



STEPHENS

INTERNATIONAL PUBLIC SCHOOL



Holidays' Homework

Session – 2023-24

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

SECTION – A

A. Very short answer type questions.

1. Write the relationship between numerical value of a quantity and the size of the unit.
2. What is the difference between the measurements of 4.0 cm and 4.000cm?
3. The dimensions of magnetic field in M, L, T and C (coulomb) are given as
(a) $[MLT^{-1}C^{-1}]$ (b) $[MT^2C^{-1}]$
(c) $[MT^{-1}C^{-1}]$ (d) $[MT^{-2}C^{-1}]$
4. When does a cyclist appear to be stationary with respect to another moving cyclist?
5. Can the scalar product of two vectors be negative?

B. Short answer types questions.

1. What is the effect on the magnitude of the resultant of two vectors when the angle θ between them is increased from 0° to 180° ?
2. A jewellers puts diamond in a box weighing 1.2 kg. Find the total weight of the box and diamond with due regard to significant figures if the weight of the diamond is 5.42g.
3. A body starting from rest accelerates uniformly along a straight line at the rate of 10m/s^2 for 5 seconds. It moves for 2 seconds with uniform velocity of 50m/s . Then it retards uniformly and comes to rest in 3s. Draw velocity-time graph of the body and find the total distance travelled by the body.

C. Long answer types questions.

1. The relation between t and distance x is $t = ax^2 + bx$ where a and b are constants. Express the instantaneous acceleration in terms of instantaneous velocity.
2. 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 value V_T . The terminal velocity depends upon
(i) the weight of the ball mg
(ii) the coefficient of viscosity η
(iii) The radius of the ball r
By the method of dimensions, determine the relation expressing terminal velocity.

SECTION – B (LAB MANUAL)

1. To measure diameter of a cylindrical body and to measure internal diameter and depth of a given beaker / calorimeter using vernier calliper 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 irregular lamina using screw gauge.
4. To determine the radius of curvature of a given spherical surface by a spherometer.

Subject : Chemistry

SECTION – A

Answer the following questions:-

- Q1. What number of neutrons and protons are there in the following nuclei?
 ^{13}C , ^{16}O , ^{24}Mg , ^{56}Fe , ^{88}Sr
- Q2. Yellow light radiated from a sodium light has a wavelength (λ) of 580 nm. Ascertain the frequency (ν) and wave number ($\bar{\nu}$) of the yellow light.
- Q3. A photon of wavelength $4 \times 10^{-7} \text{ m}$ strikes on metal surface, the work function of the metal being 2.13 eV. Calculate
(i) the energy of the photon (eV),
(ii) the kinetic energy of the emission.
- Q4. Wavelengths of different radiations are given below:
 $\lambda(\text{A}) = 300 \text{ nm}$ $\lambda(\text{B}) = 300 \mu\text{m}$ $\lambda(\text{C}) = 3 \text{ nm}$ $\lambda(\text{D}) = 30 \text{ \AA}$
Arrange these radiations in the increasing order of their energies.
- Q5. Polymers are large molecules composed of simple units repeated many times. Thus, they often have relatively simple empirical formulas. Calculate the empirical formulas of the following polymers:
(a) Lucite (Plexiglas); 59.9% C, 8.06% H, 32.0% O
(b) Saran; 24.8% C, 2.0% H, 73.1% Cl
(c) polyethylene; 86% C, 14% H
(d) polystyrene; 92.3% C, 7.7% H
- Q6. $2\text{Al} + 3\text{Cl}_2 \rightarrow 2\text{AlCl}_3$
When 80 grams of aluminum is reacted with excess chlorine gas, how many formula units of AlCl_3 are produced?
- Q7. $\text{CO}(\text{g}) + 2\text{H}_2(\text{g}) \rightarrow \text{CH}_3\text{OH}(\text{g})$
At STP, what volume of $\text{H}_2(\text{g})$ is needed to react completely with 8.02×10^{23} molecules of $\text{CO}(\text{g})$?

SECTION – B (LAB MANUAL)

- Crystallization of impure sample of any one of the following:-
(a) Alum (b) Copper sulphate (c) Benzoic acid
- Preparation of standard solution of Oxalic acid.
- Preparation of standard solution of Sodium carbonate.

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 $\tan \frac{\pi}{8}$

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

Q13. Prove that $\sin^2 \frac{\pi}{6} + \cos^2 \frac{\pi}{3} - \tan^2 \frac{\pi}{4} = \frac{-1}{2}$.

Q14. Find the range of $\sqrt{9-x^2}$.

Q15. Find the domain of $f(x) = \frac{1}{1-x}$.

Q16. Write down all the proper subsets of the set $\{1, 2, 3, 4\}$.

Q17. Prove that $(A \cap B)' = A' \cup B'$

Long answer type questions:-

Q18. Prove that $A - (B \cup C) = (A - B) \cap (A - C)$

Q19. Define Union of set, Intersection of sets, Difference of sets and Complement of set. Give one example of each, Draw Venn diagram for each.

Q20. Find the domain and range of function $\frac{x}{x^2+1}$.

Q21. Find the domain of function $f(x) = \sqrt{x^2 - x - 2}$

Q22. 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 $f(x) = ?$

Q23. Find the value of $\tan \frac{\pi}{16}$.

Q24. Prove that $\tan 4x = \frac{4 \tan x(1 - \tan^2 x)}{1 - 6 \tan^2 x + \tan^4 x}$

Q25. Prove $\cos \left(\frac{3\pi}{4} + x \right) - \cos \left(\frac{3\pi}{4} - x \right) = -\sqrt{2} \sin x$

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

- Q1. Prepare a collage on the following topics:-
- (i) Basic Accounting terms (Any five)
 - (ii) Accounting principles and concepts
 - (iii) Bases of Accounting
- Q2. Imagine any business unit. Choose its name, prepare two sample vouchers, debit note, credit note, cash memo, invoice and paste it in your file. Take help of text book for the format.
- Q3. Do the questions from Accounting Equation (Q1 to Q5).

Subject : Business Studies

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

Subject : Economics

- Q1. What are your reasons for studying Economics?
- Q2. "You have unlimited wants and limited resources to satisfy them." Explain by giving two examples.
- Q3. There are 40 students in your school who are cricket players. You are to form a team of 11 players. How would you do it? Would you resort to random sampling technique? Give reasons in support of your answer.

Project Work

Effect on PPC due to various government policies

- Opportunity Cost as an Economic Tool (taking real life situations)
- Effect of Price Change on a Substitute Good (taking prices from real life visiting the local market)
- Effect on Equilibrium Prices in Local Market (taking real life situation or recent news)
- Effect of Price Change on a Complementary Good (taking prices from real life visiting local market)
- Solar Energy, a Cost-Effective Comparison with Conventional Energy Sources
- Bumper Production- Boon or Bane for the Farmer.

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.
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- **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 and Health 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

Drawing from nature and still life:-

- (i) Bird study
- (ii) Animal study
- (iii) Composition of flower and leaves
- (iv) Calligraphy art (Any motivational thought)

Project:- Make a drawing on canvas on any theme of your choice.

Subject : Hindustani Music

- Q1. Write down the notation of raga Bhim Plasi with description.
- Q2. Write down the notation of Teen Taal with thah and Dugun with description.
- Q3. Do practice of Teen Taal on hand by showing Sam, Taali, Khali.

Subject : Computer Science

Q1. Solve the following 10 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

Q2. 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) $F = AB + A(B+C) + B(B+C)$

Q3. Prepare your syllabus for Computer Science in MS-Word and class time table in MS-Excel.

