SUMMER VACATION ASSIGNMENTS

CLASS XI

ACCOUNTANCY

1. **Art integrated activity (any two)**

a. Make a PPT/file on process to open bank account (any) and copies of documents to open it by a sole proprietor.
b. Handmade colorful crossword puzzles (Accounting terms)
c. List of banks merged (last two years) and it's reason to merge.

2. Make detail notes/report on:

a. Evolution of accounting
b. International financial reporting standards (IFRS)
c. Indian accounting standards (IND-AS)

APPLIED MATHEMATICS

Do these activities and Assignments :

1) To find the number of subsets of a given set and verify that if a set has n number of elements then number of subsets is 2^n .

2) To represent set theoretic operations using Venn diagrams .

3) Prepare a chart of mathematics in daily life using different symbols and shapes.

4) Showing the utility of geometrical figures in 'SHRIYANTRA ' OR ' SUNDIAL' by using different geoemterical shapes.

(SECTION A- 1 mark questions)

Q1. Write the roster form of $H = \{x/\ x \in N\ and\ 5 < x^2 < 50\}$.

Q2. Give example of two sets whose intersection is an empty set.

Q3. How many subsets a set has containing 5 elements.

Q4. Write the set $\left\{\frac{1}{2}, \frac{2}{3}, \frac{3}{4} \ldots.\right\}$ in set builder form.

Q5. Define power set.

(Section B- 2 mark questions)

Q6. Write all the subsets of the set $\{\phi, 1\}$.

Q7. Find sets A, B and C such that $A \cap B, B \cap C\ and\ A \cap C$ are non empty sets and $A \cap B \cap C = \emptyset$.

Q8. Two finite sets having m and k elements. If the total number of subsets of the first set is 56 more than the total number of subsets of second set, then find m and k.

Q9. For all sets A, B and C, is $(A \cap B) \cup C = A \cap (B \cup C)$? justify your answer.

Q10. If $U = \{1,2,3 \ldots., 10\},\ A = \{x: x\ is\ prime\}, B = \{x: x\ is\ even\ integer\}$. Then write the value of $A \cap B^C$.

(Section C – 4 mark questions)

Q11. A and B are two sets such that $n(A - B) = 14 + x, n(B - A) = 3x\ and\ n(A \cap B) = x$. draw a venn diagram to illustrate this information. If $n(A) = n(B), find\ (1)\ the\ value\ of\ x\ \ (2)\ n(A \cup B)$.

Q12. A survey shows that 63% people watch news channel A whereas 76% watch news channel B. if x% watch both the channels , prove that $39 \leq x \leq 63$.

Q13. If $P(A) = P(B), show\ that\ A = B$.

Q14. Let A and B be sets. If $A \cap X = B \cap X = \emptyset$ and $A \cup X = B \cup X$ for some set X, show that $A = B$

ARTIFICIAL INTELLIGENCE

1. Prepare a comprehensive report by doing in-depth research on the following topics (whichever topic is assigned to you) (include use-cases for each):

- Natural Language Processing
- Computer vision
- Neural Networks
- Evaluation Metrics

- Generative AI
- Large Language Models (LLMs)
- Reinforcement learning

2. Explore the streamlit framework in python, create a simple documentation of the streamlit framework & create a GUI (Graphical user interface) using streamlit.
3. Create an infographic to demonstrate how AI has revolutionized (any 1 topic):

- Healthcare
- Finance & Banking
- Education

<u>BIOLOGY</u>

1. Select a topic for investigatory project report and make a report including the following headings:

- Theory
- Materials Required
- Procedure
- Observations/Observation Table
- Conclusion
- Result

2. Prepare an interactive book containing information about any one phylum, draw /paste colourful pictures of organisms belonging to the group with their characteristics
3. Do the given assignment in your Biology notebook:

WORKSHEET – CELL: THE BASIC UNIT OF LIFE

1.Select one which is not true for ribosome –

a. Made of two subunits b. Form polysome

c. May attach to m RNA d. Have no role in protein synthesis

2. Which of the following is not true of a eukaryotic cell?

a. It has 80S type of ribosome present in the mitochondria.

b. It has 80S type of ribosome present in the cytoplasm.

c. Membrane bound organelles are present.

d. Mitochondria contain circular DNA

3. Who proposed the fluid mosaic model of plasma membrane-
a) Camilo Golgi b) Schleiden and Schwann c) Singer and Nicolson
d) Robert Brown
5.Ribosomes are made up of –
a. Protein b. DNA and Protein c. RNA and protein d. DNA, RNA and Protein
6.Assertion-Ribosomes and DNA are found in prokaryotic as well as eukaryotic cell.
Reason- Prokaryotic cells does not contain membrane bound organelles.
7. Mention the function of following parts in prokaryotic cell-
a) polysome b) fimbriae c) plasmid
d) flagella
8. What is referred as satellite chromosomes?
9.Justify the statement," mitochondria are powerhouse of the cell."
10.Give the biochemical composition of plasma membrane. How are lipid molecules arranged in plasma membrane.

BUSINESS STUDIES

Holiday Homework Assignment: Create Your Own Business Brand
You need to create your own business brand. This project is compulsory and must be handwritten, creative and presented neatly.
Your Brand Project should include:
- Cover Page: Title of your project with attractive decoration
- Index: List of Topics Covered
- Introduction: Importance of Branding in Business
- Business Idea: Brand Name, Type of Business, Target Audience, Mission, Vision, Unique Selling Proposition (USP)
- Logo Design: Create a logo and explain its meaning
- Tagline and Slogan: Create a catchy tagline and slogan
- Product Packaging/Label Design: Design packaging or label for your product/service
- Marketing Plan: How you will promote your brand
- SWOT Analysis: Identify Strengths, Weaknesses, Opportunities, and Threats
- Advertisement Poster: Create a full-page ad poster for your brand
- Business Card: Design a mini business card for your company
- Conclusion: What you learned through this project
- Bibliography: Mention references if any

CHEMISTRY

1. **Research Project on Endangered Elements**

Prepare a research-based project report on any five endangered elements from the periodic table.

For each selected element, provide the following information:

- Name and Symbol
- Atomic Number and Position in the Periodic Table
- Major Uses
- Methods of Extraction
- Impact of Shortage on Technology and Society
- Possibilities for Reuse and Recycling
- Current Strategies to Manage Scarcity
- Possible Alternatives or Substitutes

Guidelines:

- Present your project on A4 size sheets.
- Include newspaper clippings, relevant images, and latest scientific updates wherever possible.
- Organize the project under the following headings:
    - Introductory Page
    - Certificate
    - Acknowledgement
    - Index/Contents
    - Introduction
    - Main Content (Element details)
    - Conclusion
    - Bibliography/Reference

2. **Awareness Poster: “Save the Elements”**

Design a creative and informative poster promoting the conservation of endangered elements like Helium, Lithium, and other critical resources.

- Your poster should include a slogan, creative artwork, and important facts related to element conservation.

- Use bright colors, neat labeling, and innovative designs to make the poster visually appealing.

COMPUTER SCIENCE

1. Do the textbook exercises of the chapter Python Fundamentals in the Computer Science register.
2. Theme Based:- Create a user interface a program in python to collect and store data about the **Impact of AI on Digital Media (2020-2025)**

Scan to collect data

Using the information print and make graphical representation on the country name and AI adoption rate. Also attach a screenshot or hyperlink or QR code of the dataset as a CSV file.

ECONOMICS

1. Read “Economy and Business” column from the newspaper, identify any 50 economic terms, write the meaning and frame sentences using the word in current economic scenario.
2. Complete the notes provided to you in a register (200 pages)
   Part A: Statistics for Economics: Unit 2: Collection, Organisation and Presentation of Data.

In case of any query contact on my mail ID:
poonamsharma1008@rediffmail.com

ENGLISH

Do as directed:

1. **Attempt any ONE of the following :**

a) Create a collage using pictures, symbols and keywords that reflect ancient Egyptian beliefs about the afterlife, as described in the chapter ’Discovering Tut: The Saga Continues’. Your collage should visually represent King Tut’s burial, the artifacts found in the tomb, and the cultural significance of these items. Then write a short paragraph (80 – 100 words) explaining how your collage connects to the themes of the chapter.

b) Create a visual portrait (drawing, painting or collage) of the author’s grandmother as described in the chapter ‘Portrait of a Lady’. Then write a short paragraph (80 – 100 words) explaining how your artwork reflects the traits and lifestyle of the grandmother as portrayed in the chapter.

2. Enlist any **TWO** Nobel Prize winning authors in the field of English Literature. Draw or Paste a picture of the same and write the synopsis of the book for which they have been awarded.

3. **Design Posters on any TWO of the following :**

a) Road protests: Right to Speak, Not to Block.
b) Bridging the Gap – Social Justice for All
c) Ways to Strong Mind, Strong Life.

NOTE: The above work will be done in A3- size sheets

GEOGRAPHY

1. Make a detailed report over "DIFFERENT TYPES OF CLIMATE & CLIMATIC CHANGES". You can use visual representations, data & graphs. [USE A4 ruled sheets, 12-15 sheets]

2. Make a working model on any one topic:
   - Solar System
   - Formation of Day & night
   - Solar eclipse
   - Interior of Earth
   - Non conventional sources of energy
   - Oceanic floor

3. Make a chart on any one topic :
   - Branches of Geography
   - Solar System
   - Layers of Atmosphere
   - Interior of Earth

INFORMATICS PRACTICES

1. Do the textbook exercises of the chapter Python Fundamentals in the register.
2. Theme Based :- Create a user interface a program in python to collect and store data about the **Impact of AI on Digital Media (2020-2025)**

Scan to collect data

Using the information print and make graphical representations on AI tools used and revenue generated.

MATHEMATICS

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PHYSICAL EDUCATION

WRITE THE FOLLOWING QUESTION IN YOUR NOTE BOOK. SUBMIT IT BY 15 JULY 2025.

Q1-Define physical education and explain its aim and objectives?
Q2- Define physical fitness and wellness. Elaborate the importance of physical fitness and wellness.
Q3- Narrate the components of a positive lifestyle.
Q4- What do you mean by yoga? Explain its importance in daily life.
Q-5- Discuss the elements of yoga.
Q6- What do you mean by adventure sports? Discuss the objectives of adventure sports in detail.
Q7.Discuss in detail about the structure of Khelo India Program.
Q8. Explain in detail the career option in physical education.
Q9. Write short note on:
Olympic flag, Ancient Olympics, Olympic Motto, Olympic Symbols.

1. Make a chart any one game of your choice out of the list above. Labelled diagram of field and equipment rules, terminologies& skills (basketball, football, kabaddi, Kho-Kho, volleyball, handball, cricket and children with special needs)
2. Prepare a file on A4 size sheets showing different type of exercise, Balanced diet, Yoga, Adventure Sports, Training methods, Importance of game, Importance of Yoga in your life etc.

PHYSICS

1.Do the following activities on ivory sheet-

(A) The Nobel Prize in Physics is awarded annually by the Royal Swedish Academy of Sciences to scientists in the various fields of Physics. It is one of the five Nobel Prizes established by the 1895 will of Alfred Nobel (who died in 1896), awarded for outstanding contributions in physics
Do the research and enlist the five Nobel Prize winners of your choice along with their picture and their contribution for which they have been awarded.

(B) Prepare a timeline of important discoveries in the field of Physics from 19^{th} centuries till date that were confirmed experimentally, and theories that have significantly influenced current thinking in modern Physics. Enlist at least 10 discoveries and a brief description of each.

2. Complete the following assignment in your Physics register.

ASSIGNMENT
CHAPTERS – 1. UNITS AND MEASUREMENT
2. MOTION IN A STRAIGHT LINE

A. Solve the following MCQ –

1. A force F is given by $F = at + bt^2$, where t is time. What are the dimensions of a and b?
(a) MLT^{-1} and MLT^0 (b) MLT^{-3} and ML^2T^4
(c) MLT^{-4} and MLT^1 (d) MLT^{-3} and MLT^{-4}`

2. In a system of units if force (F), acceleration (A) and time (T) are taken as fundamentals units then the dimensional formula of energy is
(a) FA^2T (b) FAT^2 (c) FA^2T (d) FAT

3. The displacement in meters of a body varies with time t in second as $y = t^2 - t - 2$. The displacement is zero for a positive of t equal to
(a) 1 s (b) 2 s (c) 3 s (d) 4 s

4. A boy starts from a point A, travels to a point B at a distance of 3 km from A and returns to A. If he takes two hours to do so, his speed is
(a) 3 km/h (b) zero (c) 2 km/h (d) 1.5 km/h

5. A boy starts from a point A, travels to a point B at a distance of 1.5 km and returns to A. If he takes one hour to do so, his average velocity is
(a) 3 km/h (b) zero (c) 1.5 km/h (d) 2 km/h

B. <u>ASSERTION REASONING TYPE QUESTIONS-</u>

Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below-

a) Both A and R are true and R is the correct explanation of A
b) Both A and R are true but R is NOT the correct explanation of A
c) A is true but R is false
d) A is false and R is also false

1.Assertion: Number of significant figures in 0.005 is one and that in 0.500 is three. **Reason:** This is because zeros are not significant.

3. Assertion: Out of three measurements l = 0.7 m; l = 0.70 m and l = 0.700 m, the last one is most accurate.
Reason: In every measurement, only the last significant digit is not accurately known.

4.Assertion: A body can have acceleration even if its velocity is zero at a given instant of time.
Reason: A body is momentarily at rest when it reverses its direction of motion.

5. Assertion: An object can have constant speed but variable velocity.
Reason: Speed is a scalar but velocity is a vector quantity.

6. Assertion: The speed of a body can be negative.
Reason: If the body is moving in the opposite direction of positive motion, then its speed is negative.

<u>C . SOLVE THE FOLLOWING QUESTIONS-</u>

Q1) State the principle of homogeneity of dimensions

Q2) What are the limitations of dimensional analysis

Q3) How we can classify variables and constants on the basis of dimensions? give examples of them

Q4) Derive the three kinematic equations for uniformly accelerated motion using integration techniques

Q5) Draw the following graphs (expected nature only) representing motion of an object under free fall. Neglect air resistance.
1) variation of position with time
2) variation of velocity with time
3) variation of acceleration with respect to time

Q6)1. If the units of energy, force and velocity are 50 J, 5 N and 2m/ s, what will be unit of mass, length and time?

Q7) The units of power, force and time are 1 kW, 1kN and 1 millisecond. Find the unit of mass and length.
Q8). What will be the dimensions of a/b in the relation $E = b - x^2 / at$, where E is energy, x is distance and t is time.

Q9). In the relation $h = 2T\cos\alpha / r^2\rho g$, where h is the height, T is surface tension ρ is density and r is the radius of a capillary tube, α is angle of contact and g is acceleration due to gravity. Verify the correctness of the equation.

Q 10).Give one example each of physical quantities(a) which have SI unit but no dimensions, (b) which neither have unit nor dimension.

Q11). If the units of force and length, each are doubled then how many times the unit of energy, Surface tension and stress be affected?

Q 12). If velocity, density and frequency are taken as fundamental quantities, what will be the dimensions of linear momentum and surface tension?

Q 13). If velocity, acceleration and force are chosen as fundamental units, what will be the dimensions of linear momentum, angular momentum and Young's modulus of elasticity?

Q 14). If the mass (m) of a stone depends on velocity (v), ρ (density of water) and g (acceleration due to gravity), find the expression for mass.

Q 15). Find the dimensional formulae for the following physical quantities:

a) Torque b) Coefficient of Viscosity c) Voltage

POLITICAL SCIENCE

1. Prepare a project on "Making of the Constitution". (Roll no. 1-10)

2. Prepare a project on "Elections in India". (Roll no.11-20)

3. Prepare a project on "The Indian Judiciary System". (Roll no.21 onwards)

PSYCHOLOGY

TASK 1- Prepare a chart on Scope of Psychology in India and Abroad.

TASK 2- Complete NCERT based question answers of chapter 1 in your psychology notebook.

TASK 3- Observe five people and write your observations about their behaviour (don't mention his/her name and identity) about them in 200 words each. You can include his/her Mental Process, Experience and Behaviour.

TASK 4- Watch any documentary/ movie on psychological issues (disorder or disability) and write summary in 500 words

DO TASK 3 & 4 on practical sheets and compile them in a single folder.

हिंदी

सामान्य निर्देश:-

1. परियोजना कार्य A4 साइज शीट पर कीजिए.

2. सुंदर लेख ध्यान दीजिए

3. प्रथम पृष्ठ पर सभी विद्यार्थी अपना परिचय दीजिए.

4. परियोजना कार्य को MY CLEAR बैग में रखिए.

1.इनमें से किसी एक लेखक की कोई एक कहानी पढ़ कर उसकी सचित्र समीक्षा कीजिए

1.प्रेमचंद

2. मन्नू भंडारी

3. महादेवी वर्मा

4.पंडित चंद्रधर शर्मा गुलेरी

5.जयशंकर प्रसाद

2.निम्नलिखित विषयों पर लगभग 100 से 150 शब्दों में लेख लिखिए?

1:- महानगरों में प्रदूषण की समस्या

2:- प्रशासन में बढ़ता भ्रष्टाचार

3:- चुनाव प्रचार का एक दिन

4:- बस्ते का बढ़ता बोझ

5:- गांव से शहरों की ओर बढ़ रहा पलायन

6:- बढ़ती आबादी घटते संसाधन

7:- योग के माध्यम से हम शरीर तथा मन दोनों को स्वास्थ्य कर सकते हैं। जीवन में योग की अनिवार्यता तथा उससे मिलने वाले लाभों का वर्णन कीजिए।