Name : _____

# The Ideal New Star English School
# Varanasi

**Homework for Summer Holidays**
**Session : 2025-26**
**Class – XII (Mathematics & Biology)**

Kids, the much awaited holidays are here and it's time to play and have fun!! We have planned some work for you to make the optimum use of your energy and give a vent to your creativity so that you continue learning during the holidays.

- ❖ Parents are requested to encourage their ward to do the homework independently.
- ❖ They can help the child if he/she needs help.
- ❖ Creativity and originality of the work will be appreciated.
- ❖ Complete the homework of each subject in a thin notebook, separate report file, stick file or scrapbook as per requirement of the subject and the activity.

## Subject – English Core

**Instruction:**

- **All answers must be written in a Separate File page.**
- **Decorate the cover page creatively.**
- **Use diagrams, mind maps or drawings whenever possible.**
- **Be original and thoughtful in your responses.**

**A. The Last Lesson – Alphenso Daudet**

**(i)** Write a diary entry as Franze describing your emotions after attending the last French lesson.
**(ii)** Describe the theme of linguistic and cultural subjugation in the story.
**(iii)** Vocabulary: Write 10 new words from lesson and use them in your original sentences.

**B. Last Spring – Anees Jung**

**(i)** Compare and contrast the life of Saheb with that of the children of Firozabad.
**(ii)** Discuss how poverty and tradition trap children in the cycle of child labour. (150 words)
**(iii)** Make a mind map of the key theme of the lesson.

**C. My mother at Sixty Six – Kamala Das**

**(i)** Write a short paragraph on the emotional tone of the Poem.
**(ii)** Pick out and explain any two poetic devices used in the poem.
**(iii)** Write your own four line poem on the theme of aging or separation.

**D. The Third Level – Jack Finney**

**(i)** Do you believe in the Time Travel? Write a short speech expressing your opinion. (150-200 words)
**(ii)** Discuss how escapism in a central theme in the story.

### Writing Section

**(i) Notice Writing**

Your school is organizing an inter-school English debate competition. As the Secretary of the Literary club, draft a notice in 50 words.

**(ii) Article Writing**

Write an article on the topic "The Role of youth in Nation Building". (200 words)

**(iii) Letter to the Editor**

Write a letter to the Editor of a national daily highlighting the need to curb rising noise pollution in your city. (120-150 words)

(iv) **Report Writing**

Write a report on a cleanliness drive organized in your school under the Swachh Bharat Abhiyan. (150-200 words)

## Mathematics

1. Do Q. 2 to 10 of exercise 1.1 from NCERT textbook.
2. Do Q 3 to 10 of exercise 1.2 from NCERT textbook.
3. Do miscellaneous exercise on Chapter 2.

## Biology

**Short-Answer type question.**

1. What is the role of tapetum in pollen development?
2. What are the functions of synergids in an embryo sac?
3. Explain the significance of Polyembryony.
4. Define double fertilisation with the help of a diagrams.
5. Name the hormones involved in the menstrual cycle & their function.
6. What is placenta? Describe its structure and function.

**Long-Answer type questions.**

1. Explain the process of fertilisation in humans.
2. Write the stages of embryonic development from zygote to blastocyst.
3. What is Apomixis? How it can be used in agriculture?
4. How do flowers ensure cross-pollination despite being bisexual? Explain the mechanisms involved.
5. How does the structure of ovule ensure successful fertilisation and seed development?
6. What would be the consequences if the corpus lueteum fails to form after ovulation? Explain in the terms of hormonal balance.
7. Why is the process of parturition considered a neuroendocrine mechanism. Explain with feedback regulation.
8. Why is menstrual cycle considered a preparation for pregenancy? What hormonal changes support this?

## Physics

Note:

(i) **Complete the allowed project work.**

(ii) **Write all the activity in your activity note book. Total six activity.**

1. Complete six activity in activity notebook. Three activity from section A and three from section B. From section A, activity no. 3, 4 and 6, from section B, activity no. 1, 4 and 6.
2. Complete your project work according to roll no. allowed to you.

| Roll No. | Project No. |
|---|---|
| 1 to 8 | 1 |
| 9 to 16 | 2 |
| 17 to 24 | 3 |
| 25 to 32 | 4 |
| 33 to 40 | 5 |
| 41 to 48 | 6 |
| 49 to 56 | 7 |
| 57 to 64 | 8 |

3. **Activities**

   (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 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.

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

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

(6) To study the nature and size of the image formed by a (i) convex lens, or (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).

**4. Project Work**

**(i)** To study various factors on which the internal resistance/EMF of a cell depends.

**(ii)** 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.

**(iii)** 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.

**(iv)** 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.

**(v)** 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.

**(vi)** To estimate the charge induced on each one of the two identical Styrofoam (or pith) balls suspended in a vertical plane by making use of Coulomb's law.

**(vii)** 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.

**5.** To study the earth's magnetic field using a compass needle -bar magnet by plotting magnetic field lines and tangent galvanometer.



## Chemistry

**1.** A 0.01 Aquous solution of $AlCl_3$ freezes at $-0.068^0C$. Calculate the percentage of dissociation. [Given $K_f$ for water = 1.86 $K\ Kg\ Mol^{-1}$]

**2.** Calculate the boiling point of solution when 2 g of $Na_2SO_4$ ($M = 142\ g\ Mol^{-1}$) was dissolved in 50 g of water, assuming $Na_2SO_4$ undergoes complete ionization. ($K_b$ for water = 0.52 K Kg $mol^{-1}$)

**3.** A solution of glucose (Molar mass = 180 g $Mol^{-1}$) in water has a boiling point of $100.20^0C$. Calculate the freezing point of the same solution. Molal constant for water $K_f$ and $K_b$ are 1.86 Kg $Mol^{-1}$ and 0.512 K Kg $Mol^{-1}$ respectively.

**4.** When 19.5 g of $F-CH_2-COOH$ (Molar mass = 78 g $mol^{-1}$), is dissolved in 500 g of water, the depression in freeqing point is observed to be $1^0C$. Calculate the degree of dissociation of $F-CH_2-COOH$. [Given $K_f$ of water = 1.86 K Kg $Mol^{-1}$)

**5.** (i) Define the following term:

(a) Molarity

(b) Molal elevation constant (Kb)

(ii) A solution containing 15 g urea (molar mass = 60 g $mol^{-1}$) per litre of solution in water has the same osmotic pressure (isotonic) as a solution of glucose (molar mass pressure (isotonic)

as a solution of glucose (molar mass = 180 g $mol^{-1}$) in water. Calculate the mass of glucose in one litre of its solution.

6. What is osmosis and osmotic pressure.
7. Write the general expression for rate of reaction.

## Physical Education

**Chapter: Changing Trends and Career in Physical Education**

**Instructions: Answer the following questions in detail. Use diagrams and real-life examples where applicable. Submit the completed homework in a neatly written format.**

1. Define the term "Sports Management." Explain the importance of sports management in organizing sporting events.
2. Differentiate between Knock-Out, League, and Combination tournaments. Provide suitable examples for each.
3. Explain the procedure of drawing fixtures for a Knock-Out tournament with 16 teams. Draw the fixture.
4. Discuss the responsibilities of different committees before, during, and after a sporting event.
5. What is the role of the Organizing Committee in a sports event? Mention any five sub-committees formed under it.
6. Prepare a plan to organize an Inter-House Athletic Meet in your school. Include venue, committees, budget, and events.
7. Explain the concept of 'Intramurals' and 'Extramurals'. How do they differ in terms of objectives and organization?
8. What precautions should be taken to ensure the safety of participants in a sports event?
9. List the advantages and disadvantages of conducting a League Tournament.
10. Create a sample budget plan for a one-day school-level Kabaddi tournament.

## Music

**निर्देशः सभी विद्यार्थी अपनी उत्तर पुस्तिका में लिखकर दिखायें।**

1. बड़े गुलाम अली खाँ का जीवन परिचय लिखें।
2. संगीत रत्नाकर का ग्रंथ परिचय लिखें।
3. ग्राम और मूर्च्छना को सिद्ध करें।
4. आलाप और तान को विस्तार पूर्वक समझाएं।
5. राग भैरव का परिचय और स्वरलिपि के साथ दो आलाप दो तान लिखें।

## Hindi

1. 'हरिवंश राय बच्चन, रघुवीर सहाय, गौस्वामी तुलसीदास' में से किसी एक कवि का जीवन परिचय लिखिए।
2. कैमरे में बंद अपाहिज करूणा के मुखौटे में छिपी क्रुरता की कविता है–सचित्र वर्णन कीजिए।
3. महादेवी वर्मा, धर्मवीर भारती किसी एक लेखक का जीवन परिचय लिखिए।
4. जूझ कहानी के आधार पर लेखक के जीवन संघर्ष को संक्षेप में सचित्र वर्णित कीजिए।

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