INTEGRATED INDIAN SCHOOL, KUWAIT

CLASS XII B(2023-24)

GENERAL INSTRUCTIONS/GUIDELINES

1. **Assignments must be submitted on the first day when the school reopens.**
2. **Compile all the work and submit it in a clear folder.**
    a. **Your full name roll number and class must be written clearly on the folder.**
    b. **Make the folder attractive.**
    c. **Each item must begin on a fresh page.**
    d. **Overall presentation – layout/neatness/grammar/spelling/illustration and handwritten.**

ENGLISH

1.Create a portfolio file

Give it an attractive cover page with your details (Name, Roll no, Class/Sec). It should include an index page, introduction page and acknowledgement page. Portfolio must have the following things –

1. Collect stories of incidents that took place during World War II and write them in your own words.

2. Describe 5 good things that Mahatma Gandhi did for India and illustrate them.

3. Conduct an interview and write the script on the topic 'Should we be concerned about our safety while using social media'?

4. Read all the lessons and poems that was completed during the first term and write down the summary in 200 words.

2. CREATE POWERPOINT PRESENTATION – (FLAMINGO)

- **Create a PPT on the lesson 'MEMORIES OF CHILDHOOD'**
- **Create a PPT on the lesson 'THE ENEMY'**

3. BOOK REVIEW

Read the book 'The Plague' by Albert Camus. Write down the main characters of the story, the synopsis and your personal review.

4. Explore the following concepts and write a brief note in your own words. Note all these concepts will be helpful in understanding the chapter/ poems.

- **Socialism**
- **Romanticism**
- **Feminism**
- **Racism**
- **Casteism**
- **Satire**
- **Patriarchy**
- **Dramatic Irony**

5. WRITING

A. In big city's road rage has become a serious problem. A minor scratch, a little push, or a small brushing past can lead to scuffle sometimes resulting even in murder. Write a letter in 120-150 words to the Police Commissioner giving your views on the problem and its solutions. You are Karuna/Karan, M 114 Mall Road, Delhi.

B. You are Dhruv/ Nidhi, Student Editor of your school magazine, 'The Buds'. Write a notice in not more than 50 words to be placed on your school notice board, inviting short stories, articles poems etc., from students of all classes for the school magazine. Give all the necessary details.

C. A robbery took place in Gorakhpur in Khurda Tank police station limits when the Branch Staff of PNB were on their way back after collecting Rs. 50 lakhs from the regional office of the Reserve Bank. As staff correspondent for 'The Indian Express', write a report in 120- 150 words.

6. GROUP WORK: ART INTEGRATED PROJECT

Prepare an assignment focusing on the literary heroes of the Andaman and Nicobar Islands who have been influenced or have influenced Indian literalists.

FORMAT

- **TITLE PAGE**
- **ACKNOWLEDGEMENT**
- **INTRODUCTION**
- **CONTENT**
  - **Birth**
  - **Education**
  - **Family Background**
  - **Career**
  - **Literary works**
- **CONCLUSION**
- **BIBLIOGRAPHY (References)**
- **TEACHER EVALUATION REPORT PAGE**

PHYSICS

1. Write the Aim, Materials required procedure, observations, and results for the following experiments.

   Section A

   i) To find resistance of a given wire / standard resistor using metre bridge.

   ii) To verify the laws of combination (series) of resistances using a metre bridge.

   iii) To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.

   iv) To determine resistivity of two / three wires by plotting a graph for potential difference versus current.

   Section B

v) To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation

vi) To find the refractive index of a liquid using a concave mirror and a plane mirror.

vii) To draw the I-V characteristic curve for a p-n junction diode in forward and reverse bias.

viii) To find the focal length of a convex lens by plotting graphs between u and v or between 1/u and 1/v.

Activities:

i) To assemble the components of a given electrical circuit.

ii) To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram

iii) To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.

iv) To identify a diode, an LED, a resistor and a capacitor from a mixed collection of such items.

v) To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.

vi) To observe diffraction of light due to a thin slit.

2. Do the investigatory project on the individual topic given to you.

CHEMISTRY

Write the Aim, Materials required procedure, observations, and results for the following experiments.

I) VOLUMETRIC ANALYSIS – PERMANGANOMETRY

a) To prepare 100ml of M/20 oxalic acid. Using this solution find out the molarity and strength of given $KMNO_4$ solution.

b) To prepare 100ml of M/50 oxalic acid. Using this solution find out the molarity and strength of given $KMNO_4$ solution.

c) To prepare 100ml of M/20 Mohrs salt. Using this solution find out the molarity and strength of given $KMNO_4$ solution.

d) To prepare 100ml of M/10 Mohrs salt. Using this solution find out the molarity and strength of given $KMNO_4$ solution.

II) ORGANIC ANALYSIS:

To identify the functional groups present in the organic compounds.

a) Test for Alcoholic group b) Test for Phenolic group c) Test for Carboxyl group

d) Test for Aldehyde group e) Test for Ketonic group

III) Tests of carbohydrates, fats and proteins in pure samples and detection of their presence in given food stuffs.

IV) Qualitative analysis

To analyse the given salt for acidic and basic radicals.

V) Do the investigatory project on the individual topic given to you.

BIOLOGY

1.Write the Aim, Materials required procedure, observations, and results for the following experiments.

i) Prepare a temporary mount to observe pollen germination.
ii) Study the plant population density by quadrat method.
iii) Study the plant population frequency by quadrat method.
iv) Prepare a temporary mount of onion root tip to study mitosis.
v) Isolate the DNA from the available plant material such spinach, green pea seeds, papaya etc.

2.Do the investigatory project on the individual topic given to you.

COMPUTER SCIENCE

I. Completion of project on given topic.

II..Completion of practical record file.

III.Solve the below assignment questions.

Q1.Write programs using functions to perform the following:

(i) To calculate Simple Interest by taking Time , Principle from the user and Rate of Interest as default as 5%.

(ii) To calculate square and Cube of a number

(iii) To calculate the factorial of a given number.

(iv) To print Fibonacci series of a given number.

(v) To calculate percentage of a student by passing marks of five subjects as parameters.

Q2. A list contains the following elements: 3, 25, 13, 6, 35, 8, 14, 45 Write a function to swap the content with the next value divisible by 5 so that the resultant List will look like: 25, 3, 13, 35, 6, 8, 45, 14

Q3. Write a program to input any values for two tuples. Print it, interchange it and then compare them.

Q4. Write a Python program to input 'n' classes and names of their class teachers to store them in a dictionary and display the same. Also accept a particular class from the user and display the name of the class teacher of that class.

Q5. Write a Python program to compute sum of digits of a given string.

Q6.Write a Python program to find the second most repeated word in a given string.

Q7.Given a myfile.txt file that has a list of a bunch of names, count how many of each name there are in the file, and print out the results to the Screen.

Q8.Write a Python Program that Reads a Text File and Counts the Number of Times a Certain Letter Appears in the Text File

Q9.Write a Python Program to Read a Text File and Print all the Numbers Present in the Text File

Q10.Write a Python Program to Count the Number of Blank Spaces in a Text File.

Q11. Write a Python Program to Read a File and Capitalize the First Letter of Every Word in the File.

Q12. Write a Python Program to Read the Contents of a File in Reverse Order

Q13. What is the purpose of PYTHONPATH environment variable?

Q14. What is pickling and unpickling?

Q15. Name the File-related modules in Python?

INFORMATICS PRACTICES

I. Completion of project on given topic.

II..Completion of practical record file.

Solve the below assignment questions.

1) Write a program to create a series object using individual characters O, H and P.

2) Write a program to create a series object using a string “so funny”

3) Write a program to create a series object using ndarray that has five elements in the range 24 to 64.

4) Write a program to create a series object using a dictionary that stores the number of students in each section of class 12 in your school

5) Write a program to create a series object that stores the initial budget allocated (50,000 each)for the 4 quarter of the year quarter1,quarter2, quarter 3 and quarter 4.

6) Total number of medals to be born is 200 in the inter-University games held every alternate year. Write code to create a series object that stores these medals for games to be held in the decade 2020-2029.

7) A python list namely section stores the section names (A,B,C,D) of class 12th in your school. Another list contri stores the contribution made by these students to a charity fund endorsed by the school. Write code to create a series object that stores the contribution amount as the values and the section name as the indexes.

8) Number of students in class 11th and 12th in three streams (science, commerce and humanities) are stored into series object to s11 and s12 .write code to find the total number of students in class 11th and 12th stream wise.

9) Create two series object staff and salaries that stores the number of people in various office branches and his salary is distributed in these branches, respectively. Write a program to create another series object that stores average salary per branch and then create a DataFrame object from these series object.

10) I had to add by NGOs for different states:

Toys books uniforms shoes

Andhra. 7916. 6189. 610. 8810

Odisha. 8508. 8208. 508. 6798

MP. 7226. 6149. 611. 9611

UP. 7617. 6157. 457. 6457

Write a program to display the aid for i)books and uniform only ii) shoes only.

11) What will be the output of following codeimport pandas as pd

```
s1=pd.Series([1,2,2,7,'Sachin',77.5])
print(s1.head())
print(s1.head(3))
```

12) Write a Pandas program to multiple and divide two Pandas Series.

Sample Series: [2, 4, 8, 10], [1, 3, 7, 9]

13) Write a Pandas program to convert a dictionary to a Pandas series.

Sample dictionary: d1 = {'a': 100, 'b': 200, 'c':300}

14) Write a Pandas program to sort a given

Series. 400, 300.12,100, 200

15) Write a Pandas program to create and display a DataFrame from a specified dictionary data which has the index labels.

Sample Python dictionary data and list labels:

exam_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'],

'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19],

'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1],

'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']}

labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j']

MATHEMATICS

1) Express the following matrix as the sum of a symmetric and skew symmetric matrix, and verify the result. $\begin{bmatrix} 3 & -2 & -4 \\ 3 & -2 & -5 \\ -1 & 1 & 2 \end{bmatrix}$

2)If the matrix A = $\begin{bmatrix} 0 & x & -3 \\ 2 & 0 & -1 \\ y & 1 & 0 \end{bmatrix}$ is skew symmetric. Find the value of x and y.

3)Given A = $\begin{bmatrix} 2 & -3 \\ -4 & 7 \end{bmatrix}$,Compute A^{-1} and show that 2 A^{-1}= 9I – A

4)If y= log tan ($\frac{\pi}{4} + \frac{x}{2}$) ,show that $\frac{dy}{dx}$ = sec x .Also find the value of $\frac{d^2y}{dx^2}$ at x= $\frac{\pi}{4}$

5)If $(x^2 + y^2)]^2$ = x y . Find $\frac{dy}{dx}$

6)If x= a(2θ –sin2θ) and y = a(1 –cos2θ). Find $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$.

7) Find the adjoint of the following matrix: $\begin{bmatrix} 2 & -1 \\ 4 & 3 \end{bmatrix}$

8) Prove that the function, f : N → N is defined by $f(x) = x^2 + x + 1$ is one-one but not onto.

9) If A = {1, 2, 3, ……. ,10} and R is the relation in A × A defined by (a , b) R(c, d), if a + d = b + c for (a,b), (c, d) in A × A. Prove that R is an equivalence relation. Also, obtain the equivalence class [(3, 9)]

10)If $y=e^{a\ sin^{-1}x}$, $-1 \leq x \leq 1$,then show that

$(1 - x^2)\frac{d^2y}{dx^2} - x\ \frac{dy}{dx} - a^2y = 0$

11) If $y=cos^{-1}\left(\frac{3x+4\sqrt{1-x^2}}{5}\right)$, Find $\frac{dy}{dx}$.

12) If $A = \begin{bmatrix} 2 & 0 & 1 \\ 2 & 1 & 3 \\ 1 & -1 & 0 \end{bmatrix}$,then find the value of $A^2 - 3A + 2I$

13)For the following matrices A and B ,verify that$(AB)' = B'\ A'$

$A = \begin{bmatrix} 2 & 0 & 1 \\ 2 & 1 & 3 \\ 1 & -1 & 0 \end{bmatrix}$ $B = \begin{bmatrix} 3 & -1 & 1 \\ -2 & 1 & 4 \\ 2 & -3 & 0 \end{bmatrix}$

14) Determine the product of $\begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix}$ and $\begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$ then Use to solve the system of equations

x – y + z = 4

x – 2y – 2z = 9

and 2x + y + 3z = 1

15)From the following matrix equation ,find the value of a and y:

$\begin{bmatrix} a+y & 4 \\ -5 & 3y \end{bmatrix} = \begin{bmatrix} -7 & 4 \\ -5 & 6 \end{bmatrix}$

16) If $y = cos^{-1}\left(\frac{2^{x+1}}{1+4^x}\right)$, Find $\frac{dy}{dx}$

17) From the following matrix equation ,find the value of x:

$\begin{bmatrix} 1 & 3 \\ 4 & 5 \end{bmatrix} \begin{bmatrix} x \\ 2 \end{bmatrix} = \begin{bmatrix} 5 \\ 6 \end{bmatrix}$

18) Find the adjoint of the following matrix: $\begin{bmatrix} 2 & -1 \\ 4 & 3 \end{bmatrix}$

19)If R is a relation defined on the set of natural numbers N as follows:

R = {(x, y) : x ∈ N, y ∈ N and 2x + y = 24}, then find the domain and range of the relation R .

Also, find whether R is an equivalence relation or not.

20)If A = $\begin{bmatrix} 1 & -2 & 3 \\ 0 & -1 & 4 \\ -2 & 2 & 1 \end{bmatrix}$, then find $(A')^{-1}$

21) Find $\int \frac{\sqrt{1-\sin x}}{1+\cos x}\, e^{-\frac{x}{2}}\, dx$

22) Find $\int \frac{\sin x - \cos x\ dx}{\sqrt{\sin 2x}}$

23) Evaluate $\int_0^{\pi} \frac{x \sin x}{1+\cos^2 x}\, dx$

24) Find $\int \frac{e^x\, dx}{(2+e^x)(4+e^{2x})}$

25)Evaluate $\int_0^{\frac{\pi}{2}} \frac{x}{1+\sin x}\, dx$

26)Find $\int \frac{\boldsymbol{\sin 2x\ \ dx}}{(\mathbf{2}+\boldsymbol{\sin x})\,(\mathbf{1}+\boldsymbol{\sin x})} dx$

PHYSICAL EDUCATION

PRACTICAL WORK :

YOGA :

1. GOMUKASANA
   A). DIAGRAM
   B). PROCEDURES
   C). BENEFITS

2. BHUJANGASANA
   A). DIAGRAM
   B). PROCEDURES
   C). BENEFITS

GAMES :

1. FOOTBALL
   A). DRAW A COURT DIAGRAM WITH MEASUREMENTS
   B). RULES AND REGULATIONS

C). SKILLS

2. BATMINTON
   A). DRAW A COURT DIAGRAM WITH MEASUREMENTS
   B). RULES AND REGULATIONS
   C). SKILLS