

SANSKAR BHARTI GLOBAL SCHOOL

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HOLIDAY ASSIGNMENT OF STD 12

* SUB: - (ENGLISH) (Full Marks -5) *

- ⇒ Write your observation of the paradoxes in the society we live in.
- ⇒ Write an essay on 'An adventurous trip' in your own words. It will not exceed 250 words.
- ⇒ How in your opinion, can Mukesh, a slum dweller realise his dreams?
- ⇒ Write a short letter to someone you know about your having learnt to do something new.
- ⇒ Write a speech on the problems of child labour which is still prevalent in India.

* SUB: - (Biology) / Maths (Full Marks -5) *

- ⇒ Explain the formation of an embryo sac with diagram.
- ⇒ Describe the post-fertilisation changes taking place in flowering plant.
- ⇒ Trace the events that would take place in flower from the time of pollen grain of species fall on stigma up to completion of fertilisation.
- ⇒ Explain the states involved in the maturation of a microspore into a pollen grain.
- ⇒ Explain the structure of an anatropous ovule with a neat labelled diagram.

* SUB: - (Maths) (Full Marks -5) *

- ⇒ $\tan^{-1}\left(\frac{x-1}{x-2}\right) + \tan^{-1}\left(\frac{x+1}{x+2}\right) = \frac{\pi}{4}$, Find x?
- ⇒ Find the inverse of the matrix using elementary transformation.
$$\begin{bmatrix} 1 & 3 & -2 \\ -3 & 0 & -5 \\ 2 & 5 & 0 \end{bmatrix}$$
- ⇒ Solve system of linear equation using matrix method.
$$\begin{aligned} 4x + 3y + 2z &= 60 \\ 2x + 4y + 6z &= 90 \\ 6x + 2y + 3z &= 70 \end{aligned}$$

⇒ Prove that $\cot^{-1}\left(\frac{\sqrt{1+\sin x} + \sqrt{1-\sin x}}{\sqrt{1+\sin x} - \sqrt{1-\sin x}}\right) = \frac{x}{2}$, $x \in \left(0, \frac{\pi}{4}\right)$

⇒ Prove that:
$$\begin{bmatrix} x & x^2 & yz \\ y & y^2 & zx \\ z & z^2 & xy \end{bmatrix} = (x-y)(y-z)(z-x)(xy + yz + zx)$$

*** SUB: - (Physical Education) (Full Marks -5) ***

- ➡ Explain the principles of intramural.
- ➡ Explain the objective of planning.
- ➡ Explain the objectives & principles of extramural.
- ➡ Explain the meaning of specific sports programme. Write its contribution for society.
- ➡ Prepare a fixture in knock out & league tournaments.

*** SUB: - (Chemistry) (Full Marks -5) ***

- ➡ Calculate the mole fraction of benzene in solution containing 30% by mass in carbon tetrachloride.
- ➡ Explain construction and working of standard hydrogen electrode.
- ➡ Define conductivity and molar conductivity for the solution of an electrolyte. Discuss their variation with concentration.
- ➡ Write the chemistry of recharging the lead storage battery, highlighting all the materials that involved during recharging.
- ➡ Calculate the potential of hydrogen electrode in contact with a solution whose pH is 10.

*** SUB: - (Physics) (Full Marks -5) ***

- ➡ Compare the electrostatic force and gravitational force.
- ➡ State and prove Gauss's theorem. Deduce coulomb's law from Gauss theorem.
- ➡ Derive all the applications of Gauss's law.
- ➡ Prepare a chart on the properties of electric lines of force.
- ➡ Derive an expression for the potential due to an electric dipole.