DAV PUBLIC SCHOOL, SASARAM
HA & PW for Diwali & Chhath Vacation 2024 – 25
Class : XII (PCM)

SUBJECT	PROJECT WORK
Chemistry	1.Explain the following name reactions with the help of suitable example – 　a) Reimer – Tiemann reaction 　b) Williamson's synthesis 　c) Kolbe's reaction 　d) Fridel crafts alkylation of anisole 　e) Etard reaction 2. Describe a chemical test to distinguish between 　a) ethanal and propanal 　b) benzaldehyde and acetophenone 　c) Propan-2-one and pentan-3-one
Physics	**Make a in Investigatory Project on any one following topics.** 1. To study various factors on which the internal resistance/EMF of a cell depends. 2. To study the variations in current flowing in a circuit containing an LDR because of a variation in **a**) the power of the incandescent lamp, used to 'illuminate' the LDR (keeping all the lamps at a fixed distance). **b**) the distance of a incandescent lamp (of fixed power) used to 'illuminate' the LDR 3. To find the refractive indices of (a) water (b) oil (transparent) using a plane mirror, an equiconvex lens (made from a glass of known refractive index) and an adjustable object needle. 4. To investigate the relation between the ratio of (i) output and input voltage and (ii) number of turns in the secondary coil and primary coil of a self-designed transformer. 5. To investigate the dependence of the angle of deviation on the angle of incidence using a hollow prism filled one by one, with different transparent fluids. 6. ToestimatethechargeinducedoneachoneofthetwoidenticalStyrofoam(orpith) balls suspended in a vertical plane by making use of Coulomb's law. 7. To study the factor on which the self-inductance of a coil depends by observing the effect of this coil, when put in series with a resistor/(bulb) in a circuit fed up by an A.C. source of adjustable frequency. 8. To study the earth's magnetic field using a compass needle -bar magnet by plotting magnetic field lines and tangent galvanometer.
Maths	Miscellaneous of vector Prepare 6 activities which is given.
English	1. Compare and contrast William's fear of water with another common fear. How can the methods he used to overcome his fear be applied to other situations? (Deep Water) 2. Which, according to you, is higher — humanity or patriotism? Write a paragraph on the topic: Humanity vs Patriotism.(The Enemy)
IP	1. What is the difference between a Series and Data Frame data structure of Pandas? 2. Consider the following command to generate a data series "b". b=pd.Series([37,20,45.5,np.NaN,40],index=['a','b','c','d','e']) Write the command to sort the values in ascending order for the above mentioned series. Also write the output generated after sorting. 3. Consider the following series d=pd.Series([40,30,45,69,50,39,60,35,70,25], index=['a1','a2','a3','a4','a5','a6','a7','a8','a9','a10']) Write the output of the following: a) print(d[-5:-9:-1]) b) d['a5']+=5 print(d)