



**St. Mary's School, Dwarka**  
**Winter Holiday Homework-2025**  
**Class XI**

**General Instructions:**

- 1) The work should be done neatly and in a systematic way.
- 2) The given questions are to be done in your respective subject notebook.

**SUBJECT: ENGLISH**

**SECTION A - GRAMMAR AND WRITING (12 marks)**

**Q1.** Fill in the blanks with the most appropriate options:

(1/2x 8 = 4)

**(i) Hardly \_\_\_ students showed interest in the seminar on climate change.**

- a) some
- b) any
- c) much
- d) many

**(ii) The Principal emphasized that \_\_\_ student must submit their project before the deadline.**

- a) every
- b) each
- c) all
- d) some

**(iii) The library has added \_\_\_ new books on philosophy and literature this month.**

- a) much
- b) many
- c) few
- d) any

**(iv) He \_\_\_ his best to complete the assignment, but he couldn't meet the expectations.**

- a) has done
- b) does
- c) did
- d) will do

**(v) The committee was divided because \_\_\_ member had a different opinion on the policy.**

- a) each
- b) all
- c) every
- d) many

(iv) **Neither the students nor the teacher \_\_\_\_ prepared for the sudden inspection.**

- a) was
- b) were
- c) is
- d) are

(vii) \_\_\_\_\_ **honesty of the witness was questioned during the cross-examination.**

- a) An
- b) A
- c) The
- d) None

(viii) **Although he had \_\_\_\_ evidence to support his claim, it was still dismissed by the jury.**

- a) few
- b) little
- c) some
- d) much

**Q2.** You are Ravi Sharma who plans to shift to Bangalore due to a job transfer. Draft an advertisement for the sale of your 3BHK house. Include the location of the property, features such as the number of rooms, kitchen, balcony, additional amenities (e.g., parking, security, backup), price and contact details. Ensure the advertisement is appealing and well-structured in 50 words. **(3)**

**Q3.** Write an article in 120-150 words on the topic "Sustainable Living: A Need for the Future."  
In your article, include:

- The importance of adopting sustainable practices in daily life.
- Examples of simple steps individuals can take to reduce their environmental impact.
- How sustainable living can contribute to a better future for the planet.

Provide a suitable title and structure your article effectively.

**(5)**

**Q4. Answer the following questions in 40-50 words.**

**(2x2=4)**

(i) Describe the relationship of the father and son in the poem '**Father to Son**'.

(ii) What emotions does Dr. Andrew Manson experience during the events of "**The Birth**"?

**Q5.** Vikram Seth uses humour and irony effectively in his satire "**The Tale of Melon City**."

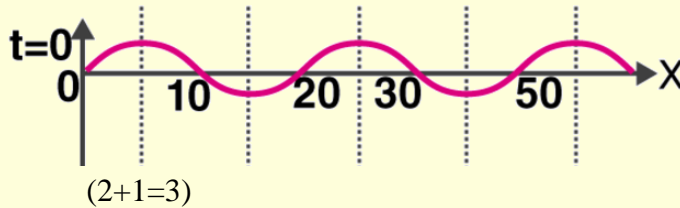
Provide examples from the poem to support this statement in 100 words.

**(4)**

**SUBJECT: PHYSICS**

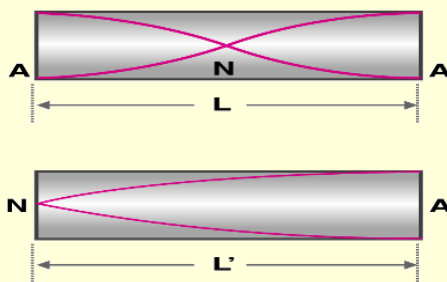
Q1. (i) If two sound waves have a phase difference of 60 degree, then find out the path difference between the two waves? (ii) If the displacement of two waves at a point is given by: -  $Y_1 = a \sin \omega t$  and  $Y_2 = a \sin(\omega t + \pi/2)$ . Calculate the resultant amplitude? (1.5+1.5=3)

Q2 (i) A pipe 20cm long is closed at one end. Which harmonic mode of the pipe is resonantly excited by a 430Hz source? Will this source be in resonance with the pipe if both the ends are open?  
(ii) The wave pattern on a stretched string is shown in the figure. Interpret what kind of wave this is and find its wavelength.



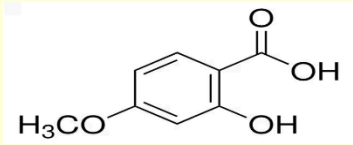
Q3. A wire stretched between two rigid supports vibrates in its fundamental mode with a frequency of 45Hz. The mass of the wire is  $3.5 \times 10^{-2}$  kg and its linear mass density is  $4.0 \times 10^{-2}$  kg/m. What is (i) the speed of a transverse wave on the string, and (ii) the tension in the string? (1.5+1.5=3)

Q4. An organ pipe of length L open at both ends is found to vibrate in its first harmonic when sounded with a tuning fork of 480 Hz. What should be the length of a pipe closed at one end, so that it also vibrates in its first harmonic with the same tuning fork? 3



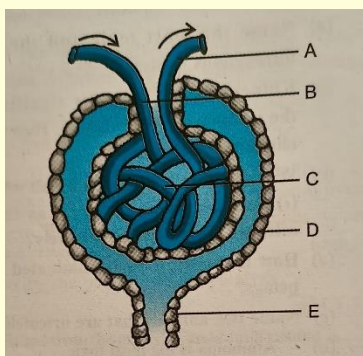
Q5 In the given progressive waves  $y = 5 \sin (100 \pi t - 0.4 \pi x)$  where y and x are in m, t is in s. What is the  
a) amplitude                      b) wavelength                      c) frequency  
d) wave velocity                      e) particle velocity amplitude (1 x 5=5)

**SUBJECT: CHEMISTRY**

- Q1. a. Describe the Anti-Markovnikov rule with the help of an example. 2  
b. Write structures for each of the following compounds. Why are the given names incorrect? Write correct IUPAC names: i) 2-Dimethylpentane ii) 5-Ethyl-3-methylheptane 2  
c. Draw cis and trans isomers of  $\text{CHCl}=\text{CHCl}$ . 1
- Q2. a. Why does benzene not show addition reactions under normal conditions but easily undergo electrophilic substitution reactions? 1  
b. Write the IUPAC names of the products obtained by the ozonolysis of Pent-2-ene. Also, write their bond line formula. 2  
c. How will you convert benzene into i) Toluene ii) m-nitrochlorobenzene 2
- Q3. a. Briefly explain what are electrophiles and nucleophiles giving example of each. 2  
b. Using curved arrow notation, show the formation of reactive intermediates when the following covalent bonds undergo heterolytic cleavage: i)  $\text{CH}_3\text{-SCH}_3$  ii)  $\text{CH}_3\text{-Cu}$  3
- Q4. (a) Write IUPAC name of the following compounds:
- (i)  $(\text{C}_2\text{H}_5)_2\text{C}(\text{C}_2\text{H}_5)_2$  (ii) 
- (b)(i) Cl free radical has how many valence electrons? 1  
(ii) Why is tertiary carbocation is most stable? 1  
(iii) What is hybridisation of 'C' in benzene? How many sigma and pie-bonds are present in benzene? 1
- Q5. (a) What are free radicals ? How are they formed ? 2  
(b) Why is  $(\text{CH}_3)_2\text{NH}$  more basic than  $\text{CH}_3\text{NH}_2$  ? 1  
(c) Define nucleophile and give example. 1  
(d) Draw resonance structure of chlorobenzene. 1

**SUBJECT: BIOLOGY**

Q1. A diagram of a Malpighian body /Renal Corpuscle is given below. Answer the following questions.



(a) Name the blood vessels labelled as A and B, Which of them has the least and maximum amount of urea, respectively?

(b) Identify and name the parts that collectively form the renal Corpuscle.

(c) What are peritubular capillaries ?

(d) Name the part E. Mention its functions. (1+1+1+2=5)

Q2. You know there are four blood groups , A, B, AB and O among human beings. Now, answer the following questions based on that.

(a) What forms the basis of classification?

(b) Before any transfusion of blood, why should the blood of the donor be matched carefully with that of the recipient?

(c) Why are persona with blood group AB called universal recipient?

(d) Name the blood group to which persons with blood group AB can be transfused. (1+1+1+1=4)

Q3. How do arteries and veins differ in regard to:

(a) Presence of semilunar valves

(b) Presence of blood. (1+1=2)

Q4. Describe the sequence of events which occur in the cardiac cycle. Where and how are the sounds of lub and dub produced in the heart during this cycle? (3+2=5)

Q5. Read the following passage and answer the questions that follow:

On an education trip to Uttaranchal, Tanisha and her friends observed that many local people were having a swelling in their neck. Please help Tanisha and her friends to find out the solution to the following questions.

(a) Which probable disease are these local people suffering from?

(b) What is the cause of this disease?

(c) What is the effect of this condition on pregnancy?

(d) Name the hormones referred to as T3 and T4 respectively. (1+1+1+1=4)

**SUBJECT: MATHEMATICS**

- Q.1 Find the equation of the curve formed by the set of all points which are equidistant from the points A(-1, 2, 3) and B(3, 2, 1). 2
- Q.2 Three coins are tossed once. Find the probability of getting: 2  
a) at most two heads b) exactly two tails.
- Q.3 If three consecutive vertices of a parallelogram be A(3, 4, -1), B(7, 10, -3) and C(5, -2, 7), find the fourth vertex D. 3
- Q.4 Out of 100 students, two sections of 40 and 60 are formed. If you and your friend are among the 100 students, find the probability that: 3  
a) you both enter the same section.  
b) you both enter the different sections.
- Q.5 Find the mean, standard deviation and variance in the following cases: 5  
a) first 10 multiples of 3.  
b)

Class	0-30	30-60	60-90	90-120	120-150	150-180	180-210
Frequency	2	3	5	10	3	5	2

**SUBJECT: COMPUTER SCIENCE**

- Q.1 (a) Consider two dictionaries – 1  
d1={1:10, 3: 45, 6:60 , 7:70} and d2={1:15, 2:20, 3:30}.  
What will be content of d1 after executing the following command: d1.update(d2)
- (b) Consider the following code and predict output- 2  

```
dct={1: "One" , 2: "Two" , 3: "Three" , 4: "Four"}  
for x in dct.values():  
    print (x, end= "#" )
```
- Q2. (a) Name the Python Library modules which need to be imported to invoke the following 2  
functions: (i) randrange() (ii) mean().
- (b) Write a programming example each to explain the above functions. 2
- Q3. i) Write any two differences between the following — 3  
(a) Copyrights and Patents  
(b) Phishing and Hacking  
(c) Active and Passive footprints
- ii) What is Plagiarism? Discuss two suggestions that should be followed to avoid plagiarism while using 2  
contents from the Internet.
- Q4. (a) Write a program to input a tuple of integers and count how many numbers are divisible with 5. 2  
For example, if tuple stores 3,7,15,35,56,45,65 then output should be –  
Total Number divisible by 5 are : 4
- (b) Write a program to read a list of numbers and create another list which 4 store half of each even number 2+2=4  
and double of each odd number in the list. Example: if list is containing [3,5,6,2,7,4,5,8] then new list  
should contain [6,10,3,1,14,2,10,4]
- Q5. (a) Consider the lists L1=[1,2,3] and L2=[5,6,7]. 2  
What will be output of the following-  
(i) L1\*2                      (ii) L1+L2
- (b) Consider a list L=[10,12,14,20,22,24,30,32,34], find the output of the following- 2  
(i) L[ 0: 10 : 2]              (ii) L[::3]

**SUBJECT: INFORMATICS PRACTICES**

Q1 a) Debug the following programming codes:

2

```
30=max
For N in range(0,max)
IF n%3==0:
print(N*3)
ELSE:
print(N+3)
```

b) Salary=4000

2

```
Bonus==8900
For I in range(0,6)
If Bonus>=5000
Print(Salary+400)
Else if Bonus<5000
print(Salary+500)
else:
Print(" no increment")
```

Q2 Mention the difference between break and continue statements along with a programming example for each.

2+2=4

Q3 a) Write the following mathematical equation as Python expressions.

$\frac{1}{2} \times 2 = 1$

(i)  $3x^3 + 4x^2 + 5x + 7$

(ii)  $Y = a + b + c^3$

b) Find the output:

1+1=2

(i) `>>>11 = [1, 2, 3, 4]`

`>>>12= [2, 3, 4, 5]`

`>>>11 > 12`

(ii) `L = [10,12,2,22,19,40]`

`L[2] = 14`

`L.insert(3, 11)`

`del L[4:5]`

`print(L)`



Q4 Consider the table Hospital storing details of patients as follows :

1x5=5

PatId	Pname	Dept	Charges	DtofAdm
P1	Varun	PAED	700	2021-09-02
P2	Sunita	PAED	900	NULL
P3	Samarpan	ENT	1000	2020-08-09
P4	Rishabh	ORTHO	500	1995-06-05
P5	Bineeta	ORTHO	450	2012-03-04

Write SQL commands for (i) – (v)

- i) To create the table with appropriate data types.
- ii) To display only the names and departments of patients of “ENT”.
- iii) To increase the charges of all departments by 20%.
- iv) Add a new column Phone of type integer
- v) Remove the entire table.

- Q5
- a) Explain the use of order by clause with the help of an example. 1
  - b) Write the appropriate data types for the following columns of a Book table in a database storing data of books. 1
    - (I) Bookname
    - (II) Date of publication
    - (III) Price
  - c) Write the SQL command to create the table Book and insert any three records. 2

**SUBJECT: ACCOUNTANCY**

- Q.1 Pass necessary journal entries to rectify the following errors. 5
- i. Total of returns outward of 16500 was posted as 15600
  - ii. Discount allowed by a supplier was credited to his account Rs.50, though correctly posted to discount received account
  - iii. Total of sales book was overcast by Rs.600
  - iv. Salaries paid Rs.1000 were debited to salaries account twice
  - v. Payment to Rakesh Rs.780 was posted as Rs.870 in his account
- Q.2 Calculate the amount of gross profit and operating profit on the basis of the following balances extracted from the books of M/s Rajiv & Sons for the year ended March 31, 2024. 5
- Opening stock 50,000; Net sales 11,00,000; Net purchases 6,00,000; Direct expenses 60,000; Administration expenses 45,000; Selling and distribution expenses 65,000; Loss due to fire 20,000  
Closing stock 70,000
- Q.3 The following are the extracts from the trial balance of M/s Bhola & Sons as on March 31, 2024
- Opening stock 2,00,000  
Purchases 8,10,000  
Sales 10,10,000  
Closing Stock as on date was valued at ₹ 3,00,000.
- You are required to record the necessary journal entries and show how the above items will appear in the trading and profit and loss account and balance sheet of M/s Bhola & Sons. 5
- Q.4 The following balances appeared in the books of Y Limited as on 1st April 2021:
- Machinery account rupees ₹ 10,00,000  
Provision for depreciation account ₹ 4,50,000
- The machinery was depreciated at 10% per annum on original cost method. On 1st October 2021, a machine which was purchased on 1st December 2018 for ₹1,20,000 was sold for ₹34,000.
- Prepare machinery account and provision for depreciation account for the year 2021-22. 5
- Q.5 On 1st April, 2017 Z Ltd. purchased machinery for ₹ 1,20,000 and on 30<sup>th</sup> September 2018, it acquired additional machinery for ₹ 20,000. On 30/06/2019 one of the original machines (purchased on 1/4/2017) which had cost ₹ 5,000 was found to have become obsolete and was sold as scrap for ₹ 500. On the same date a new machine was purchased for ₹ 8,000. Depreciation is to be charged @15% p.a. on written down value. Accounts are closed on 31st March each year. Show machinery account for the first 3 years. 5

**SUBJECT: BUSINESS STUDIES**

- Q.1 Britannia Industries Ltd. is committed to helping secure every child's right to growth and development through good food every day. The company is working in partnership with Global Alliance for Improved Nutrition (GAIN) and the Nandi Foundation to supply iron-fortified Tiger biscuits to supplement the Mid- Day Meal program in schools. Iron deficiency among Indian children is a key cause of school dropouts as well as decreased productivity. In keeping with its core essence of "Swasth Khao Tan Man Jagao", the company constantly strives to find sustainable opportunities to drive home the message of nutrition and good food habits among children at the right age. Identify the kind of social responsibility being discharged by Britannia Industries Ltd. Briefly explain other kinds of social responsibilities. 5
- Q.2 Suhasini and some of her friends jointly set up 'Trimurti Limited'. The business of their company was to manufacture blankets at a low rate. At the time of setting up the company, they issued 25000 shares of the face value of 100. In this way, they started their business with a capital of 25 lac. Before collecting the money from the public, they decided that they would issue such security as should not let the company undergo any fixed financial burden. Also, they wished to have the capital from such a source as should enable the company to keep the capital for a long time. To collect the capital Suhasini and her friends issued a prospectus. Through it, they told the public that in the coming years, the company expected to earn a big profit and that the price of its shares would be very high. As a result, investors would be able to earn extra profit. In the prospectus, it was also said that the company would organize its meetings from time to time and that the investors would be invited to these meetings. They would have the right to cast their votes in these meetings. The company collected money from the public and the company's business started. The company started earning more profit than what had been promised to the investors.
- i. Identify and explain the type of shares issued by 'Trimurti Limited.'
  - ii. Quoting the relevant lines write about the two advantages each to the investors and to the company from the shares identified in (i).
- Q.3 Cafe Coffee Day (abbreviated as CCD) is an Indian cafe chain owned by Coffee Day Global Limited, a subsidiary of Coffee Day Enterprises Limited. There are around 1,600 outlets of CCD across India. All the outlets of CCD are under the control of the head office. Identify the type of retail outlet being described in the given case. State features of the type of retail outlet as identified in part (a) 5
- Q.4 Surya Company, an LED lights manufacturing company has good growth prospects. The owners of the company are planning to expand their business. For this, the company needs additional funds. The finance manager reports that the company is not in a position to bear extra burden of paying any fixed financial charges like interest or dividend. They do not want to bear any flotation costs even. Also, the equity shareholders insist not to issue further shares as there is risk of dilution of control. Suggest the

source of finance most suitable for the company. Enumerate any three merits and two demerits of the source of finance identified in part (i). 5

Q.5 “After the company is incorporated, the next stage for the public company is to raise the necessary capital”. In order to raise capital, a public company has to follow some procedure. Discuss the procedure to be followed by the company. 5

### **SUBJECT: ECONOMICS**

Q1. Discuss the concept of elasticity of demand. How does it affect consumer behaviour and business decisions? 5

Q2. Analyze the theory of consumer behaviour using the indifference curve approach. 5

Q3. Examine the production function and the law of variable proportions. How do they influence the cost structure of a firm? 5

Q4. Evaluate the concept of market equilibrium in the context of perfect competition. 5

Q5. Analyse the measures of central tendency and their applications in real-world scenarios. 5

### **SUBJECT: HISTORY**

Q1. What were the major developments before the Meiji restoration that made it possible for Japan to modernize rapidly? 5

Q2. When was the Guomindang Party formed? What were its objectives? 5

Q3. What do you understand by ‘Open Door Policy’? 5

Q4. What do you know about Sun Yat-sen’s Three Principles? 5

Q5. What do you understand by the Great Proletarian Cultural Revolution? 5

### **SUBJECT: POLITICAL SCIENCE**

Q.1 Explain the composition, original and appellate jurisdiction of the Supreme Court of India. 5

Q.2 Discuss the devices through which Lok Sabha exercises control over the Executive (the Council of Ministers) under the following needs:

(a) The Question Hour

(b) An Adjournment Motion

(c) Cut Motion

(d) No-Confidence Motion 5

Q.3 How does the Election Commission of India ensure its independence? 5

Q.4 Describe the powers and functions of the President of India. 5

Q.5 How does the Indian Parliament control the Executive? 5

**SUBJECT: GEOGRAPHY**

- Q1. Compare the island groups of the Arabian Sea and the Bay of Bengal. 5
- Q2. Describe the characteristics of The Cold Weather Season under the following heads: -  
a)- temperature)- b) pressure and winds c)- rainfall. 5
- Q3 Differentiate between Himalayas Rivers and the Peninsular rivers. 5
- Q4. “Rising from the height of 150m above the river plain to an elevation of 600 – 900m is the irregular triangle.” Give a detail description of this physical feature. 5
- Q5. On the outlined political map of India, locate and label the following features with appropriate symbol: - 5
- A. Nanda Devi biosphere
  - B. Westernmost longitude of India.
  - C. State with largest coastal boundary
  - D. Dakshin Ganga
  - E. Region where littoral and swamp forests are found.

**SUBJECT: PSYCHOLOGY**

- Q1. What is the basic idea behind Maslow’s hierarchy of needs? Explain with suitable examples. 5
- Q2. How can creative thinking be enhanced? 5
- Q3. State the determinants of selective attention. How does selective attention differ from sustained attention? 5
- Q4. A good role model is very important for a growing child. Discuss the kind of learning that supports it. 5
- Q5. What are the monocular cues of depth perception? Explain the role of binocular cues in the perception of depth. 5

**SUBJECT: PHYSICAL EDUCATION**

- Q.1 Why different playing surfaces are being used for different games? 5
- Q.2 Explain the role of latest equipment in games? 5
- Q.3 Write a short note on technological development in the field of sports. 5
- Q.4 Describe in detail the opening ceremony of Paralympics. 5
- Q.5 What is the motto of the Olympic Games? What does it mean? 5

**SUBJECT: HINDI**

**सामान्य निर्देश :-**

- दिए गए सभी प्रश्नों के उत्तर हिंदी की उत्तर पुस्तिका में लिखिए।
- कार्य स्वच्छ, शुद्ध एवं स्पष्ट लेख में कीजिए।
- यथासंभव प्रश्नों के उत्तर कमशः लिखिए।

**प्रश्न 1** पत्रकारिता से आप क्या समझते हैं? समाज में इसकी क्या आवश्यकता है? (3)

**प्रश्न 2** समाचार से क्या अभिप्राय है? समाचार के कौन कौन से तत्व हैं? (3)

**प्रश्न 3** निम्नलिखित प्रश्नों के उत्तर लिखिए —

(क) रजनी ने अमित के मामले को गंभीरता से क्यों लिया? (2)

(ख) रानी के चरित्र की बनी बनाई धारणा से रजनी का चेहरा कैसे अलग है? (2)

(ग) मीरा कृष्ण की उपासना किस रूप में करती है? वह रूप कैसा है? (2)

**प्रश्न 4** निम्नलिखित प्रश्नों के उत्तर लिखिए —

(क) 'तुम संसार की दूसरी आशापूर्णा देवी बन सकती हो।' तातुशा ने ऐसा क्यों कहा? (2)

(ख) बेबी हालदार को अपने जीवन में किन-किन समस्याओं का सामना करना पड़ा? (2)

**प्रश्न 5** (क) नई दिल्ली के प्रगति मैदान में संपन्न हुए अंतर्राष्ट्रीय मेले की सफलता की प्रशंसा करते हुए किसी हिंदी दैनिक समाचार पत्र के संपादक को पत्र लिखिए। (4)

(ख) अपनी एक दिन की डायरी लिखिए। (5)

**SUBJECT: PAINTING**

- Q1. Define any 3 principles of Art. 3
- Q2. Write short note on: 2+2
- a) Dancing girl
- b) Male Torso
- Q3. The Ashoka columns were works of art, architecture and engineering. How far is the above statement true? Justify with the help of example. 4
- Q4. Differentiate between Nagara and Dravida temples. Make diagram also 4
- Q5. Describe the lost-wax process of solid casting. 4

**SUBJECT: HINDUSTANI MUSIC VOCAL**

- Q1. Who is the father of Natyashastra? 1
- Q2. What are the four Vedas in Natyashastra? 4
- Q3. Mention any four miracles done by Tansen. 4
- Q4. Write notation of Teen Taal. 4
- Q5. Write a short note on 'Tanpura'. 4