SHAMBHU DAYAL GLOBAL SCHOOL
HOLIDAY HOMEWORK (2024-25)
CLASS XII SCIENCE

ENGLISH	PROJECT: Students need to complete ANY TWO Projects with reference to the lessons. a. Visit to an Old Age Home – Take interviews and present it through a PPT b. Visit an N.G.O. – render community service through training children with computer skills. To present a video of the project in class . c. Visiting an upcoming/ established entrepreneur and gaining 'in-hand experience' Preparing a Project report highlighting the learning outcomes. A tete-e-tete is to be presented in the class. d. Visiting an astrologer and taking an interview on the importance of predictions and its effects. e. Rendering service in eateries like Mc Donalds, KFC, Dominos and learning the procedures, billing and customer care of the above. f. Keeping in mind the growing importance of subjects like legal studies, students can spend a week with a leading legal practitioner and learn the proceedings of a case. To prepare a video based on a case highlighting the points of a petitioner. g. With reference to the lesson Deep Water, students can take an interview of a coach and a famous alumni player and prepare a video on it. h. 'Grany's Talk' – students to visit their grandparents and help them remember about their past, their long lost homelands and how they coped to the new country after partition. Students to refer to the age old songs, homemade recipes as told by their grandparents and prepare a project on the above 'Granny's Talk' issue . (Ref. Last Lesson) i. Students to visit a psychologist or a psychiatrist and prepare a case based project on the recent modern day issues and the problems that the youth is facing today.

	j. Students can also join the Delhi Government Summer Workshop "Masti Ki Pathshala" and prepare a report on their experiences and later teach the same to the fellow students. Instruction: • Project to be submitted in an A4 size folder. • Project work must be written, recorded and presented through a PPT in class for assessment of speaking and initiative skills. • Project work must b e presented in a hard copy with following points. a) Cover page b) Content c) Pictures d) Learning outcomes e) Pictures/ photos f) Must mention the link g) Acknowledgement h) References
PHYSICS	Write Down these 9 Practical's in practical file **SECTION-A** 1. To determine resistivity of two / three wires by plotting a graph for potential difference versus current 2. To find resistance/resistivity of a given wire/ standard resistor using meter bridge. 3. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit. 4. To convert the given galvanometer (of known resistance and figure of merit) into a voltmeter of desired range (say 0 to 3V) and to verify the same. 5. To find the frequency of AC mains with a sonometer. **SECTION-B** 6. To find the value of *v* for different values of *u* in case of a concave mirror and to find the focal length. 7. To find the focal length of a convex mirror, using a convex lens. 8. To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation. 9. To draw the 1-V characteristic curve for a p-n junction diode in forward bias and reverse bias. Write down these six activities in Activity File.

	ACTIVITIES 1. To measure resistance, voltage (AC/DC), current (AC) and check continuity of a given circuit using multimeter. 2. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse, and a power source. 3. To study the variation in potential drop with length of a wire for a steady current. 4. To identify a diode, an LED, a resistor, and a capacitor from a mixed collection of such items. 5. Use of multimeter to see the unidirectional flow of current in case of a diode and an LED and check whether a given electronic component (e.g., diode) is in working order. 6. To study effect of intensity of light (by varying distance of the source) on an LDR.
CHEMISTRY	Write down the given practical's in your fair practical notebook. 1. Tests for the functional groups present in organic compounds: Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (Primary) groups. 2. Determination of concentration/ molarity of KMnO4 solution by titrating it against a standard solution of: i) Oxalic acid, ii) Ferrous Ammonium Sulphate Qualitative analysis Determination of one cation and one anion in a given salt. Cation : Pb^{2+}, Cu^{2+} As^{3+}, $A\ell^{3+}$, Fe^{3+}, Mn^{2+}, Zn^{2+}, Cu^{2+}, Ni^{2+}, Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, NH_4^+ Anions: $(CO_3)^{2-}$, S^{2-}, $(SO_3)^{2-}$, $(NO_2)^-$, $(SO_4)^{2-}$, $C\ell^-$, Br^-, I^-, PO^{3-}_4, $(C_2O_4)^{2-}$, CH_3COO^-,NO_3^- 3. (Note: Insoluble salts excluded)
BIOLOGY	Dear students write all experimnets in practical copy with beautiful diagram. It will helpful for you at the time of final board exam. Complete all the work on priority basis. 1. Study pollen germination on a slide. 2. Collect and study soil from at least two different sites and study them for texture, moisture content, pH and water holding capacity. Correlate with the kinds of plants found in them. 3. Collect water from two different water bodies around you and study them for pH, clarity and presence of any living organism. 4. Study the presence of suspended particulate matter in air at two widely different sites. 5. Study the plant population density by quadrat method. 6. Study the plant population frequency by quadrat method. 7. Prepare a temporary mount of onion root tip to study mitosis. 8. Study the effect of different temperatures and three different pH on the activity of salivary amylase on starch. 9. Isolate DNA from available plant material such as spinach, green pea seeds, papaya, etc B. Draw the diagram and write five characteristics feature and observation point of the following (Spotting)

	1. Flowers adapted to pollination by different agencies (wind, insects, birds). 2. Pollen germination on stigma through a permanent slide. 3. Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice). 4. Meiosis in onion bud cell or grasshopper testis through permanent slides. 5. T.S. of blastula through permanent slides (Mammalian). 6. Mendelian inheritance using seeds of different colour/sizes of any plant. 7. Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and colour blindness. 8. Controlled pollination - emasculation, tagging and bagging. 9. Common disease causing organisms like Ascaris, Entamoeba, Plasmodium, any fungus causing ringworm through permanent slides or specimens. Comment on symptoms of diseases that they cause. 10. Two plants and two animals (models/virtual images) found in xeric conditions. Comment upon their morphological adaptations. 11. Two plants and two animals (models/virtual images) found in aquatic conditions. Comment upon their morphological adaptations.
MATHS	Mathematics Activities (To be done in practical file) Activity -1 To verify that the relation R in the set L of all lines in a plane, defined by R = {(l, m) : l ⊥ m} is symmetric but neither reflexive nor transitive. Activity-2 To verify that the relation R in the set L of all lines in a plane, defined by R = {(l, m) : l || m} is an equivalence relation. Activity-3 To demonstrate a function which is not one-one but is onto. Activity-4 To demonstrate a function which is one-one but not onto. Activity-5 To find analytically the limit of a function f (x) at x = c and also to check the continuity of the function at that point.
AI	Read the online article on – https://www.greeksforgreeks.org/splitting-data-for-machine-learning-models/ Q1) In which case, taking 1% data as test data is suitable? Read the blog- https://medium.com/@datasciencewizards/a-guide-to-data-splitting-in-machine-learning-49a959c95fa1 Q1) What is the importance of the Validation Dataset? Q2) "While taking train data from whole data, one should take higher representativeness of data into the consideration." What does this statement mean?

DTI	**Topic 1: Design Thinking Process Project: Designing for Personal Space - through sensory experiences** **Theme: Exploring Sensories:** Our senses define the way we perceive the world. In this project the students are encouraged to look at the principles of our sensories and apply them to design products or artifacts that are of importance to the personal spaces. You may choose any one of these sensories to work with: - Taste, Touch, Sight, Smell and Hearing The final solutions could be redesigning any of these: a. Wearables - watch, dress, shoes, clothes, jewelry, accessories, etc. b. Personal Objects – pens, diary, bags, photos, etc c. Personal Artifacts - toys, posters, t-shirts, pens, etc. The task involves the following steps: 0. Selection of problem to solve 2.1a Observation and asking Questions (do brainstorming + mindmapping) 2.1b Primary research by conversing with users 2.1c Secondary research by finding out already existing information 2.1d Analysis (do categorisation and affinity mapping) 2.2a Ideation and alternate concepts (moodboard could help) 2.2b Soft Prototyping and feedback 2.2c Presentation and evaluation **Task Title: Understanding the problem area/space and analysis:** **Topic 2: Observation and Ask Questions** 1. Chose one or two sensories to explore this task: It could involve any one or two of the following: a. Sense of Touch b. Sense of Sight c. Sense of Hearing d. Sense of Smell e. Sense of Taste 2. Make a list of personal artifacts or things that you would like to design with the chosen sensories These are some examples that you could choose from: a. Wearable watch for children with difficulty in seeing b. Shoes for Climbing c. Dress for the rains

	d. Jewelry for Birthday celebrations e. Soft Rattle for a 1 year Child f. Plate for eating Dosa g. Toy with different textures h. Etc. 3. Ask the following questions about the above subject What? Why? How? Whom? Where? When? etc. 4. Understand the subject well by first Brainstorming about it, noting down keywords and then making a Mindmap to look at the subject from different points of view and perspectives Output 2.1a: Make a mindmap of the selected artifact – sub-topics, issues, problems, areas, users, +ves and –ves, etc. **Task Title: Primary Research:** **The Primary research involves the following**: 1. Identify users for your chosen area 2. Converse with the users involved with this activity to get a better understanding (take down notes), try to understand the activity from the user's point of view (empathize with the user) 3. Identify the objects that are involved and understand how it works (document these) 4. Document through photography or sketching the different aspects of the problem being solved Output 2.1b: Make a summary presentation involving images and short text in form of a report or slides (around 6 to 10 pages or slides) **Task Title: Secondary Research:** **Secondary research as the name indicates is the collection of information from secondary resources**. These could be from books, publications, newspapers, talking to experts and the internet. As someone else has written or spoken about the subject, you need to keep note down the reference details. 1. Analyze your topic into sub-topics and take-up one of these for further research and understanding 2. Search for information on media that is accessible to you. Take down notes as points. Mark important aspects Output 2.1c: Collate the information involving images and short text in form of a report or slides (around 6 to 10 pages or slides) **Task Title: Analysing the problem to be solved:** 1. Collate all the information as points (you could use sticky notes) 2. Classify the information into different categories according to affinities (some may fit in multiple categories so replicate them) 3. Priorities the information within the categories according to priority/ importance 4. Identify issues or problems that can be solved

	Output 2.1d: Identification and listing of problems to be solved Make a chart of classifying the information collected according to the following: **Task Title: Ideation + Prototyping + Presentation** **Topic title: Ideation on Creative Design Solution Possibilities + Shortlisting of Ideas** 1. Brainstorm, Ideate on possible creative solutions and sketch these out + number or name these ideas 2. Collate all the good ideas together and short-list them according to their experiential potential and ease of implementation Output 2.2a: Make a presentation of these in 3 slides (alternate sketches + short-listed idea) **Topic title: Design Solution Mock-ups + Feedback** 1. Select the best one out of your ideation and finalise it with details. 2. Detail out the final selected solution as sketches: the details could be about its form, colors, materials, technology, etc. 3. Make a mock-up of your final idea in actual size using clay or paper/ cardboard (optional) 4. Show the sketches /mock-up to potential users and get feedback 5. Incorporate suggestions from the feedback in your design 6. Make the final sketch of your design (with an optional paper prototype) Output 2.2b: Make a presentation of these in 3 slides (mock-up + feedback + details) **Topic title: Design Solution Final Presentation and Documentation** Prepare a presentation (of 6-8 minutes duration) to include all the stages of your project: a. Title of the Personal Space Design Project or Problem Statement b. Your Name c. Summary/content listing of your presentation d. Insights from Primary and Secondary Research e. Analysis f. Alternate Concepts (sketches + quick scenarios + concept models) g. Final Concept sketch and its unique features h. Prototype /Mock-up (optional) k. User feedback on your final solution l. Future steps and suggestions m. Full References (Learn how to do references) n. Acknowledgments – to all who have helped

Observations	Inferences/Insights	Design Opportunities
1.		
2.		
3.		

	Output 2.2c: A presentation (6-8 minutes – roughly 15 to 25 slides) explaining the Project outcome along with Process
PHE	**Research project on common postural deformities** **Topics:- Postural Deformities** **a. Kyphosis Roll N0-1-7** **b. Lordosis Roll N0-8-14** **c. Scoliosis Roll N0-15-21** **d. Rounded shoulders Roll N0-22-28** **e. Flat Foot Roll N0-29-36** **f. Knock knees Roll N0-37-44** **g. Bowlegs Roll N0-45-52** **The following points must be kept for consideration while assessing the project portfolios** **1. Introduction** • Define postural deformities. • Importance of studying postural deformities in physical education. • Overview of the project's objectives and structure. **2. Causes of Postural Deformities** • Genetic factors • Poor posture habits • Muscle imbalances • Injury or trauma • Medical conditions (e.g., muscular dystrophy, cerebral palsy) • Obesity • Sedentary lifestyle **3. Effects of Postural Deformities** • Musculoskeletal pain • Reduced flexibility and mobility • Decreased athletic performance • Impaired respiratory function • Psychological effects (self-esteem issues, social stigma) **4. Prevention and Management** • Importance of early detection and intervention • Ergonomic principles for posture improvement • Stretching and strengthening exercises • Postural correction devices (e.g., braces) • Lifestyle modifications (e.g., maintaining healthy weight, avoiding prolonged sitting) • Physical therapy and rehabilitation techniques

	5. **Role of Physical Education in Addressing Postural Deformities** • Incorporating posture awareness into physical education curriculum • Teaching proper biomechanics and body mechanics • Conducting regular posture assessments • Designing exercises and activities to promote postural alignment • Educating students on the importance of maintaining good posture for overall health and athletic performance 6. **Case Studies or Examples** • Real-life examples of individuals with postural deformities and their journey towards improvement. • Success stories of athletes or individuals who have overcome postural deformities through physical education interventions. 7. **Conclusion** • Recap of key findings and insights. • Importance of addressing postural deformities in physical education. • Call to action for further research and implementation of strategies to prevent and manage postural deformities. 8. **References** • List of sources cited in the project. **NOTE-** ***Individually Student has to prepare The Research Project.** ***The Research Project 800-1000words essay/script/ Report** *** This Project-Portfolio is a compilation of the work that the students will submit in the first week of July.** ***If possible, photograph that Capture the positive experience of the students.** ***Remember to structure your research project with clear headings, subheadings, and a logical flow of information.** ***You can include illustrations or diagrams to enhance understanding, especially when explaining different types of postural deformities or corrective exercises.**
C.ARTS	**Write a research base note on given below topic with appropriate pictures** **examples** 1.The Rajasthani and Pahari School of Miniature Painting 2. The Mughal and Deccan School of Miniature Painting.

	3. Highlight the aesthetic aspects of the famous painting Radha by Nihal Chand. 4.” Krishna with Gopi's belongs to which sub school of Pahari school of miniature painting? 5.Who painted the popular theme of rasamanjari from basohli school? 6.The period of which Pahari ruler is called the “golden period of kangra school? 7. What is the base material of the manuscript paintings found in Pala and western schools? 8.The paintings of Palam Bhagwat can be seen in which sub school of painting? 9.Sawant Singh and bani-Thani were represented as which eternal lovers? 10. Where is Pichwai art famous? **All students write down this question answer in your commercial art notebook.** **Q.11 Portfolio Project** Prepare a portfolio project on the given topic 1) Illustrate in watercolor on an A2 size sheet (a) Cultural activity (b) India my dreams (c) National event (d) Music (e) Family scene **Q.12 Human composition** (a) Any social event (b) Library, Social lunchtime. (c) Tracking scene **Guidelines** In each human figure composition sheet minimum three human figure, figure size minimum 6 inches, medium watercolor/poster color. **Note**- Students are required to complete their painting finishing work in class after summer break
PAT	**Research project on Students Assessment in Physical Activity Training** **Topic:- Types of Assessment in Physical Activity Training** **a.** Formative assessment **Roll N0-1-10** **b.** Summative assessment **Roll N0-11-21** **c.** Diagnostic assessment **Roll N0-22-32** **d.** Performance assessment **Roll N0-33-44** **e.** Written assessment **Roll N0-45-52**

	The following points must be kept for consideration while assessing the project portfolios **1.Introduction** • Definition of physical activity training. • Importance of assessing students in physical activity training programs. • Overview of the project's objectives and structure. **2.Purpose of Assessment in Physical Activity Training** • Monitoring progress: Tracking students' progress and development over time to identify areas for improvement and adjustment. • Informing instruction: Using assessment data to tailor instruction and interventions to meet individual students' needs and learning styles. • Motivating students: Providing feedback and recognition to motivate students to engage actively in physical activity training and strive for improvement. • Ensuring accountability: Holding students accountable for their learning outcomes and performance in physical activity training programs. • Informing program evaluation: Using assessment results to evaluate the effectiveness of physical activity training programs and make data-driven decisions for improvement. **3.Methods and Tools of Assessment** • Written assessments: Multiple-choice questions, short-answer questions, essays, and reflective journals. • Rubrics: Criteria-based scoring guides used to evaluate students' performance and provide feedback on specific skills and behaviors. • Self-assessment and peer assessment: Opportunities for students to assess their own progress and provide feedback to their peers. • Technology-based assessments: Use of digital tools and apps for data collection, analysis, and feedback in physical activity training. **4.Considerations for Effective Assessment**

	• Alignment with learning objectives: Ensuring that assessments are aligned with the goals and objectives of the physical activity training program. • Validity and reliability: Using assessment methods and tools that are valid, reliable, and fair for all students. • Differentiation: Providing accommodations and modifications to assessments to meet the diverse needs of students with varying abilities and learning styles. • Feedback and communication: Providing timely and constructive feedback to students to support their learning and development. • Ethical considerations: Ensuring that assessments are conducted in a fair, equitable, and respectful manner, respecting students' privacy and confidentiality. **5.Challenges and Best Practices** • Challenges in assessing physical activity: Subjectivity, variability in performance, and limitations of traditional assessment methods. • Best practices for overcoming challenges: Clear assessment criteria, rubrics for performance evaluation, ongoing feedback and reflection, and opportunities for student self-assessment and peer assessment. **6.Future Directions and Innovations** • Emerging trends in assessment technology: Wearable devices, mobile apps, and virtual reality simulations for assessing physical activity and performance. • Integration of assessment into physical activity training programs: Using assessment data to personalize instruction, track progress, and optimize learning outcomes. **7.Conclusion** • Recap of key findings and insights regarding assessment of students in physical activity training. • Emphasis on the importance of assessment for monitoring progress, informing instruction, motivating students, ensuring accountability, and evaluating program effectiveness. • Call to action for further research and innovation in assessment methods and practices in physical activity training.

	8.References • List of sources cited in the project. **NOTE-** ***Individually Student has to prepare The Research Project.** ***The Research Project 800-1000words essay/script/ Report** *** This Project-Portfolio is a compilation of the work that the students will submit in the first week of July.** ***If possible, photograph that Capture the positive experience of the students.** ***Remember to structure your research project with clear headings, subheadings, and a logical flow of information.** ***You can include illustrations or diagrams to enhance understanding, especially when explaining different types of postural deformities or corrective exercises.**
ENTREPRENEURSHIP	**INTRODUCTION:** The student is required to do a project on "**BUSINESS PLAN"** **OBJECTIVES:** The project work is to enable learners to: ❑ Probe deeper into personal enquiry, initiate action and reflect on knowledge and skills, views etc. acquired ❑ analyze and evaluate real world scenarios using theoretical constructs and arguments ❑ demonstrate the application of critical and creative thinking skills and abilities to produce an independent and extended piece of work ❑ follow up aspects in which learners have interest ❑ develop the communication skills to argue logically **METHODOLOGY:** Students may work upon the following lines as a suggested flow chart: ❑ Choose a title/topic ❑ Collection of the research material/data ❑ Organization of material/data Present material/data ❑ Analyzing the material/data for conclusion ❑ Draw the relevant conclusion ❑ Presentation of the Project Work
LEGAL STUDIES	**INTRODUCTION:** The student is required to do a project on 'Understanding Case Laws' **OBJECTIVES:** The project work aims to enable students to:

	□ identify a legal problem and provide its remedy □ select relevant legal sources and conduct research □ analyse and distinguish between types of cases □ apply case laws and relevant statutory laws **METHODOLOGY-**: The student is required to select any 3 decided cases related to the curriculum where one must be civil in nature, one criminal and one constitutional in character. The research on the cases must include the following points: □ Name of the case □ Parties to the case □ Citation to the case □ Bench □ Nature of the case (Civil, Criminal or Constitutional) □ Facts of the case and issues involved □ Decision of the case including Ratio Decidendi and Obiter Dicta
PSYCHOLOGY	Note: Do the activities in Practical File **Activities Chapter 1** **Q1**) Write your experiences in 30-40 words in terms of: • **Bodily symptoms** (butterflies in stomach, clammy hands, dry mouth, racing heart, tight chest, tense muscle, headache, fatigue, sweating etc.) • **Mental experiences** (worry, pressure, anxiety, self-doubt, confusion, fear, over anticipation, excitement etc.) For the following situations: 1. Before a major exam 2. During a public speaking event 3. When awaiting exam results 4. During a competitive sports event 5. While handling a personal crises **Q2**) Write in your words, what makes you different from your sibling (cousin in case of single child) in terms of a) Intelligence b) Attitude c) Interest **Activities Chapter 4** **Q1**) **Exploring Psychological Concepts through Movies and Documentaries** A. **Watch the Movies/Documentaries:** Choose and watch any two of the following movies or documentaries that depict various psychological themes and disorders: • **Movies:**

- *A Beautiful Mind* (2001) - Schizophrenia
- *Good Will Hunting* (1997) - Counseling and Therapy
- *Inside Out* (2015) - Emotions and Memory
- *One Flew Over the Cuckoo's Nest* (1975) - Mental Health Institutions
- *The Perks of Being a Wallflower* (2012) - Depression and PTSD

- **Documentaries:**
  - *The Mind, Explained* (2019) - Various Psychological Topics
  - *Three Identical Strangers* (2018) - Nature vs. Nurture
  - *Stutz* (2022) - Therapy and Personal Growth
  - *Happy* (2011) - Positive Psychology
  - *Crip Camp* (2020) - Disability and Identity

B. **Write an Analysis:** For each of the two movies/documentaries, write an analysis (approximately 200 words each) addressing the following points:
- Summary
- Psychological Concepts: Main psychological concepts or disorders depicted
- Character Analysis: Symptoms or behaviors exhibited
- Personal Reflection: Reflect on how the movie/documentary affected your understanding of the psychological concepts. Did it change or reinforce your perceptions? How?

Q2) Identify the kind of delusion each of the following is?

a) A student who believes that he is going to be the next President of India next year
b) One who believes that intelligence agencies are conspiring to trap her in a spy scandal
c) One who believes that he is the incarnation of God and can make things happen
d) One who believes that Tsunami occurred to prevent her from enjoying her holidays
e) One who believes that his actions are controlled by the satellite through a chip implanted in his brain by some extra-terrestrial beings

Q3) Certain behaviours are considered abnormal in general but not under specific situations. Listed below are abnormal behaviours followed by situations where the behaviours might be considered normal:

a) Talking to yourself (abnormal) – You are praying (normal)
b) Standing in the middle of street and waving arms wildly (abnormal) – You are a traffic policeman (normal)

	Think about it and list at least three similar examples. --- - Note: Do the activities in power point presentation Presentation work - Prepare a power point presentation (5-6 Pages) 1. **ARUN PODDAR** – Dissociative Disorders and Somatic Disorders 2. **VANSHIKA** – Schizophrenia Spectrum Disorders and Disruptive, Impulse Control & Conduct Disorders 3. **RITVIK** – Depressive & Bipolar Disorders and Schizophrenia Spectrum Disorders 4. **VISHAL** – Neurodevelopmental Disorders and Anxiety Disorders 5. **HARSHIT** – Eating & Substance Abuse Disorders and Dissociative Disorders