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DAV PUBLIC SCHOOL, KOTKAPURA

Where excellence is a tradition...

(Affiliated to C.B.S.E., New Delhi, Affiliation No. 1630101)

Happy Holidays

Summer Vacation: 21.05.2024 (Tuesday) to 30.06.2024 (Sunday)
The school will reopen on: 01.07.2024 (Monday)

SUMMER BREAK ASSIGNMENT **CLASS-XI (SCIENCE)**

Important Instructions:

Respected Parents/Dear Students

Namaskar

- ❖ Get up early in the morning and go out for a walk daily.
- ❖ Make a bird feeder and place seeds & water for them regularly.
- ❖ Raise a small kitchen garden by planting seeds.
- ❖ Learn any one folk song.
- ❖ Help your mother in cooking and salad decoration.
- ❖ Revise syllabus of all subjects done before summer vacation.
- ❖ Try to make your handwriting/reading better by practising & do your homework in good handwriting.
- ❖ Learn all the prayers and mantras given in the Student Almanac.
- ❖ Use a separate single notebook for Holiday Homework.
- ❖ The homework will be evaluated and subject enrichment marks will be allotted in Term-I result.
- ❖ Read "**The Tribune**" newspaper daily to update themselves with current affairs.
- ❖ Listen news bulletin on BBC channel and note top 5 news on your notebook daily.
- ❖ **REVISE SYLLABUS COVERED IN MONTH OF APRIL & MAY FOR UPCOMING PERIODIC-I EXAMINATION**

PHYSICS

- ❖ Do the NEET and JEE mains multiple choice questions and assertion reasons from reference book SL ARORA -Unit 2 (Chapter 2 Motion in a straight line and Chapter 3 Motion in a plane upto Vectors)
- ❖ Higher order thinking skills from SL ARORA of Chapter -2 and 3 (upto vectors)
- ❖ Prepare the sheet of formulae used in chapter 1(only dimensional formulae) and chapter 2 (full) and chapter 3 upto Vectors in neat and clean handwriting.
- ❖ Draw all the graphs of motion in a straight line with proper heading. Calculate slope and Area (if possible).
- ❖ Complete the given assignment of Chapter 2 and Chapter 3
- ❖ **Revise the syllabus of periodic test –I.**

CHEMISTRY

Chapter: Atomic Structure

1. Distinguish between Proton, Neutron & Electron.
2. Give the difference between Isotopes, isobars & Isotones.
3. Why e/m ratio of anode rays is different for different gases?
4. Why are the atomic masses of most element is fractional?
5. An atom of an element contains 29 electrons and 35 neutrons. Deduce
 - (a) the number of protons and
 - (b) the electronic configuration of the element
 - (c) Mass Number
6. Explain the Rutherford's scattering experiment and also give its drawbacks.
7. Calculate the wavenumber of yellow radiation having wavelength of 5800\AA .
8. Define (a) Electromagnetic spectrum (b) Black Body and Black body radiation. (c) Photoelectric Effect
9. Calculate the wavelength, frequency and wave number of light wave whose time period is $2 \times 10^{-10}\text{sec}$?
10. Yellow light emitted from sodium lamp has wavelength of 580 nm. Calculate the frequency and wave number of yellow light.
11. How long will it take for a radio wave of frequency 6×10^{13} Hz, sent by a path finder to travel from Mars to earth over a distance of 8×10^7 km.
12. A 100 watt bulb emits electromagnetic light of wavelength 400nm. Calculate the number of photons emitted per second by the bulb.
13. The threshold frequency for a metal is $7 \times 10^{14}\text{s}^{-1}$. Calculate the kinetic energy of an electron emitted when radiation of frequency $1 \times 10^{15}\text{s}^{-1}$ hits the metal.

14. If photon of wavelength 150pm strikes an atom and one of its inner bound electron ejected out with a velocity of 1.5×10^7 m/s. Calculate the energy with which it is bound to the nucleus.
15. Electrons are emitted with zero velocity from a metal surface when it is exposed to radiations of wavelength 6800Å. Calculate the threshold frequency and work function of the metal.
16. Describe postulates of Bohr's model.
17. What is meaning of "Quantisation of angular momentum"?
18. Calculate the radius of Bohr's fifth orbit for hydrogen atom.
19. The energy associated with first orbit in hydrogen atom is -2.17×10^{-18} J/atom. What is the energy associated with fifth orbit?
20. What transition of Li^{+2} spectrum will have the same wavelength as that of second line of Balmer series of He^+ spectrum.
21. What transition in the hydrogen spectrum would have the same wavelength as the Balmer transition, $n=4$ to $n=2$ of He^+ spectrum?
22. The wavelength of the first line in the Balmer series is 6561Å. Calculate the wavelength of second line Balmer series.
23. What is the wavelength of light emitted when electron in H-atom undergoes transition from energy level with $n = 4$ to an energy level $n = 2$?
24. State and illustrate Heisenberg's uncertainty principle
25. Why electron cannot exist in the nucleus?
26. Show that the circumference of the Bohr orbit for hydrogen atoms is an integral multiple of the de-Broglie wavelength associated with the electron moving around the orbit.
27. Calculate the de-Broglie wavelength of an electron moving with 1% speed of light.
28. The kinetic energy of an electron is 4.55×10^{-25} J. Calculate the wavelength of the electron.
29. What will happen to the wavelength associated with a moving particle if its velocity is doubled?
30. Calculate the uncertainty in position of dust particle with mass equal to 1mg if the uncertainty in velocity is 5.5×10^{-20} m/s.

BIOLOGY

- ❖ Solve the MCQs, Assertion Reason and Case Study Based questions from Elementary of Biology from Ch- 14, 15, 16, 18 and 19.
- ❖ Draw each and every Diagram of Ch- 14, 15, 16, 18 and 19 on A4 sheets.
- ❖ Draw Mind maps of Chapter 14, 15, 16, 18 and 19.
- ❖ Prepare a PPT on
 - Ch - 15 Body Fluids and Circulation. (Roll No. 1 to 10)

- Ch - 16 Excretory Products and their Elimination (Roll No. 11 to 20)
 - Ch- 18 Neural Control and coordination (Roll no. 21 to 30)
 - Ch- 19 Chemical coordination and Integration (Roll no. 31 to 46)
- ❖ Do the given assignment of chapter-16, 18 and 19.
- ❖ *Revise the syllabus of periodic test –I.*

MATHEMATICS

Chapters- 1 (Sets), 4 (Complex Numbers), 5 (Linear Inequalities), 11 (Introduction to 3-d Geometry)

Do the given chapters from NCERT with example

- ❖ Solve the MCQs, Assertion Reason and Case Study Based questions from RD Sharma.
- ❖ Solve the NCERT Exemplar questions (Chapter wise) from RD Sharma.
- ❖ Prepare a model on Three Dimensional Geometry (Representing the octants) (Roll no.1 to 10)
- ❖ Prepare a PPT on :-
 - (i) Sets (Roll no. 11 to 20)
 - (ii) Linear Inequalities (Roll no. 21 to 28)

MATHEMATICS(ADDITIONAL)

Chapter – 5 (Linear Inequalities)

Chapter – 11 (Introduction to Three-Dimensional Geometry)

- ❖ Revise the above given chapters with examples.
- ❖ Solve the MCQs, Assertion Reason and Case Study Based questions

ENGLISH

Part 1: Creative Writing

1. Personal Narrative:

Write a personal narrative about a significant event or experience from your life. Describe how it has shaped who you are today(Aim for 200-300 words).

2. Flash Fiction:

Compose a flash fiction story that begins with the line, "On the first day of summer, everything changed." Your story should be between 200-300 words and include a twist ending.

3. Poetry:

Write a poem on the theme of "Change and Transformation." It can be in any poetic form and should be at least of 14 lines.

4.Literary Analysis

1. Presentation:

Create a 10-minute presentation based on any theme of your fiction stories or poetry . Use visual aids such as slides, charts, or videos. Be prepared to present this to the class after the holidays.

2. Reflection Journal:

Maintain a weekly journal throughout the Summer Break. Each entry should be at least one page long. Reflect on your reading, writing experiences, and any other activities you engage in. Pay special attention to how these experiences influence your thoughts and feelings.

Part 2: Language and Vocabulary

1. Vocabulary Log:

Learn and log 10 new words each week. For each word, include:

- ❖ The word and its part of speech
- ❖ Definition
- ❖ A sentence using the word
- ❖ Synonyms and antonyms.

Part 3: Speaking skills

Prepare the following topics for declamation.

1. The Responsibility of Media in a Democratic Society
2. The Role of Innovation in Solving Global Problems
3. Preserving Cultural Heritage in a Globalized World
4. Ethical Dilemmas in the Modern World.

Part -4 Literature : Revise the syllabus covered in the month of April and May.

PHYSICAL EDUCATION

- ❖ Revise these topics and write on Holidays Homework notebook.
1. Explain in detail the career options in physical education.
 2. How technological advancements have changed the way of sports? Explain in detail.
 3. Write a short note on FIT INDIA Program.
 4. Write a short note on:
 - (a) The flame and torch relay
 - (b) The Moto and Maxim
 - (c) Olympic flag.
 5. Explain “ Balance between body , Will and Mind “ as Olympic Education Value.
 6. Explain in detail the Somatotypes.
 7. What is BMI ? How will you Calculate it ?

❖ **One Chart** : First Aid , Somatotypes ,Olympic

Revise Syllabus of Periodic-I

INFORMATICS PRACTICES

I. Prepare an essay on following topics:

- ❖ Humanities Group : Database Concepts: Introduction to database concepts and its need, Database Management System.
- ❖ Commerce Group : Relational data model: Concept of domain, tuple, relation, candidate key, primary key, alternate key
- ❖ Science Group : Advantages of using Structured Query Language, Introduction to MySQL, creating a database using MySQL, Data Types

Keep following guidelines in mind:

- ❖ *The handwritten essay must of 5 pages in length*
- ❖ *Refer Informatics Practices (Sumita Arora) Grade XI, NCERT and resources from Internet for the Same*
- ❖ *Prepare the topics thoroughly as you will have to present the same in the class*

II. Prepare a presentation on the following topics:

(Take printouts for the same)*

- ❖ Humanities Group : Input & Output devices
- ❖ Commerce Group : Software & their types
- ❖ Science Group : Computer Memory: Units of memory & Types of memory

III. Revise Unit 3 Database concepts & SQL (upto topic Data Types)

PAINTING

L-1 Pala School, Jain School, Central School

L-2 Origin and Development of Rajasthani School, Characteristics of This School, Paintings-Bani Thani, Krishna On Swing

*Make Any Three Sheets Of Painting

MUSIC

Write the following topics on fair notebook-

- ❖ Biography of Vishnu Narayana Bhatkhande
- ❖ One folk song
- ❖ Swar
- ❖ Saptak
- ❖ Khyal
