yogic Practices. However, the Sport/ Game must be different from Test - Proficiency in Games and Sports.

Record File shall Include:

- Practical-1: Fitness tests administration. (SAI Khelo India Test)
- Practical-2: Procedure for Asanas, Benefits & Contraindication for any two Asanas for each lifestyle disease.
- Practical-3: Anyone one IOA recognized Sport/Game of choice. Labelled diagram of Field & Equipment. Also mention its Rules, Terminologies & Skills.

Subject : Applied Arts

Draw all these on A3 size portfolio

Q1. Make a composition of still life using medium shading pencil. (1 sheet)

Q2. Make a composition of Nature using medium shading pencil. (1 sheet)

Q3. Write any motivational quotes using medium black ink pen. (Calligraphy Art) (2 sheets)

Q4. Project work - any one of the following:-

- Folk Art
- Modern Art
- Mandala Art (on Canvas Board) or sheet, then frame it.

Subject : Hindustani Music

Q1. Write down the notation of Teen Taal with thah and Dugun with description.

Q2. Do practice of Teen Taal on hand by showing Sam, Taali, Khali.

Subject : Computer Science

Q1. Antivirus software is an example of _____.

(a) System software (b) Application software

(c) Utility Software (d) Business Software

Q2. The fetch –Decode –execute cycle is also known as _____ cycle.

(a) Process Cycle (b) Instruction Cycle

(c) Execute Cycle (d) All above

Q3. Who developed Python Programming Language?
(a) Konrad Zuse (b) Guido Van Rossum
(c) John Von Neumann (d) Backus-Naar

Q4. Write any two examples of Application Software.

Q5. 24 GB = _____ MB = _____ KB

Q6. Identify the input device(s):
(a) Speaker (b) Printer
(c) Key board (d) Scanner

Q7. Which of the following is referred to the brain of computer?
(a) Processor (b) RAM
(c) Hard Drive (d) ROM

Q8. ASCII stands for _____.

Q9. _____ is known as a volatile memory.

Q10. Which of the following is not a Python IDE?
(a) IDLE (b) Sublime Text
(c) Jupyter Notes (d) Spyder

Q11. Which one of the following is NOT a computational thinking technique?
(a) Pattern recognition (b) Decomposition
(c) Coding (d) None of above

Q12. Python is the fastest language.
(a) False (b) True

Q13. What is the work of system software? Explain function of its type.

Q14. What is the function of the CPU in a computer? What are its subunits?

Q15. What is the meaning of the term volatile primary memory? Explain briefly.

Q16. What is cache memory? How it is useful?

Q17. How the specific purpose software useful in our life? Explain with example.

Q18. Why is Python termed as 'Free and Open Source' Software?

Q19. Python Programming language got its name from which show?

Q20. Solve the following 05 examples for each:-
(a) Binary to Decimal
(b) Decimal to Binary
(c) Decimal to Octal
(d) Octal to Decimal
(e) Decimal to Hexadecimal
(f) Hexadecimal to Decimal
(g) Binary to Octal
(h) Octal to Binary
(i) Binary to Hexadecimal
(j) Hexadecimal to Binary

Q21. Differentiate between the following:
(a) RAM and ROM
(b) Interpreter and compiler
(c) CPU and ALU

Q22. Prepare the gates and truth tables for each of the following:-
(a) F= XYZ'
(b) F= X + Y'Z
(c) F= XY' + X'Z
(d) F= X'Y'Z + X'YZ + XY'
(e) F= AB+A (B+C) + B (B+C)

Q23. Write full form of IDLE and write the shortcut key to run a Python program.

Q24. Briefly explain the basic architecture of a computer.

Q25. What does a cross platform language mean?

Q26. What is the role of operating system in computer system? Write its different types and example.

Q27. What is the function of memory? What are its measuring units?

Q28. What do you understand by flash memory?

Q29. Briefly explain utility Software and its type

Q30. What is computer hardware? Give any two examples.