Gyan Sthaly public school Jhansi Class 12th Holiday Homework

MONTH OF JUNE BROUGHT LONG, HOT DAYS AND NOW WE HAVE OUR SUMMER HOLIDAYS SCHOOL IS CLOSED AND NO SET RULES WAKING UP LATE AND GOING TO POOL. LITTLE HOMEWORK, EASY TO BE DONE PLAYING WITH FRIENDS AND LOTS OF FUN, BEAUTIFUL TIME COMES ONCE IN A YEAR, SUMMER HOLIDAYS ARE BEST DAYS EVER!!

Biology

an investigatory file on any given topic of your interest .(Use cardboard file)

-Assisted reproductive technology (ART)

Its principles, application, types and other benefits.

-Contraception (explore its principles and how it is useful to prevent overpopulation and various methods) -Genetic disorder (explore the causes, inheritance patterns, and potential treatment) -DNA

fingerprinting (explore the principles and applications in forensic science, paternity test and in other fields)

-Cancer research (investigate the causes, diagnosis and treatment of different types of cancer) -Drug abuse (explore neurological and physilogical effects of drug addiction and its impact of an individual and society)

-Environment issue (investigate the effect of pollution, deforestation and other environmental problems on biodiversity and ecosystem.)

-Recombinant DNA technology (its uses, principles and applications)

General instructions.

TITLE PAGES # Cover page (use black chart paper) #Certificate #Acknowledgement #Index #Project (elements as mentioned in the report format) #References/Bibliography

Chemistry

PROJECT

Scientific investigations involving laboratory testing and collecting information from other sources A

few suggested Projects.

- Study of the presence of oxalate ions in guava fruit at different stages of ripening.
- Study of quantity of casein present in different samples of milk.
- Preparation of soybean milk and its comparison with the natural milk with respect to curd formation, effect of temperature, etc.
- Study of the effect of Potassium Bisulphate as food preservative under various conditions (temperature, concentration, time, etc.)
- Study of digestion of starch by salivary amylase and effect of pH and temperature on it.
- Comparative study of the rate of fermentation of following materials: wheat flour, gram flour, potato juice, carrot juice, etc.
- Extraction of essential oils present in Saunf (aniseed), Ajwain (carum), Illaichi (cardamom).
- Study of common food adulterants in fat, oil, butter, sugar, turmeric power, chilli powder and pepper.

Physics

Electric charge and field and its application OR Gauss law and its application (make a project on ax4 size plane sheets)

Commerce Business Studies

Project should have at least 10 cases (Consumer Protection).

Make a project file on Consumer Protection Act.

Economics

- 1. Make a project file on any topic from your book (Macroeconomics or Indian Economy Development)
- 2. Make a formula sheet of all the formulas used in Macroeconomics.
- 3. Solve all numericals of the chapter National Income.
- 4. Make a chart from any one topic given below:
 - I. Aggregate demand and Aggregate supply
 - II. National income
 - III. Balance of payment
 - IV. Rural development
 - V. Sustainable Development
 - VI. Important dates from Indian Economic Development.

Accountancy

- 1. Make a specific project file on any two tools of analysis(given below) with graphs and comments:
 - i. Comparative statements
 - ii. Common-Size Statements
 - iii. Ratio Analysis
 - iv. Cash flow Statement
- 2. Make a formula sheet regarding ratio analysis, format of cash flow statement, formats used in partnership accounting and issue of shares.
- 3. Solve questions from the topic Cash Flow Statements.
- 4. Solve any 3 sample paper (only part B).

Computer:

- 1.sRead the following chapters from text book:
- a. Python Revision Tour I
- b. Python Revision Tour II
- c. User Defined Functions
- d. Python Modules and Libraries
 - 2. Complete the exercise and assignment questions of the above mentioned chapters from

book.

- 3. Revise the theoretical concepts of programming
- 4. Prepare all chapters for Unit Test I
- 5. Read the Chapter Networking and Concepts which will be started after summer break.

6. Plan for the topic of the project, group members in the project and submit the same after summer break.

- 7. Prepare Acitivity/Practical file containing 5 questions each from following topics:
- a. Conditional Programming and Iterative Programming
- b. Lists, Tuples and Dictionary
- c. User defined functions

ENGLISH CORE

READING AND WRITING

- 1. Practice comprehension passage and note making passages (any five) from your Goyal's assignments.
- 2. Write Notices on the following occasions (three each category)
 - a. Tours
 - b. Sports
 - c. Cultural /extra curricular activities
 - d. Lost & found
 - e. Appeals
- 3. Draft advertisements on the following topics (three of each category)
 - a. Situation vacant
 - b. Situation wanted
 - c. Sale and purchase
 - d. Lost & found
 - e. Matrimonial
- 4. Draft posters to create awareness on the following topics:
 - a. Measures and prevention of covid 19
 - b. Prevention of drug abuse
 - c. Violence against women
 - d. Fire safety and prevention
- 5. Write formal letters on the following topics (three of each category)
 - a. Complaint
 - b. Editor
 - c. Placing order
 - d. Enquiry
 - e. Job application
- 6. Write articles on the following topics word-limit 150-200)
 - a. My vision of future India
 - b. Digital education in India
 - c. Women safety in India
 - d. 50- years of earth day

Maths

- 1. Let $R = \{(a, b): a, b \in \mathbb{Z}, a b \text{ is divisible by 3}\}$. Prove that R is an equivalence relation.
- 2. Let f: $\mathbb{R} \to \mathbb{R}$ be defined by f(x) = 3x + 4. Find the inverse of f, and verify that $f^{-1}(f(x)) = x$.
- 3. Determine whether the function f(x) = |x| is one-one and onto from \mathbb{R} to \mathbb{R} .
- 4. Let A = {1, 2, 3}, B = {4, 5}. Find the total number of functions from A to B. How many of these functions are one-one?
- 5. Find the principal value of $\tan^{-1}(-\sqrt{3})$.
- 6. Evaluate $\sin^{-1}(3/5) + \cos^{-1}(4/5)$.
- 7. Prove that: $\tan^{-1}x + \tan^{-1}y = \tan^{-1}((x + y)/(1 xy))$ when xy < 1.
- 8. If A = [[2, -1], [3, 4]], find A^t and $A + A^t$.
- 9. Find the value of x such that: [[x, 2], [3, 4]] + [[1, -2], [-3, 1]] = [[5, 0], [0, 5]]
- 10. If A = [[1, 2], [3, 4]], verify that $(A^t)^2 = (A^2)^t$.
- 11. Show that the function $f(x) = x^3$ is one-one and onto on $\mathbb{R} \to \mathbb{R}$.
- 12. Let $f(x) = x^2$ and g(x) = x + 1, both defined on \mathbb{R} . Find $(f \circ g)(x)$ and $(g \circ f)(x)$.
- 13. If f: A \rightarrow B and g: B \rightarrow C are both one-one functions, prove that g \circ f is also one-one.
- 14. Let f(x) = 1 / (1 + x), find the domain and range of f.
- 15. Evaluate: $\cos^{-1}(-1) + \cos^{-1}(1)$.
- 16. Prove that: $\sin^{-1}x + \cos^{-1}x = \pi/2$, for $x \in [-1, 1]$.
- 17. Solve for x: $\tan^{-1}x + \tan^{-1}(2x) = \pi/4$
- 18. If A = [[1, 2], [0, 1]], find A².
- 19. Find the matrix X such that: [[2, 3], [4, 5]] + X = [[5, 7], [8, 10]]
- 20. If A = [[a, b], [c, d]], prove that: $(kA)^t = kA^t$, where k is a scalar.