

## ENGLISH (CORE)

#### **ALS Topics**

Roll No 1-4

- 1. Social networking sites among the modern youth. Roll no -5-8
- 2. Importance of ethics and values. Roll no -9-12
- 3. Cashless India

Roll no -13-17

- It is better to die on feet than to live on knees. Roll no -18-21
- 5. Rapid urbanization Roll no-22-25
- 6. How we can promote literacy. Roll no 26-29

#### 7. Generation gap

II. Your school is planning to conduct an inter-class seminar on the topic 'The Importance of Mental Health'to create awareness in adolescents. As the head of the organising committee, write a notice to inform all students about the seminar and invite registrations from classes XI-XII. Include other necessary details. Put your notice in a box.

III. Your school is organising an inter-House webinar on enhancing coding skills, As thePresident of the Computer Club, write a notice to inform all House members from IX-XII about the webinar and specify the number of registrations invited per House. Include other necessary details. Put your notice in a box.

IV.Draft an invitation in not more than 50 words from Vani Gopalan, Chief Project Officer of an NGO, for the launch of the 'Each One Teach One' programme, addressed to school Principals and Coordinators. Mention a compelling highlight of the programme along with other necessary details.

VI. An invitation had been issued by Mr. Cherian, the HR Head of your company inviting you for the company picnic. As Joseph Vijayan, Asst. Manager, Operations, draft a reply in not more than han 50 words, consenting to attend.

Literature Section

Read the chapter The Last Lesson and Lost Spring.

# **MATHEMATICS**

## **ACTIVITIES**

#### 1. Relations

(a) To verify that the relation R in the set L of all lines in a plane, defined by  $R=\{(a, b):a perpendicular b, a, b below to L\}$  is symmetric, but neither reflexive nor transitive.

(b) To verify that the relation R in the set L of all lines in a plane, defined by  $R = \{(l, m): l \parallel m \text{ and } l, m \text{ below to } L\}$  is an equivalence relation.

2. Graph of an Inverse Trigonometric Function

To draw the graph of sin-1 using the graph of sin x and demonstrate the concept of mirror reflection.

(about the line y = x)

3.Continuity and Discontinuity of a Function at a Point

To find analytically the limit of a function f(x) at x = a and also to check the continuity of the function at that point.

4. Concepts of Local Maxima, Local Minima and Point of Inflection

To understand the concepts of local maxima, local minima and point of inflection.

5. Application of Maxima and Minima.

To construct an open box of maximum volume from a given rectangular sheet by cutting equal squares from each corner.

6.Rate of Change of Quantities

To find the time when the area of a rectangle of given dimensions becomes maximum, if the length is decreasing and the breadth is increasing at given rates.

7. Verification of Maxima and Minima

To verify that amongst all the rectangles of the same perimeter, the square has the maximum area.

8. Geometrical Interpretation of Definite Integration

To evaluate the definite integral 1-x dx as the limit of a sum and verify it by actual integration.

9.Distance Formula

To locate the coordinates of given points in space, measure the distance between the two points and then verify the distance using the distance formula.

10. Conditional Probability

To compute the conditional probability of a given event A, when event B has already occurred, through an example of throwing a pair of dice (singular-die).

#### **PROJECT**

Project on history of Mathematicians: It may include history of Indian mathematicians such as Aryabhata, Brahmgupta, Varahamihir, Sridhara, Bhaskarcharya, Ramanujan etc.

### **PHYSICS**

#### **General Instructions:**

- Each student will prepare an activity notebook (one side ruled and one side plane, having weightage in board practical exam).
- Make diagrams of activity on plane side, if diagram given in activity in lab manual.
- Use only blue pen for writing content and black pen for headings of content.
- Use White colour chart paper to cover activity notebook along with cellophane must be there.

#### "ACTIVITIES TO BE WRITTEN IN ACTIVITY FILE"

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

- 2. To assemble the components of a given electrical circuit.
- 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 observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.

Make a separate Physics H.W. notebook to solve 4 numerical problems and PYQ (chapter1,2 and 3) on each day during summer vacation and submit same notebook on the first day of re-opening of school after summer break.

Please note that if making delay in submission of H.W. notebook then, whenever you are submitting H.W. notebook till a day before you have to solve numerical problems.

### **CHEMISTRY**

#### **General Instructions:**

- Each student will prepare an Investigatory Project File (having weightage in board practical exam) as per the allotted topic.
- Spiral file with A4 sheets.
- Coloured pics must be pasted wherever required (avoid black and white images).
- Use only blue pen (for headings black may be used but avoid red, green etc colours).
- The layout of pages arranged inside the file must be the A4 sheets.
- First page glossy sheet with Topic mention on it.
- "Topics of Investigatory Project File"

Distribution of investigatory project

1.Akansha-determination of the percentage amount of phosphate in a detergent

- 2-Anant-to study the comparison of the evaporation of rate of water
- 3. Ansh-to check the percentage of ions present in toothpaste
- 4-Anshika-to determine which antacid could neutralize the most stomach acid
- 5. Darsheel- to study the comparing acidity in battery acid can be an soda
- 6 Sagar- to study the nano gold for cancer therapy
- 7-Pranjal Verma -determination of caffeine and tea samples
- 8-Devashish- to compare the rate of fermentation
- 9-Kiran -content of coldrink available in the market
- 10.Pratiksha- to measure the amount of acetic acid in vinegar
- 11.Rakhi- to determine fatty material of the different soap samples

12-Sumit -what voltage is needed for a steel to be protected 13.Krish Rajfingerprinting the crime scene investigation

14. Manvi -to study and analysis of quality of bee honey

15 Muskan- to study the acidity in different samples of tea leaves 16-Sakshi - carbohydrates like rice starch, glucose and fructose 17.Versha swaraj -to study the content of ascorbic acid in citrus fruit

18.Hari Priya Chauhan -to study the environmental contaminants in food

19. Divyansh Singh -Dyeing of wool silk cotton and malachite green 20.Nitesh- to study the uses of exothermic reaction

21.Mahendra Verma- to study the production of biodiesel future fuel

22.Khushboo- to study the extraction of essential oil from aniseed

23.Vijaya rawat-Study the starch digestion of salivary amylase 24.Sanchit- to study the oxalate ions present in guava fruit

25.Utsav Pandey -to study the methods of preparation of soyabean milk 26- Shaurya Pratap Singh -to study the various effect of the pollution on the pH of rainwater

27-Shaurya Sharma- to study the various effect of heat on vitamin C in tomatoes

28.Shreyansh Chandra -study the rate of fermentation of fruits or vegetable juices

29. Aradhya Rastogi to prepare pigments and poster paints using various chemicals and reagents

## **BIOLOGY**

#### **General Instructions:**

- Each student will prepare an Investigatory Project File (having weightage in board practical exam) as per the allotted topic.
- **4** Cardboard file with punched papers must be used.
- Coloured pictures must be pasted wherever required (black and white images must not be pasted).
- Use only blue/ black pen for writing (for headings black /blue sketch pen may be used.)
- **W** The layout of pages arranged inside the file must be in a proper sequence.
- **4** The file should be covered in white chart and cellophane.

### **Topics of Investigatory Project File**

- 1. To Study the Genetically modified Animals Impact on the Ecosystem.
- 2. To Study the Biology Project on the Population Explosion and Control
- 3. To Study the Recombinant DNA Technology on today's Medicine Industry.
- 4. To Study the Effects of the Viral Diseases on Human Body and their prevention.
- 5. To Study of the Human Stem Cell Technology
- 6. To Study DNA Fingerprinting: Principles, Methods, and Applications
- 7. To Study on the Infertility and its Causes and Treatment
- 8. To study embryonic development in human.
- 9. To study DNA cloning.

(TOPICS WILL BE GIVEN INDIVIDUALLY TO THE STUDENTS.)

## <u>HINDI</u>

# परियोजना कार्य विषय

अनुक्रमांक - (1-4) जनसंचार के विभिन्न माध्यम (टेलीविजन, रेडियो, इंटरनेट, मुद्रित माध्यम)

अनुक्रमांक - (5-8) समाचार लेखन: अर्थ, परिभाषा समाचार लेखन के विभिन्न चरण, समाचारों के उदाहरण।

अनुक्रमांक - (9-13) पत्रकारीय लेखन के विभिन्न रूप और लेखन प्रक्रिया(विशेष रिपोर्ट,संपादकीय लेखन, स्तम्भ लेखन,संपादक के नाम पत्र, साक्षात्कार)

आरोह पुस्तक से 'बाजार दर्शन ' पाठ को पढ़कर 10 बहुविकल्पी प्रश्न और 5 लघुत्तरीयप्रश्न कक्षा पुस्तिका (Class Work) में लिखिए। 'कविता के बहाने' कविता पढ़ कर 10 बहुविकल्पी प्रश्न और 5 लघुत्तरीयप्रश्न कक्षा पुस्तिका (Class Work) में लिखिए।

#### **INFORMATICS PRACTICES (065)**

#### Make a practical file of Information Technology with the following practical. Practical should be written in your own hand writing. Submit the practical file after Summer Vacations:

- 1. Create a panda's series from a dictionary of values and a ndarray.
- 2. Create a Data Frame quarterly sales where each row contains the item category, item name, and expenditure.
- 3. Create a data frame for examination result and display row labels, column labels data types of each column and the dimensions
- 4. Filter out rows based on different criteria.
- 5. Importing and exporting data between pandas and CSV file

### **PHYSICAL EDUCATION**

#### **Record File shall include:**

- Practical-1: Fitness tests administration.
  UNIT VI Test & Measurement in Sports
- Fitness Test SAI Khelo India Fitness Test in school:
- \* Age group 5-8 yrs/ class 1-3: BMI, Flamingo Balance Test, Plate Tapping Test
- \* Age group 9-18yrs/ class 4-12: BMI, 50mt Speed test, 600mt Run/Walk, Sit & Reach flexibility test, Strength Test (Abdominal Partial Curl Up, Push-Ups for boys, Modified Push-Ups for girls).
- Practical-2: Procedure for Asanas, Benefits & Contraindication for any two Asanas for each lifestyle disease.
- Practical-3: Anyone one IOA recognised Sport/Game of choice. Labelled diagram of Field & Equipment. Also mention its Rules, Terminologies & Skills.

# **YOGA**

Suggested list of Practicals -

- Repition of Asana of class XI \*Meditation : Project on Patanjali Yoga Sutras Yoga effect on Human Body Steps of Sithaili Pranayama Steps of Ujjayai Pranayam Steps of Paschimottansana
- 2. Practice of Tadasana
- 3. Practice of ArdhaChakrasana
- 4. Practice of Katichakrasana
- 5. Practice of Dandasana
- 6. Practice of Bhadrasana
- 7. Practice of Padamasana
- 8. Practice of Vajrasana
- 9. Practice of Utanmandukasana
- 10. Practice of kakasana
- 11. Practice of Parvatasana
- 12. Practice of Makrasana
- 13. Practice of Uttanpadasana
- 14. Practice of Setubandhasana
- 15. Practice of Vipritkarniasana
- 16. Practice of Saral matsyasana
- 17. Practice of Shavasana
- 18. Repition of Pranayam of class XI
- 19. Practice of Jalandhar and Uddayan Bandh
- 20. Repition of Mudras of class XI
- 21. Practice of breath Meditation and OM Dhyan

The final project work should encompass chapters on:

a. Introduction,

- b. Identification of core and advance issues,
- c. Learning and understanding and
- d. Observation during the project period.

# <u>FMM</u>

## The final Project work should encompass Chapters on!

- a) Introduction
- b) Identification of core and advance issues,
- c) Learning and Understanding and observation during the project period.

S.	Name of the Student	Name of the Company
NU.		
1	Anant	Reliance Industry
2	Shaurya Pratap	TATA Company
3	Mahendra Verma	Reliance Industry
4	Sumit	TATA Company
5	Rakhi	Reliance Industry

Note:

- •First 6 to 8 page must be covered relevant to topic.
- •At last conclusion and bibliography must be there.