



STEPHENS

INTERNATIONAL PUBLIC SCHOOL



Holidays' Homework

Session – 2024-25

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.**

Subject : English

Task -1

- (A) Online Smart Classes are the future of Education style. “Write a debate either for or against the motion (120-150 words).
Young Generation not limited to Facebook – teaching platform – various online teaching apps – Smartphone users have increased – need to go paperless.
- (B) You are Ankit/Ankita. You have to deliver a speech on the topic “Education Gives One Power”. You have jotted down the following notes:
Education trains mind—sharpens skill and abilities—Education: a source of power—improve self—be independent—earn money—ignorance to knowledge—removes superstition—develops a free spirit—important for women: gives them freedom from social ills—-independent—responsible.
Write the speech in about 200 words.

Task – 2

- (A) Your company ‘Organise My Trip’ C- 45 Damini Road Delhi claims to offer the cheapest air tickets for any destination by an airline besides offering free tour guide facilities. Draft an advertisement in not more than 50 words giving all relevant details.
- (B) You have recently started an Institute for ABACUS for school children. Draft an advertisement for a national daily giving all the relevant details.

Task – 3

- (A) Design an attractive poster for a “Dog Show” that your kennel club is going to organize.
- (B) Design a poster emphasizing the ‘Ill Effects of Binging on Junk Food’.

Task – 4

Draw caricatures and create a script for a humorous one act play. The writing should be original, reflecting your imagination, creativity and writing skills.

Subject : Physics

1. Name two physical quantities having the dimensions $[ML^2T^{-2}]$.
2. Can a quantity have different dimensions in different system of units?
3. Write the dimensional formula for coefficient of viscosity and strain.
4. Write the number of significant figures in each of the following measurement:
 - (a) 1.67×10^{-27} kg
 - (b) 0.0270 cm
5. Can an object have an eastward velocity while experiencing a westward acceleration?
6. Is it possible for a body to be accelerated without speeding up or slowing down? If so, give an example.
7. Even when rain is falling vertically downwards, the front screen of a moving car gets wet while the back screen remains dry. Why?
8. Find the value of 100 J on a system which has 20 cm, 250 g and half minute as fundamental units of length, mass and time.
9. The escape velocity v of a body depends on—
 - (i) the acceleration due to gravity 'g' of the planet,
 - (ii) the radius R of the planet.Establish dimensionally the relation for the escape velocity.
10. If the value of universal gravitational constant in S.I is $6.6 \times 10^{-11} \text{ Nm}^2\text{kg}^{-2}$, then find its value in CGS System?
11. Given that the period T of oscillation of a gas bubble from an explosion under water depends on P, d, and E, where the symbols are pressure, density, and total energy of the explosion. Find dimensionally a relation for T.
12. A small steel ball of radius r is allowed to fall under gravity through a column of a viscous liquid of coefficient of viscosity η . After some time, the velocity of the body attains a constant velocity v. The velocity depends on
 - (i) weight of the ball mg
 - (ii) coefficient of viscosity η and
 - (iii) radius of ball r.Determine the relation for velocity, using the method of dimensions.
13. A driver take 0.20 second to apply the brakes (reaction time). If he is driving car at a speed of 54 kmh^{-1} and the breaks cause a deceleration of 6.0 ms^{-2} . Find the distance travelled by car after he sees the need to put the brakes.
14. A ball thrown vertically upwards with a speed of 19.6 ms^{-1} from the top of a tower returns to the earth in 6s. Find the height of the tower ($g = 9.8 \text{ m/s}^2$).
15. A ball is thrown vertically upward with a speed of 25.0m/s.
 - (a) How high does it rise?
 - (b) How long does it take to reach its highest point?
 - (c) How long does the ball take to hit the ground after it reaches its highest point?
 - (d) What is its velocity when it returns to the level from which it started?

MIND MAPS :

Prepare the mind maps of following topics:

- a) Units and measurements
- b) Motion in a straight line

Subject : Chemistry

- Q1. What is the difference between molality and molarity?
- Q2. Calculate the mass percent of calcium, phosphorus and oxygen in calcium phosphate $\text{Ca}_3(\text{PO}_4)_2$.
- Q3. The electronic configuration of the valence shell of Cu is $3d^{10} 4s^1$ and not $3d^9 4s^2$. How is this configuration explained?
- Q4. What is the experimental evidence in support of the idea that electronic energies in an atom are quantized?
- Q5. Why was a change in the Bohr Model of atom required? Due to which important development(s), the concept of movement of an electron in an orbit was replaced by, the concept of probability of finding an electron in an orbital? What is the name given to the changed model of the atom?
- Q6. Give difference between absorption spectrum and emission spectrum.
- Q7. Draw different orbital belong to 3d sub shell.
- Q8. What are the three rules that must be followed while writing the electronic configuration of elements?
- Q9. List the electron configurations of all the noble gases.
- Q10. A box contains some identical red coloured balls, labelled as A, each weighing 2 grams. Another box contains identical blue coloured balls, labelled as B, each weighing 5 grams. Consider the combinations AB, AB_2 , A_2B and A_2B_3 , and show that a law.
- Q11. A crystalline salt on being rendered anhydrous loses 45.6% of its weight. The percentage composition of the anhydrous salt is Aluminium = 10.50%, Potassium = 15.1% Sulphur = 24.96%, Oxygen = 49.92%. Find the simplest formula of the anhydrous and crystalline salt.
- Q12. How much silver can be obtained from 1000 g of silver chloride? (Atomic mass of silver = 108g).
- Q13. Spectral lines are considered to be as finger print of element. Why?
- Q14. Explain all the laws of chemical reactions.
- Q15. Give difference between orbit and orbital.
- Q16. Write electronic configuration of all elements of periodic table with excerpts.

Subject : Biology

Section – A

A. Very Short Answer type questions.

- (i) What does ICZN stand for?
- (ii) Are chemosynthetic bacteria autotrophic or heterotrophic?
- (iii) Diatoms are called as 'Pearls of ocean'. Why?
- (iv) What are lichens?
- (v) Mannitol is the reserve food material of which group of algae?

B. Short answer type questions.

- (i) Why are bryophytes called amphibians of the plant kingdom?
- (ii) Write the role of fungi in your daily life. Make a list of fungi that have commercial value as source of food, chemicals, medicines and fodder.
- (iii) How is the five kingdom classification advantages over the two kingdom classification?

C. Long answer type questions.

- (i) A virus is considered as a living organism and an obligate parasite when inside a host cell. But virus is not classified alongwith bacteria or fungi. What are the characters of virus that are similar to non-living objects?
- (ii) Give a comparative account of classes of kingdom protista.
- (iii) Algae are known to reproduce asexually by a variety of spores under different environment conditions. Name these spores and the conditions under which they are produced.

SECTION – B (LAB MANUAL)

- (i) Study parts of compound microscope.
- (ii) Specimens/ slide / models and identification with reason bacteria, oscillatoria, spirogyra, Rhizopus mushroom, yeast liverwort, moss fern, pine, one monocotyledonous and one dicotyledonous plant and one lichen.

Subject : Mathematics

A. Solve the following multiple choice questions on your fair notebook and find the correct answer:

- Q1. If A and B are any two sets, the $A \cap (A \cap B)^c$ is equal to
(a) $A - B$ (b) $A - B^c$ (c) $A \cap B$ (d) None of these
- Q2. The set $\left\{x \in R : \frac{-1}{3} < 2 - 7x \leq \frac{3}{5}\right\}$ is equal to
(a) $\left(\frac{1}{5}, \frac{1}{3}\right)$ (b) $\left[\frac{1}{5}, \frac{1}{3}\right]$ (c) $\left[\frac{1}{5}, \frac{1}{3}\right)$ (d) $\left(\frac{1}{5}, \frac{1}{3}\right]$
- Q3. Domain of the function $\frac{1}{3x+2}$ is
(a) $\left(\frac{-2}{3}, \infty\right)$ (b) $\left[\frac{-2}{3}, \infty\right)$ (c) $R - \left\{\frac{-2}{3}\right\}$ (d) None of these
- Q4. If A and B are two finite sets containing respectively m and n elements, then the number of non-empty relations that can be defined from A to B is
(a) m^n (b) $n^m - 1$ (c) $mn - 1$ (d) $2^{mn} - 1$
- Q5. Range of $f(x) = |x|$ is
(a) R (b) $(-\infty, 0]$ (c) $[0, \infty)$ (d) None of these
- Q6. If A and B are any two sets, then
(a) $A \times B = B \times A$ (b) $A \times B \subset B \times A$
(c) $B \times A \subset A \times B$ (d) None of these
- Q7. The set of all even prime numbers is
(a) Finite set (b) Empty set (c) Singleton set (d) Infinite set
- Q8. The circular measure of an angle of $7^\circ 30'$ is
(a) $\frac{\pi}{12}$ (b) $\frac{\pi}{24}$ (c) $\frac{\pi}{15}$ (d) None of these
- Q9. The maximum and minimum values of $\sin x$ and $\cos x$ are respectively
(a) 2, 1 (b) 1, 0 (c) $\frac{1}{2}, \frac{-1}{2}$ (d) 1, -1
- Q10. The value of $\frac{1 - \tan^2 15^\circ}{1 + \tan^2 15^\circ}$ is
(a) $\frac{\sqrt{3}}{2}$ (b) 1 (c) $\frac{1}{2}$ (d) $\sqrt{3}$

Very short answer type questions:-

- Q11. Find the values of other five trigonometric functions $\tan x = \frac{-5}{12}$, x lies in second quadrant.
- Q12. Find the range of $\sqrt{9 - x^2}$.

Q13. Find the domain of $f(x) = \frac{1}{1-x}$.

Q14. Write down all the proper subsets of the set $\{1, 2, 3, 4\}$.

Q15. Prove that $(A \cap B)' = A' \cup B'$

Long answer type questions:-

Q16. Prove that $A - (B \cup C) = (A - B) \cap (A - C)$

Q17. Define Union of set, Intersection of sets, Difference of sets and Complement of set. Give one example of each, Draw Venn diagram for each.

Q18. Find the domain and range of function $\frac{x}{x^2+1}$.

Q19. Find the domain of function $f(x) = \sqrt{x^2 - x - 2}$

Q20. Let $f(x) = \{(1, 1), (2, 3), (0, -1), (-1, -3)\}$ be a function from Z to Z defined by $f(x) = ax + b$, for some integers a and b . Find a and b . Also find $f(x) = ?$

Lab Activities

Exp.1 To represent set theoretic operations using Venn diagram.

Exp.2 To verify that for two sets A and B , $n(A \times B) = pq$ and the total relations from A to B is 2^{pq} , where $n(A) = p$ and $n(B) = q$.

Exp.3 To verify the relation between the degree measure and the radian measure of an angle.

Exp.4 To plot graph of $\sin x$, $\sin 2x$, $2 \sin x$ and $\sin \frac{x}{2}$, using same coordinate axes.



Subject : Accountancy

1. Prepare a project on topic.
Source of documents and preparation of vouchers.
2. Do Accounting equation from Question 9 to 15 imaginary.
3. Make Journal entries of related transactions.
 - (i) Capital
 - (ii) Purchase
 - (iii) Sale
 - (iv) Bad debits
 - (v) Discount
 - (vi) Banking transitions
 - (vii) Goods given as Charity/Donation

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 the various kinds of tables.
3. Draw a format of a Table. Explain different components of a table.

B. Project Work

1. Study of a cooperative institution.

OR

2. 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.

B. Project Work.

Some suggested topics are:

- Legislature
- Executive
- Judiciary
- Constitution
- Rights
- Freedom
- Liberty
- Justice
- 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 the newspaper daily especially the editorial page.

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 overthrown.
- Q4. Describe the social political, cultural and economic condition of the Roman Empire.
- Q5. Describe the circumstances favorable for Genghis Khan to establish a Unified Mongol Empire.
- Q6. The students should make a project file on the followings:-
 - (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) Biography and reference

Activity-

Visit any big museum during summer vacation. You will find many items which have been found by archeologists. Write a report on any ten items 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 - Make any one of the following:-
 - Folk Art
 - Modern Art
 - Mandala Art (on Canvas Board)

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. _____ is known as a volatile memory.
- Q2. Identify the input device(s):
- (a) Speaker (b) Printer
- (c) Key board (d) Scanner
- Q3. Which of the following is referred to the brain of computer?
- (a) Processor (b) RAM
- (c) Hard Drive (d) ROM
- Q4. ASCII stands for _____.
- Q5. Python is the fastest language.
- (a) False (b) True
- Q6. The fetch –Decode –execute cycle is also known as _____ cycle.
- (a) Process Cycle (b) Instruction Cycle
- (c) Execute Cycle (d) All above
- Q7. Which of the following is not a Python IDE?
- (a) IDLE (b) Sublime Text
- (c) Jupyter Notes (d) Spyder
- Q8. Which one of the following is NOT a computational thinking technique?
- (a) Pattern recognition (b) Decomposition
- (c) Coding (d) None of above
- Q9. Antivirus software is an example of _____.
- (a) System software (b) Application software
- (c) Utility Software (d) Business Software
- Q10. Who developed Python Programming Language?
- (a) Konrad Zuse (b) Guido Van Rossum
- (c) John Von Neumann (d) Backus-Naar
- Q11. Write any two examples of Application Software.
- Q12. 24 GB = _____ MB = _____ KB
- Q13. Why is Python termed as 'Free and Open Source' Software?
- Q14. Python Programming language got its name from which show?
- Q15. How the specific purpose software useful in our life? Explain with example.
- Q16. What is computer hardware? Give any two examples.
- Q17. What is the function of the CPU in a computer? What are its subunits?
- Q18. Briefly explain utility Software and its type.
- Q19. Briefly explain the basic architecture of a computer.
- Q20. What is the function of memory? What are its measuring units?
- Q21. What is the work of system software? Explain function of its type.
- Q22. What is the meaning of the term volatile primary memory? Explain briefly.
- Q23. What do you understand by flash memory?
- Q24. What is cache memory? How it is useful?
- Q25. Write full form of IDLE and write the shortcut key to run a Python program.
- Q26. What does a cross platform language mean?

Q27. Differentiate between following:-

- (a) RAM and ROM
- (b) Interpreter and compiler
- (c) CPU and ALU

Q28. What is the role of operating system in computer system? Write its different types and example.

Q29. 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) $F = AB + A(B+C) + B(B+C)$

Q30. 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

