



# Dwarka International School

Session 2024-25

**CLASS - X**



*Full of joy is early Summer,  
Growth and warmth and golden light;  
Every day is crowned with beauty,  
Full of loveliness the night.  
Dazzling sunshine brings the roses,  
Fills the whole bright world with bloom;  
Day and night rejoice together,  
Banished now are doubt and gloom.*

*-Ellwood Roberts*

Dear Students and Parents,

As we embark on the summer vacation, I want to remind you of the importance of continued learning and growth during this time away from school.

To ensure that our students remain engaged and academically stimulated, we have assigned summer vacation homework for all classes. This homework is designed to reinforce concepts learned throughout the year and to prepare students for the upcoming academic term.

I urge all students to approach their summer homework with diligence and responsibility. Completing these assignments will not only enhance your academic skills but also help you start the new school year on the right foot.

Parents, your support in encouraging your children to complete their summer homework is invaluable. By working together, we can ensure that our students continue to thrive academically.

#### GUIDELINES FOR STUDENTS

- Ensure timely submission of holiday homework after the reopening of the school.
- Try to incorporate creativity and innovation.
- Revise all the topics that have been taught by your subject teachers in the new session.
- UT 2 syllabus is provided at the end. Kindly revise.
- UT2 will commence from 22<sup>nd</sup> July 2024

Wishing everyone a productive and enjoyable summer break!

Warm regards.

# DWARKA INTERNATIONAL SCHOOL

## HOLIDAY HOMEWORK (2024-25)

### CLASS X

#### SUBJECT: ENGLISH

1. Read Ch-7 Necklace and make a handwritten project which contains answer of the questions give below on A4 sheets:

- a) Why did Matilda leave the ball early? What does this show about her character?
- b) Mme Forestier writes a diary entry after knowing the truth and seeing the transformation in her friend. Write a short diary entry as Mme Forestier about your encounter and how you felt?
- c) 'The Necklace' shows that vanity is evil. It may bring a moment of joy, which ultimately leads to a lifetime of suffering. What would you do if you were in Matilda's position?
- d) Make a mind map of Matilda Loisel and Monsieur Loisel depicting their different traits.

#### NOTE:

- Project work must be submitted in file.
- The cover page should show the school's name, Logo, Student's Name, Class, Section and Subject.
- The second page should be about acknowledgement.
- The third page should be about the content headings with their page numbers.
- Each question given above should be written on a new page and arranged as Topic 1, 2 and 3.
- Use pictures and captions wherever possible.

#### 2. DO THE FOLLOWING QUESTIONS IN YOUR ENGLISH REGISTERS.

A. Complete the following passage with the most appropriate words from the options given.

An ATM, or Automated Teller is (a) ..... (a, an, the, no word) simple machine which (b) ..... (acting, acted, acts, is acted) as an extension of a bank even (c) ..... (as, which, when, where) the bank is closed. The machine (d) ..... (was, is, has been, should be) usually placed (e) ..... (at, of, in, on) a small room with a security guard stationed outside. You can (f) ..... (withdraw, withdrawal, withdrawn, withdrew) money from your account, deposit cheques, order (g) ..... (a, an, the, no word) cheque book, get (h) ..... (my, our, somebody's, your) account statements etc. The ATMs work round the year 24 hours a day.

**B. On the basis of the newspaper headlines given, complete the sentences with the options give below each.**

**(a) China Develops Medical Robot**

A Polytechnic University in China ..... that can conduct surgeries.

- i) have developed a medical robot
- ii) has developed a medical robot
- iii) is developing a medical robot
- iv) will be developing a medical robot

**(b) Bomb Blast Kills 17 Soldiers**

A bomb blast in the cantonment area of Islamabad .....

- i) killed 17 soldiers
- ii) has killed 17 soldiers
- iii) had killed 17 soldiers
- iv) have killed 17 soldiers

**(c) Suchitra Sen in Hospital**

Bengali actress, Suchitra Sen ..... with high blood pressure and fever.

- i) was admitted into hospital
- ii) is admitted into hospital
- iii) had been admitted into hospital
- iv) has been admitted into hospital

**C.** The following passage has not been edited. There is one error in each of the lines. Write the incorrect word and the correction in your answer sheet as given below against the correct blank number. Remember to underline the word you have supplied.

		<b>Error</b>	<b>Corrections</b>
<b>a</b>	Newton had a little dog name Diamond name		
<b>b</b>	One day when he is fifty years		
<b>c</b>	old, he went out of his room, left the		
<b>d</b>	dog asleep. On the table lie his		
<b>e</b>	papers. They contained all the discovery which		
<b>f</b>	he had made while the last twenty years. When		
<b>g</b>	he was gone, down rose little Diamond. He		
<b>h</b>	jumped upon the table and overthrow the lighted		
<b>i</b>	candle. The papers caught fire. They were reduce to a heap of ashes.		

**D.** As Armaan Khan, the School Literary Captain of Ujjwal Academy, Old City, Kildarabad, you believe that languages can help bridge regional divides and promote unity. Write a letter to the Editor of a national daily, in about 120 words, suggesting the introduction of an online regional language learning programme managed and run by student councils and language clubs in the city. The programme aims to help residents who have recently relocated to a new region in picking up the local language organically. Share the importance and credibility of such a programme and suggest a feasible way to execute it along with possible activities.

<b>SYLLABUS FOR UT-2 (JULY)</b>
FIRST FLIGHT - NELSON MANDELA & THE PROPOSAL
POEM- POEM: A TIGER IN THE ZOO,
SUPP- THE THIEF'S STORY
WRITING: LETTER TO PLACE AN ORDER
GRAMMAR – INTEGRATED ( TENSES/MODALS / DETERMINERS)

## **Subject- French**

(Q1 TO Q3 TO BE DONE IN THE NOTE BOOK)

Q1. Décrivez Céline Dion. En décrivant : (nom, prénom, âge, profession, personnalité physique et psychologique, préférences).

Q2.. Écrire les conjugaisons des verbes- voir, vivre, venir, faire, prendre, vouloir, pouvoir en présent, passé composé, imparfait, , futur simple et futur antérieur.

Q3 Écrivez 8-10 lignes sur chaque sujet ci-dessous

1. Mes activités quotidiennes

2.. Les loisirs et les sports

Q4. Écrivez vos projets d'avenir et faites une conversation avec votre ami/e en utilisant 'Future Antérieur' et 'Future simple' sur A4 size sheet. (On va faire jeu de rôle dans la classe)

### **WORK SHEET**

NOTE- The following worksheet should be done in the notebook.

Q1. Remplissez les blancs avec des verbes aux temps convenables :

1. Je .....dans deux minutes (étudier)
2. Il est huit heures. Il .....à l'école (arriver)
3. vous..... cette fille après dix ans (reconnaître)
4. Mon père est parti. Il..... la voiture (sortir)
6. Il .....beau, je vais jouer (faire)
7. Demain Marie .....des fleurs à son ami (envoyer)
8. Il .....apprendre la leçon ( falloir)
9. L'année dernière nous..... deux jours à Paris (passer)
- 10..... vite, s'il te plaît (se lever)

Q3. Reliez les phrases suivantes en utilisant des pronoms relatifs simples :

1. Elles sont allées en Angleterre. Elles y ont vu Big Ben
2. Les garçons attraperont de mouches. Tu vois les garçons
3. Il achète des fleurs. J'aime beaucoup ces fleurs
4. Cette leçon ennueie les enfants. Vous ne l'aimez pas
5. Le 14 août est un jour important. Les français l'attendent

## SUBJECT- SCIENCE

### THEME FOR SCIENCE EXHIBITION

#### “SCIENCE AND TECHNOLOGY FOR SOCIETY”

Students will develop exhibit/working model on above mentioned theme for showcasing their idea in the exhibition. Students should keep in mind that their work is innovative, problem solving, original, economic or having improvised modifications in the existing knowledge/technology etc. for the welfare of larger section of society.

#### CHEMISTRY:

##### **1.) Write the following experiments in the chemistry practical file from lab manual.**

Experiment no. 1	Page no. 7-10 (MATTER)
Experiment no. 2	Page no. 18-20 (CHEMICAL REACTIONS)
Experiment no. 3	Page no. 25-26 (ACTION OF METAL ON SALT SOLUTION)
Experiment no. 8	Page no. 61 (CHEMICAL SUBSTANCES)
Experiment no. 9	Page no. 67-68 (CLEANING OF SOAP)

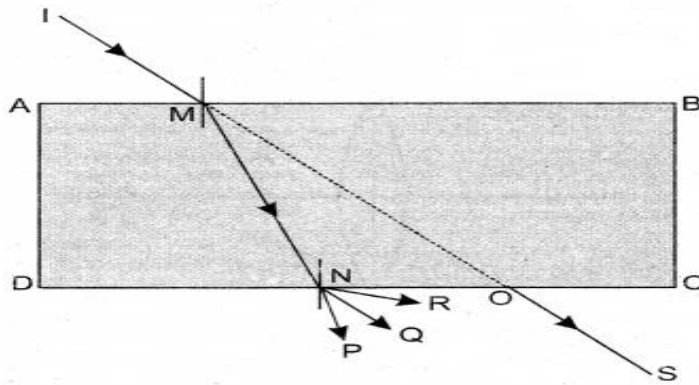
#### PHYSICS:

##### **1. Write the following experiments in the Physics practical file from lab manual.**

1. Studying the dependence of potential difference (V) across a resistor on the current (I) passing through it and determine its resistance. Also plotting a graph between V and I.
2. Determination of the equivalent resistance of two resistors when connected in series.
3. Determination of the equivalent resistance of two resistors when connected in parallel.
4. Determination of the focal length of concave mirror by obtaining the image of a distant object.
5. Determination of the focal length of convex lens.
6. Tracing the path of a ray of light passing through a rectangular glass slab for different angles of incidence. Measure the angle of incidence, angle of refraction, angle of emergence and interpret the result.
7. Tracing the path of the rays of light through a glass prism.

##### **2. Solve these questions in your Physics notebook.**

1. A coin placed at the bottom of a tank appears to be raised when water is poured into it. Explain.
2. Explain why a ray of light passing through the centre of curvature of a concave mirror, gets reflected along the same path?
3. A 6 cm tall object is placed perpendicular to the principal axis of a concave mirror of focal length 30 cm. The distance of the object from the mirror is 45 cm. Use mirror formula to determine the position, nature and size of the image formed. Also draw labelled ray diagram to show the image formation in this case.
4. If a light ray IM is incident on the surface AB as shown, identify the correct emergent ray.



5. Size of the image of an object by a mirror having a focal length of 20 cm is observed to be reduced to 1/3rd of its size. At what distance the object has been placed from the mirror?
6. A diverging mirror of radius of curvature 40 cm forms an image which is half the height of the object. Find the object and image position.
7. The diagram shows a dish antenna, which is used to receive television, signals from a satellite. The antenna (Signal detector) is fixed in front of the curved dish.



- (a) What is the purpose of the dish?
- (b) Should it be concave or convex?
8. The absolute refractive indices of two media 'A' and 'B' are 2.0 and 1.5 respectively. If the speed of light in medium 'B' is  $2 \times 10^8$  m/s, calculate the speed of light in:
  - (i) Vacuum
  - (ii) medium 'A'.
9. Refractive index of diamond with respect to glass is 1.6 and absolute refractive index of glass is 1.5. Find out the absolute refractive index of diamond.
10. A truck uses a convex mirror as a viewfinder whose radius of curvature is 2.0 m. A Maruti car is coming behind the truck at a distance of 10 m. What will be the position of the image of the car and size of the image of the car when observed by the driver of the truck through the convex mirror?

## **BIOLOGY**

- **Write the following experiments in the Biology practical file from lab manual.**
  - **Experiment no. 06** Prepare a temporary mount of a leaf to show stomata.
  - **Experiment no. 07** Experimentally show that carbon dioxide is given out during respiration by use of KOH solution.
  - **Experiment no. 12.1** Studying binary fission in Amoeba with the help of prepared slide.
  - **Experiment no. 12.2A** Studying budding in yeast with the help of prepared slide.
  - **Experiment no. 12.2B** Studying Hydra with the help of prepared slide.
  - **Experiment no. 15** Identification of the different parts of an embryo of a dicot seed.

• **Solve following questions in your Biology Notebook:**

1. The chlorophyll in photosynthesis is used for \_\_\_\_\_
2. Carbohydrates in the plants are stored in the form of \_\_\_\_\_
3. The site of photosynthesis in mesophyll cell of a leaf is \_\_\_\_\_
4. Explain the closing of stomata with labelled diagram.
5. Give reason: a) Boil the leaf in alcohol;  
b) Mark the green part of leaf before boiling.
6. Write three differences between photosynthesis and respiration in plants.

**UT II SYLLABUS**

**PHYSICS: CH – LIGHT REFLECTION & REFRACTION**

**CHEMISTRY: CH – ACIDS, BASES AND SALTS**

**BIOLOGY: CH – LIFE PROCESSES (Except – Autotrophic nutrition)**

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**Subject: Mathematics**

**Art Integration Project:**

The twentieth century has been a century of unprecedented population growth, economic development and environmental change. For which there has been extensive debate worldwide on the relationship between population growth, depletion of resources and environmental degradation in the past few years.

In context of above prepare a comparison report between **Delhi and Andaman Nicobar on population, rate of literacy, land area distribution.**

Make a project report according to following parameters.

- A) Brief description about the Delhi and Andaman Nicobar.
- B) Make comparative study of these UT using graphical representation (bar graph, double bar graph, line graph, pie chart etc.)
- C) Find the male, female and children ratio for both states
- D) Project should contain pictures, graphs and conclusions report along with the suggestion for controlling over population, increasing literacy rate etc.
- E) **Parameters of Assessment:** Content, accuracy, neatness, creativity and originality.
- F) Project report is to be prepared on A4 sheets and compile in a file.

Compile your work in the PROJECT FILE in the following order:

**1. Cover page (as follows)**

By Name----- Class -----Section ----- Roll No. -----  
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**2. Acknowledgement**



## ACKNOWLEDGEMENT

I would like to thank Mr./Mrs. \_\_\_\_\_ my MATHS Teacher, for their support and guidance in completing my project on the given topic. It was a great learning experience. I would like to take this opportunity to express my gratitude to all of my group members (names of all group members). The project would not have been successful without their cooperation and inputs. I would also like to thank my parents and other friends who helped me a lot in finalizing this project within the stipulated time frame.

Student's Signature \_\_\_\_\_

### 3. Certificate

#### CERTIFICATE

This is to certify that (Student's name) \_\_\_\_\_ of class (class & Sec.) \_\_\_\_\_ has successfully completed his/her **MATHS INTEGRATED PROJECT** on the topic/theme (topic's name) \_\_\_\_\_ as suggested by Mr./Miss/Mrs./ (teacher's name) \_\_\_\_\_ during the academic year 2024-25 as per the guidelines given by CENTRAL BOARD OF SECONDARY EDUCATION (CBSE).

Sign of teacher \_\_\_\_\_

Teacher's name \_\_\_\_\_

#### 4. Index:

5. Project report should be compiled within 10 to 15 pages.

**NOTE : UT-2 Syllabus CHAPTER: 4,5,6**

#### ASSIGNMENT QUESTIONS (TO BE DONE ON A4 RULED SHEET )

- Find the prime factors of the following numbers:  
(i) 156      (ii) 336      (iii) 234      (iv) 556920
- Find the H.C.F and L.C.M by prime factorization method:  
(i) 90 , 144      (ii) 144 , 180, 192      (iii) 40 , 36 , 126      (iv) 336 , 54 .
- The L.C.M and H.C.F of two numbers are 180 and 6 respectively. If one of the numbers is 30 , find the other number .
- Prove that  $\sqrt{5}$  is an irrational number.
- Prove that  $5 - 2\sqrt{3}$  is an irrational number.
- If the sum of L.C.M and H.C.F of two numbers is 1260 and their L.C.M is 900 more than their H.C.F , then Find the Product of two numbers.
- Find the Zeros of the following questions and Verify the relationship between the zeros and their coefficients.  
(i)  $P(x) = x^2 - 2x - 8$       (ii)  $f(x) = 4x^2 - 4x + 1$       (iii)  $P(x) = x^2 + 2\sqrt{2}x - 6$
- If  $\alpha$  and  $\beta$  are the zeros of the quadratic polynomial  $p(x) = x^2 - x - 4$  , find the value of :  
(i)  $\frac{1}{\alpha} + \frac{1}{\beta} - \alpha\beta$ .      (ii)  $\alpha^2\beta + \alpha\beta^2$ .
- If one zero of the quadratic polynomial  $2x^2 - 3x + p$  is 3 , find the other zero . Also find the value of  $p$  .
- If  $\alpha$  and  $\beta$  are the two zeroes of the quadratic polynomial  $21x^2 - x - 2$  , find a quadratic polynomial whose zeroes are  $2\alpha$  and  $2\beta$ .
- Check graphically whether the pair of linear equations:  $4x - y - 8 = 0$  and  $2x - 3y + 6 = 0$

- is consistent. Also, find the vertices of the triangle formed by these lines with  $x$  - axis .
12. Draw the graph of the following equations:  $x + 3y = 6$  and  $2x - 3y = 12$  . Also find the area of the triangle formed by these lines and  $y$  - axis .
13. Find the value of  $k$  for which the pair of linear equations has unique solutions:
- (i)  $x + 2y = 5$  and  $3x + ky + 15 = 0$   
(ii)  $kx + 2y = 3$  and  $3x + 6y = 10$
14. Find the value of  $p$  for which the system of equations has infinitely solutions:
- (i)  $px + 3y + (3 - p) = 0$  and  $12x + py - p = 0$   
(ii)  $(p - 3)x + 3y = p$  and  $px + py = 12$
15. For what value of  $a$  and  $b$  , the pair of linear equations have infinitely solutions:  
 $x + 2y = 1$  and  $(a - b)x + (a + b)y = a + b - 2$  .
16. Solve for  $x$  and  $y$  :
- (i)  $3x - 5y = 4$  &  $2y + 7 = 9x$   
(ii)  $2x + y = 5$  &  $3x + 2y = 8$ .  
(iii)  $ax + by = a - b$  &  $bx - ay = a + b$   
(iv)  $37x + 43y = 123$  &  $43x + 37y = 117$
17. The sum of the numerator and the denominator of a fraction is 8 . If 3 is added to both the numerator and the denominator, the fraction becomes  $\frac{3}{4}$  . Find the fraction.
18. In a competitive examination, one mark is awarded for each correct answer while one – half mark is deducted for each wrong answer. Jyoti answered 120 questions and got 90 marks. How many questions did she answer correctly?
19. Seven times a two-digit number is equal to four times the number obtained by reversing the order of its digits. If the difference of the digits is 3. Determine the number.
20. A father's age is three times the sum of the ages of his two children. After 5 years his age will be two times the sum of their ages. Find the present age of the father.

### ASSERTION AND REASON BASED QUESTIONS

- (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion ( A )  
(b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (A)  
(c) Assertion (A) is true but reason (R) is false.  
(d) Assertion ( A ) is false but reason ( R ) is true.
- Q.1) A: HCF (234,47) = 1  
R: HCF of two co prime is always 1
- Q.2) A :  $\sqrt{2} + \sqrt{3}$  is an irrational number.  
R: If  $p$  and  $q$  are prime number, then  $\sqrt{p} + \sqrt{q}$  is an irrational number.
- Q.3) A: A quadratic polynomial having  $2 + \sqrt{3}$  and  $2 - \sqrt{3}$  as its zeroes is given by  $f(x) = x^2 - 4x + 1$  .  
R: Quadratic polynomials whose two zeroes are  $\alpha$  and  $\beta$  are given by  $f(x) = k(x^2 - (\alpha + \beta)x + \alpha\beta)$  where  $k$  is any non- zero real number .
- Q.4) A : The system of equations  $2x + y + 9 = 0$  and  $x + 3y + 7 = 0$  is consistent having unique solution.  
R : The system of equation  $ax + by + c = 0$  and  $px + qy + r = 0$  is always consistent if  $aq \neq bp$  .
- Q.5) A : The system of linear equations  $9x + 3y + 12 = 0$  and  $18x + 6y + 24 = 0$  have infinitely many solutions.

R: The system of linear equations  $a_1x + b_1y + c_1 = 0$  and  $a_2x + b_2y + c_2 = 0$

Have infinitely many solutions if ,  $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$  .

### CASE STUDY BASED QUESTIONS

#### Case – Study – I

Q.1) A parabolic shape object used for receiving signals from satellite , especially television Signals. A satellite dish works in the same way as the reflector for a torch or car headlights. A signal is produced or reflected from a focal point. A parabola is the graph that results from

$p(x) = ax^2 + bx + c$  . If the values of a , b and c are 1 , -- 3 and 2 respectively then give the



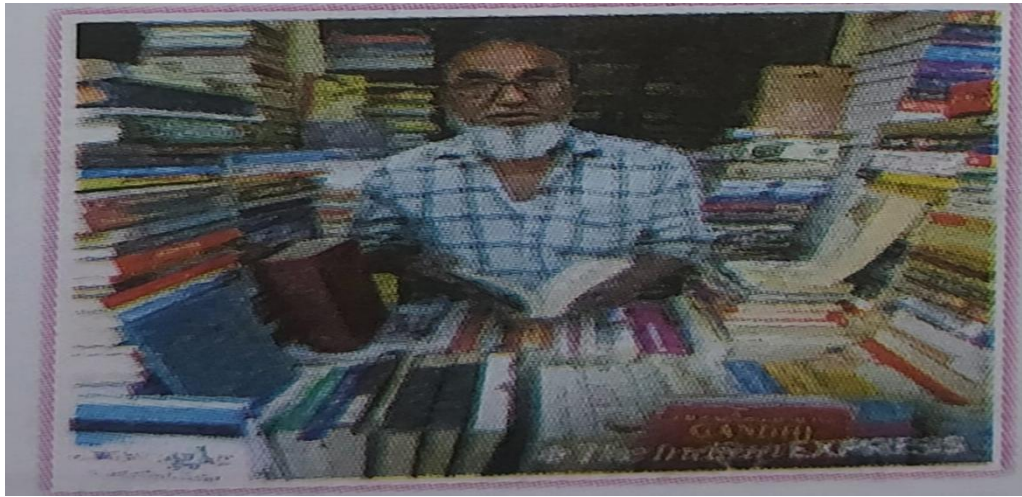
answer of the following questions:

- (i) What are zeros of  $p(x)$   
(a) 1 & 2                      (b) - 1 & 2                      (c) 1 & - 2                      (d) None .
- (ii) If  $\alpha$  and  $\beta$  are zeroes of  $p(x) = x^2 - 3x + 2$  , then the value of  $\alpha^2 + \beta^2$  is  
(a) 2                      (b) 3                      (c) 4                      (d) 5
- (iii) If one zero of the quadratic polynomial  $x^2 + kx - 2$  is 1 , then the value of k is  
(a) 1                      (b) 2                      (c) 3                      (d) 4
- (iv) The quadratic polynomial whose zeros are 5 and --3 is  
(a)  $x^2 + 2x - 15$  (b)  $x^2 - 2x - 15$                       (c)  $x^2 + 2x + 15$                       (d) None
- (v) The product of the zeroes of the polynomial :  $p(x) = x^2 + 2x + 5$  is  
(a) 4                      (b) -- 5                      (c) 5                      (d) 6

#### Case – Study – II

Q.2) A book store shopkeeper gives book on rent for reading . He has variety of books in his store

Related to fiction , stories and quizzes etc. He takes up **fixed charge for the first two day** And an additional charge for subsequent day. Amruta paid Rs.22 for a book and kept for Six Days ; while Radhika paid Rs.16 for keeping the book for Four days .



Assume that the fixed charge be Rs.  $x$  and additional charge Rs.  $y$  per day . **Based on the Above information , answer the following questions.**

- (i) The situation of amount paid by Radhika is  
(a)  $x - 4y = 16$  (b)  $x + 4y = 16$  (c)  $x - 2y = 16$  (d)  $x + 2y = 16$
- (ii) The situation of amount paid by Amruta is  
(a)  $x - 2y = 1$  (b)  $x - 2y = 22$  (c)  $x + 4y = 22$  (d)  $x - 4y = 11$
- (iii) What are the fixed charges for a book ?  
(a) Rs. 9 (b) Rs.13 (c) Rs.10 (d) Rs.15
- (iv) What are the additional charges for each subsequent day for a book ?  
(a) Rs. 6 (b) Rs. 5 (c) Rs. 4 (d) Rs. 3
- (v) Which is the total amount paid by both , if both of them have kept the book for two more days ?  
(a) Rs. 35 (b) Rs.52 (c) Rs.50 (d) Rs. 58.

## विषय - हिंदी

### 1. निम्नलिखित विषयों पर अनुच्छेद लिखिए:-

1. मधुर वचन है औषधि कटु वचन हैं तीर
2. अंतर्राष्ट्रीय स्तर पर चमकता सितारा : भारत हमारा

### 2. निम्नलिखित विषयों पर सूचना लेखन तैयार कीजिए :-

1. आप केंद्रीय विद्यालय दिल्ली के प्रधानाचार्य राकेश कुमार हैं | आपके विद्यालय में अंतर कक्षा वाद -विवाद प्रतियोगिता आयोजित की जा रही है | 9 से 12 कक्षा के विद्यार्थियों को सूचित करते हुए एक सूचना तैयार कीजिए।
2. आपको दिल्ली मेट्रो में सफर करते हुए एक बैग मिला, जिसमें कुछ पैसे और जरूरी कागजात है | इस पर एक सार्वजनिक सूचना तैयार कीजिए।
3. दस सरल वाक्य लिखकर उन्हें संयुक्त और मिश्र वाक्य में परिवर्तित कीजिए।
4. समास व उसके भेदों पर एक सुंदर व आकर्षक परियोजना तैयार कीजिए।
5. अब तक पढ़ाए गए पाठों को याद कीजिए।
6. प्रश्न संख्या 1, 2, 3 अपनी हिंदी की कॉपी में कीजिए।

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### **इकाई परीक्षा - 2 पाठ्यक्रम**

#### **स्पर्श**

पाठ - 9 डायरी का एक पन्ना, पाठ - 10 ततारा - वामीरो कथा, पाठ -4 पर्वत प्रदेश में पावस

#### **संचयन**

पाठ - 2 सपनों के से दिन

#### **व्याकरण**

समास, रचना के आधार पर वाक्य - भेद, पदबंध, मुहावरे

#### **रचनात्मक लेखन**

विज्ञापन, अनुच्छेद, लघुकथा, अपठित गद्यांश

### **Subject: Social Science**

#### **Q-1 Prepare projects on the following topics-**

#### **1. THE STRUGGLE FOR FAIR GLOBLISATION**

#### **2. SOCIAL ISSUE**

#### **GUILDINES -**

- Page limit- 10 (For both the projects)
- Page layout – A4 size

#### **UNIT TEST-2 SYLLABUS**

History- Ch-2 Nationalism in India

Geography -Ch-2 Natural vegetation and wildlife resource

Civics- Ch-2 Federalism

Economics- Ch-2 Sectors of Indian econom

# SUBJECT- Artificial Intelligence

## UT-2 Syllabus

Part-A Unit-5 Green Skills

Part-B Unit-2 AI Project cycle (Same as in Class 9, revise again from Class 10 book)

### Q1.) On A3 sheet – Design a poster on:

Roll No. 1-10 Different AI related Terminologies

Roll No. 11-20 Ethical Concerns related to adoption of AI Systems

Roll No. 21-30 Different Modelling Techniques

Roll No. 31-44 Data Acquisition, Types of Data

### Q2.) Complete the given MCQ's in notebook. Take the print out of the below worksheets solve and paste them in school Notebook.

Complete the given worksheet and paste in AI notebook.

#### 1. Choose the five stages of AI project cycle in correct order

- A. Evaluation -> Problem Scoping -> Data Exploration -> Data Acquisition -> Modelling
- B. Problem Scoping -> Data Exploration -> Data Acquisition -> Evaluation -> Modelling
- C. Data Acquisition -> Problem Scoping -> Data Exploration -> Modelling -> Evaluation
- D. Problem Scoping -> Data Acquisition -> Data Exploration -> Modelling -> Evaluation

#### 2. Under \_\_\_\_\_ stage of AI Project Cycle, we look at various parameters which affect the problem we wish to solve so that the picture becomes clearer.

- A. Modelling
- B. Evaluation
- C. Problem Scoping
- D. Data Exploration

#### 3. Unscramble the letters and find the correct .

DATA + \_\_\_\_\_ = AI Machine

- A. SMEGSEA
- B. IMLHOMRGAT
- C. RROER
- D. TSMMCOE

#### 4. The business or project requirements for the AI model is reviewed in

- A. Problem Scoping
- B. Data Acquisition
- C. Data Exploration
- D. Modelling

#### 5. What is Problem Scoping?

- A. Solution of a problem
- B. Exploring the patterns out of the collected data sets
- C. Developing an algorithm for a problem solution

- D. Identifying a problem and having a vision to solve it.
- E.

**6. How many SDGs have been announced by the United nations?**

- A. 20
- B. 17
- C. 2030
- D. 2020

**7. The people who face the stated problem and would be benefitted from the solution are termed as**

- A. Stakeholders
- B. Key Persons
- C. Who
- D. End user

**8. When a project is started, the person should be very clear with**

- A. Problem Reasons
- B. Problem Solutions
- C. Problem Statement
- D. All of these

**9. Which of the following statement is correct for problem scoping**

- A. it will create real value for the organization
- B. it will create more confusion among the stakeholders
- C. it is a tool that prevents the problem will not recur
- D. it is a tool that provides a clear understanding of the data flow

**10. Problem scoping is the stage where**

- A. The problem can be identified and goals can be set
- B. The problem can be put on paper
- C. The problem can be discussed among stakeholders
- D. The problem can be understood by the people

**11. Which of the following statement is correct for training data:**

- i. Data should be relevant
  - ii. Data should be authentic
  - iii. Data should be downloaded only
  - iv. Data can be anything
- A. i, and ii
  - B. i, ii and iii
  - C. ii, iii and iv
  - D. All of them

**12. What is termed as the Problem Statement Template?**

- A. The template summaries all the cards of 4Ws Problem Canvas
- B. Data set collected to extract the key elements of a problem
- C. The template provides the prediction of the data set
- D. None of these

**13. Which of the following is incorrect?**

- i. Testing data is the one on which we train and fit our model basically to fit the parameters
  - ii. Training data is used only to assess performance of model
  - iii. Testing data is the unseen data for which predictions have to be made
- A. i) and iii) only
  - B. i) and ii) only
  - C. ii) and iii) only
  - D. i), ii) and iii)

**14. The \_\_\_\_ stage begins with the identification of the problem in the AI project cycle**

- A. Problem Scoping
- B. Data acquisition
- C. Modelling
- D. Searching Ideas

**15. Problem scoping helps in**

- A. Setting the goal

- B. Identifying the problem
- C. A deeper understanding of the problem
- D. All of these

**16. Which of the following W of 4Ws canvas problem helps in analyzing the affected people directly or indirectly?**

- A. Who
- B. What
- C. Where
- D. Why

**17. The \_\_\_\_ are people who face the problem and would be benefited from the solution.**

- A. Stakeholders
- B. Key persons
- C. Developer
- D. End user

**18. Which W among 4Ws of Problem Scoping, determines the nature of the problem.**

- A. Who
- B. What
- C. Where
- D. Why

**19. The w for what in 4Ws also gather the evidence to prove that the problem you have selected actually exists.(True/False)**

- A. True
- B. False

**20. Which of the following refers to where among 4Ws canvas ?**

- A. stakeholders
- B. nature of the problem
- C. context/situation/location
- D. solution or benefits to the stakeholders

**21. The \_\_\_\_ helps to summarize all the key points into one single template for Problem Scoping.**

- A. 4ws of problem scoping
- B. Problem Statement Template
- C. Summary Template
- D. Problem Understanding Template

**22. If there are errors in the problem scoping, it leads to failure of the project or delay in the project.(True/False)**

- A. True
- B. False

**23. In problem scoping, one should always consider the positive and negative aspects of the problem.(True/False)**

- A. False
- B. True

**24. The stakeholders can be a part of which w in 4ws canvas ?**

- A. Who
- B. What
- C. Where
- D. Why

**25. The 'who' block in 4ws helps in analyzing**

- A. Stakeholders
- B. Nature of Problem
- C. Context, Situation and Location
- D. Benefits to the Stakeholders

**26. Which block of 4ws problem canvas focuses on the context/situation/location of the problem ?**

- A. Who
- B. What
- C. Where



D. Why

**27. Which of the following comes under Problem Scoping ?**

- A. Web Scraping
- B. 4Ws Problem Canvas
- C. System Mapping
- D. Data features

**28. Setting goals is the first part of problem scoping ?**

- A. True
- B. False

**29. Which of the following comes under problem scoping ?**

- A. System mapping
- B. 4Ws problem canvas
- C. Data features
- D. Web Scraping

**30. The AI process begins with problem definition then followed by ?**

- A. designing – brainstorming – building
- B. designing – deploying – brainstorming
- C. brainstorming – designing – building
- D. designing – brainstorming – building

**31. The AI project stage which is used to set the goal for the problem is**

- A. Data Exploration
- B. Evaluation
- C. Problem Scoping
- D. Data Validation

**32. Which of the following is not related to 4 W in problem scoping ?**

- A. Who
- B. What
- C. Where
- D. With

**33. 4Ws canvas is associated with**

- A. Modelling
- B. Data Acquisition
- C. Problem Scoping
- D. Data exploration

**34. The \_\_\_\_\_ canvas helps you in identifying the key elements related to the problem.**

- A. 4Q
- B. Problem Scoping
- C. 4W
- D. Algorithm

**35. \_\_\_\_\_ is one of the way of Data Acquisition.**

- A. Surveys
- B. Coding
- C. Cloud Computing
- D. None of these

**36. The Data needs to be \_\_\_\_\_ for AI to work efficiently.**

- A. Accurate
- B. Pictorial
- C. Complex
- D. None of these

**37. Which of the following is not an authentic source for data acquisition? ?**

- A. Sensors
- B. Surveys
- C. Web Scraping
- D. System Hacking

**38. The \_\_\_\_\_ refers to is more concerned with maintaining and managing the metadata rather than the database itself. ?**

- A. System Mapping
- B. Data Curation
- C. Data Features
- D. Web Scraping

**39. Which of the following is not a core element of SDG ?**

- A. Economic Growth
- B. Social Inclusion
- C. Geographical concerns
- D. Environmental Protection

**40. Which of the following not one of the Vs of big data?**

- A. Volume
- B. Velocity
- C. Variety
- D. Version

**41. The data which is available as soon as an event takes place is known as \_\_\_\_\_ data.**

- A. Big data
- B. Real time data
- C. Spatio temporal data
- D. Time stamped data

**42. The data which is available freely for everyone to use which is not restricted through copyrights, patents, control etc is known as \_\_\_\_\_ data.**

- A. Open Source
- B. Realtime Data
- C. Time stamped data
- D. Big Data

**43. The data which contains both location and time information is known \_\_\_\_\_ data.**

- A. Machine data
- B. Time stamped data
- C. Spatio temporal data
- D. None of the above

**44. The data from user behavior, activities or actions is known as \_\_\_\_\_ data.**

- A. System Mapping
- B. 4Ws Canvas
- C. Data Features
- D. Web Scraping

**45. Machine data refers to the data collected from systems or programs like called details, emails data etc. (True/False).**

- A. True
- B. False

**46. Which of the following data helps in forming an accurate of actions over time?**

- A. Structured Data
- B. Unstructured Data
- C. Semi-Structured
- D. Time-Stamped

**47. Name any 2 methods for collecting data.**

- A. Surveys and Interviews
- B. Rumours and Myths
- C. AI Models and Applications
- D. Imagination and thoughts

**48. The combination of structured and unstructured data is known as \_\_\_\_\_ data.**

- A. Structured Data
- B. Unstructured Data
- C. Semi-Structured
- D. Time-Stamped

**49. The types of data that do not have any predefined structure are known as \_\_\_\_\_.**

- A. Structured Data

- B. Unstructured Data
- C. Semi-Structured
- D. Time-Stamped

**50. The data which has predefined structure and organized in predefined manner is called \_\_\_\_\_ data.**

- A. Structured Data
- B. Unstructured Data
- C. Semi-Structured
- D. Time-Stamped

**51. The types of data collected during the AI project cycle is considered as**

- A. Data Features
- B. Data Attributes
- C. Data Collection
- D. Data Characteristics

**52. In \_\_\_\_\_ method of data collection, researchers interact in their natural environment to help and understand their behaviours, perceptions, and experiences for research purposes**

- A. Survey
- B. API
- C. Observation
- D. Sensors

**53. The data which can be in the form of any value within a range is considered as which of the following categories of data?**

- A. Ungrouped
- B. Grouped
- C. Frequency
- D. None of These

**54. Which of the following is one of the government open source for collecting data?**

- A. [www.ayushmanbharat.org](http://www.ayushmanbharat.org)
- B. [www.india.gov.in](http://www.india.gov.in)
- C. [www.bharatdata.in](http://www.bharatdata.in)
- D. [www.india.com](http://www.india.com)

**55. Which of the following is not a method to collect data??**

- A. Surveys
- B. Web Scrapping
- C. Sensors
- D. Archives

**56. The type of data being collected in data acquisition is known as \_\_\_\_\_.**

- A. System Mapping
- B. 4Ws Canvas
- C. Data Features
- D. Web Scraping

**57. We can provide any data for the prediction to get a better result. (True/False)**

- A. True
- B. False

**58. We can provide any data for the prediction to get a better result. (True/False)**

- A. True
- B. False

**59. In data acquisition the data which is provided as input is called \_\_\_\_\_.**

- A. Testing Data
- B. Training Data
- C. Input data
- D. None of the above

- 60. To predict the output you must train the data for the AI project. (True/False)**
- A. True
  - B. False
- 61. The relevant and authentic data only collected through ?**
- A. Any websites
  - B. Google
  - C. Government Websites
  - D. None of these
- 62. The \_\_\_\_\_ is second stage of AI project cycle.**
- A. Data Acquisition
  - B. Evaluation
  - C. Problem Scoping
  - D. Data Exploration
- 63. Which of the following AI weak systems are used in systems for making decisions by using user-defined rules?**
- A. Brute-force
  - B. Neural Networks
  - C. Computer Vision
  - D. Heuristic or Rule-based
- 64. Data visualization techniques are used to**
- A. discover data
  - B. real-time evaluation of big data
  - C. getting new insights into data
  - D. All of these
- 65. You can also adopt some sophisticated statistical methods for data exploration. (True/False)**
- A. True
  - B. False
- 66. Data exploration can be done using \_\_\_\_\_.**
- A. Problem Scoping
  - B. Data Visualization
  - C. Data Features
  - D. Web Scraping
- 67. \_\_\_\_\_ refers to the techniques and tools that are used for identifying important patterns and trends using graphs.**
- A. Data visualization
  - B. Data organizing
  - C. Data Features
  - D. Web Scraping
- 68. The \_\_\_\_\_ approach is based on rules and data fed into the machine**
- A. Rule-based approach
  - B. Learning-based approach
  - C. Knowledge-based approach
  - D. All of these
- 69. A business problem wherein we categorize whether an observation is "Safe," "AtRisk," or "Unsafe" is an example of**
- A. Classification
  - B. Clustering
  - C. Regression
  - D. Dimensionality Reduction
- 70. Which of the following not an approach considered for modelling:**
- A. rule-based approach
  - B. learning-based approach
  - C. knowledge-based approach
  - D. All of these
- 71. Which of the following not an approach considered for modelling:**

- A. root
- B. terminal
- C. interior
- D. parent

**72. Which of the following node is the last node of a decision tree?**

- A. Parent Node
- B. Decision Node
- C. Leaf Node
- D. Splitting Node

**73. \_\_\_\_\_ is a process by which a node is divided into two or more sub-nodes**

- A. Splitting
- B. 4Ws Canvas
- C. Data Features
- D. Web Scraping

**74. In rule-based approach the relationships or patterns in data are defined by the developer. (True/False)**

- A. True
- B. False

**75. Identify which of the following is incorrect about the unsupervised learning-based model.**

- A. We can provide a very large data set.
- B. The algorithm itself analyzes the data set and determines relationships within that data.
- C. The labelled data is fed with some rules by the developers.
- D. It lets make predictions and improves the algorithms on its own.

**76. \_\_\_\_\_ are used in making decisions in AI models**

- A. This Question is Under Verification 😞

**77. Choose the correct option**

- A. Unsupervised learning -> labelled dataset, Regression
- B. Supervised learning -> labelled data set, Regression
- C. Unsupervised learning -> unlabelled dataset, Classification
- D. Supervised learning -> unlabelled data set, Regression

**78. In \_\_\_\_\_, the machine is trained with huge amount of data which helps it in training itself around the data.**

- A. Supervised learning
- B. Deep learning
- C. Classification
- D. Unsupervised learning

**79. Unscramble the letters and find the parameter that is NOT used in evaluation stage**

- A. CMVETEEHAIN
- B. ONSIPRICE
- C. RYAUACCC
- D. ECLARL

**80. The basis of decision making depends upon**

- i. Availability of Information
  - ii. Past Experience
  - iii. Positive Attitude
  - iv. Self-Awareness
- A. i) and ii)
  - B. ii) and iv)
  - C. i), ii) and iv)
  - D. ) i), ii) and iii)

**81. It provides us with an appropriate framework which can lead us towards the goal of our AI Project.**

- A. 4Ws Canvas
- B. AI Project Cycle
- C. 17 SDGs
- D. AI Models

**82. Which of the following model the relationship or patterns in data defined by the developer?**

- A. Rule Base Approach
- B. Learning Based Approach
- C. Decision Tree
- D. K Map

**83. Which of the following type of data can have a specific pattern or structure?**

- A. Semi Structure
- B. Structured
- C. Unstructured
- D. Fully Structured

a) Lippan art on MDF Or CANVAS board.

