NEW ERA PUBLIC SCHOOL, DWARKA

Class XI Holiday Homework

Subject: English

Cinema & Literature Review Project

"Understanding Literature Through Cinema"

Objective

This activity encourages students to:

- connect literature with visual storytelling
- develop analytical and critical thinking skills
- appreciate cinematic techniques
- and understand how films reflect society, emotions, and human values

Students will watch a meaningful film, documentary, or literary adaptation and write a detailed analytical review.

Instructions for Students

Step 1: Choose ONE Film / Documentary

Students may choose:

- a literary adaptation,
- inspirational film,
- social issue–based cinema,
- historical film,
- or documentary.

Suggested Films / Literary Adaptations

Literary Adaptations

- The Boy in the Striped Pyjamas
- Little Women
- To Kill a Mockingbird
- The Book Thief
- Pride and Prejudice

Documentaries

- The Social Dilemma
- Our Planet
- He Named Me Malala

Step 2: Prepare the Review

Students should organise the review under the following headings:

FORMAT OF THE REVIEW

1. Introduction

Include:

- Name of the film/documentary
- Director
- Genre
- Year of release
- Main cast
- Source text/book (if adapted)

Example: *Taare Zameen Par*, directed by Aamir Khan, is an emotional drama that explores the struggles of a dyslexic child within the rigid education system…

2. Plot Summary (150–200 words)

Briefly describe:

- the storyline,
- major events,
- conflict,
- and resolution.

Do not reveal unnecessary spoilers.

3. Themes

Analyse major ideas/ possible themes presented in the film.

Guiding Questions:

- What message does the film communicate?
- Which theme affected you the most?
- How are the themes relevant today?

4. Characterization

Analyse important characters.

Include:

- personality traits,
- emotional growth,
- strengths and weaknesses,

- relationships,
- conflicts.

Guiding Questions:

- Which character seemed most realistic?
- Did any character change during the film?
- Which performance impressed you the most?

5. Symbolism & Literary Elements

Students should identify symbols, metaphors, motifs, or recurring images.

Examples:

- rain symbolizing sadness,
- light and darkness representing hope/conflict,
- colours reflecting emotions,
- objects carrying deeper meanings.

Guiding Questions:

- Were any visuals symbolic?
- Did the film use silence/music meaningfully?
- How did symbols deepen the message?

6. Cinematography & Technical Aspects

Students should observe:

- camera angles,
- lighting,
- background music,
- costume,
- editing,
- sound effects,
- colour palette,
- visual composition.

Guiding Questions:

- How did visuals create emotion?
- Which scene was visually powerful?
- Did music enhance the storytelling?

7. Social Message & Personal Reflection

Discuss:

- social relevance,

- moral lessons,
- emotional impact,
- personal learning.

Guiding Questions:

- What did the film teach you?
- Did it change your perspective?
- Why should others watch it?

8. Favourite Scene / Dialogue

Mention:

- one memorable scene or dialogue,
- and explain why it stood out.

9. Conclusion

Summarise:

- overall opinion,
- strengths of the film,
- recommendation.

Students may also give ratings.

Example:
★★★★☆ (4/5)

Creative Additions (Optional)

Students may include:

- movie posters
- illustrations
- scene sketches
- comparison with original text
- soundtrack analysis

Suggested Word Limit

800–1200 words

Presentation Ideas

Students may present the project as a handwritten file.

Subject: Physics

1. WRITE FIRST 5 EXPERIMENTS IN YOUR PRACTICAL FILE

EXP.1 – TO MEASURE THE DIAMETER OF A SMALL SPHERICAL BOB USING VERNIER CALLIPER.

EXPERIMENT 2 – TO MEASURE THE DIAMETER OF GIVEN WIRE AND THICKNESS OF A GIVEN SHEET BY USING SCREW GUAGE.

EXP 3 -TO DETERMINE THE RADIUS OF A SPHERICAL SURFACE USING SPHERMOMETER.

EXP 4- TO PLOT L-T^2 GRAPH OF A PENDULUM AND FIND EFFECTIVE LENGTH OF SECOND PENDULUM.

EXP 5- TO DETERMINE SPRING CONSTANT OF A SPRING USING LOAD EXTENSION GRAPH.

2. MAKE A WORKING MODEL ON ANY ONE OF THE GIVEN TOPICS WITH WRITTEN REPORT:

A) PROJECTILE MOTION

B) NEWTON'S LAWS OF MOTION

C) CONSERVATION OF ENERGY

3. ASSIGNMENT TO BE DONE IN NOTEBOOK:

1.A particle is moving on a circular path of radius *r* with constant speed V. It describes angle of 120° at the centre calculate its:
(a) Magnitude of displacement
(b) Magnitude of change in velocity
(c) Magnitude of average acceleration

2. Two towns A and B are connected by a regular bus service, leaving in either direction every T minutes. A man cycling with a speed of 20 km/h in the direction A to B notices that a bus goes past him every 18 minutes in the direction of his motion, and every 6 minute in the Opposite direction. What is the period T of the bus service and with what speed do the buses ply on the road?

3. The position of a particle in given by
$r = 3.0t\,\hat{i} + 2.0t2\,\hat{j} - 5.0\hat{k}$.
Where *t* is seconds and the coefficients have the proper units for *r* to be in metre (*a*) Find $v(t)$ and $a(t)$ of the particle. (*b*) Find the magnitude and direction of $v(t)$ at $t = 3.0s$.

4. The position of a particle is given by
$r = (4 \cos 2t)\,\hat{i} - (4 \sin 2t)\,\hat{j} + 6t\,\hat{k}$.
Calculate the acceleration at $t = 4s$

5. A cricketer can throw a ball to a maximum horizontal distance 150 m. How high above the ground can the cricketer throw the same ball?

6. A cricket ball is thrown at a speed of 28 m/s in a direction 30° above the horizontal. Calculate (*a*) the maximum height (*b*) the time taken by the ball to return to the same level (*c*) the distance from the thrower to the point where the ball returns to the same level.

7. Find the angle of projection for which the horizontal range and maximum height are equal.

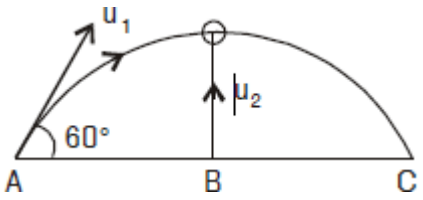
8. Show that for two angles of projection for which range is same, the sum of maximum heights for these two angles is independent of angle of projection.

9. A particle is projected over a triangle from one end of a horizontal base and grazing the vertex falls on the other end of the base. If x and y be the base angle and z the angle of projection prove that.

tan z = tan x + tan y

10. Two projectiles are projected from the same point with same speed at angles x and (90 –x) with the horizontal. What will be the ratio of (*i*) maximum heights (*ii*) horizontal range.

11. A boy projects a ball with velocity *u*1 from point A as shown. At the same time another ballis projected vertically upwards with velocity *u*2 from point B. What should be value of



u1/u2 for both the balls to collide?

12. A ball is thrown with a velocity of 15 m/s at an angle of 30° with horizontal. Calculate
    (a) time of flight.
    (b) maximum height attained by the ball (g = 10 m/s^2)

13. A ball is projected with a velocity of 320 m/s at an angle of 30° with the horizontal. Find
    (i) Horizontal range
    (ii) Maximum range. (g = 10 m/s^2)

14. A bullet fired from a riffle attains a maximum height of 25 m and a range 200 m. Find the angle of projection.

15. The speed with which a bullet can be fired is 150 m/s. Calculate the greatest distance to which it can be projected and also the maximum height to which it would rise.

16. For a projectile show that
    (a) $gT^2 = 2R \tan \beta$
    (b) H max =Rtan4β
    (c) $gT^2 = 8H_{max}$

17. A riffle shoots a bullet with a muzzle speed of 500 m/s at a small target 50 m away. How above the target must the riffle be aimed so that the bullet will hit the target? Take

18. The height of a hall is 20 m. A boy can throw a ball with a velocity of 30 m/. Calculate the maximum horizontal distance, the ball can go without hitting the ceiling of the hall.

19. A bullet is fired with a velocity 100 m/s in a direction making an angle of 60° with the vertical. Calculate the time of flight.

20. A body is projected with a velocity of 30 m/s in a direction making an angle of 60° with horizontal. Calculate

(i) Position after 0.5 *s*

(ii) Velocity after 0.5 s

21. A body is projected with a velocity of 20 m/s in a direction making an angle of 30° with the horizontal. Calculate velocity after 1 sec.

22. The maximum vertical height of a projectile is 15 m. If the magnitude of initial velocity is 20 ms–1 what is the direction of initial velocity. (g = 10 ms–2)

23. A bullet fired at an angle of 60° with the vertical hits the ground at a distance of 2 km. By adjusting the angle can the bullet hit the target situated 3 m away.

24. A cricket ball is projected with a kinetic energy E making an angle of 45° with horizontal. Calculate its K.E. at highest point.

25. A ball of mass m is thrown vertically up. Another ball of mass 2 m is thrown at an angle β with the vertical. Both of them stay in air for same period of time. What is the ratio of height attained by the two balls.

Subject: Chemistry

PREPARE A PROJECT ON ANY TWO TOPICS

a. Waste to chemicals: Transforming wastes and residues to energy, fuels and other useful chemicals.

b. Endangered elements: Managing and extraction, use, reuse and alternative development for elements in the chemical enterprise that are facing critical supply risks.

c. Nobel laureates in Chemistry (any 5): Their Life and works.

GENERAL INSTRUCTIONS:

1. The report can be typed/handwritten, with pictures

2. Write only on one side of the sheet.

3. Use A-4 coloured or white sheets, whichever easily available.

TO WRITE THE PRACTICALS OF:

1. Titration of M/20 HCl Vs sodium hydroxide.
2. Titration of M/20 Oxalic Acid Vs sodium carbonate.

ASSIGNMENT QUESTIONS TO BE DONE IN CLASS NOTEBOOK:

1. How many molecules of water are there in 54 g of water?

2. Calculate the mass of 12.044×10^23Oxygen atoms.

3. Calculate the molecular mass or formula mass of each compound.

(i) V_2O_4 (vanadium (IV) oxide) (ii) CaSiO3 (calcium silicate) (iii) BiOCl (bismuth oxychloride) (iv)CH3COOH (acetic acid))

4. Calculate the mass in grams of each sample. i. 0.520 mol of N_2O_4 ii. 1.63 mol of $C_6H_4Br_2$.

5. Find the molecular mass of the H_2SO_4.

6. Calculate the mass of 0.5 moles of the H_2O_2.

7. State law of conservation of mass.

8. State various drawbacks of Meendelevs classification of elements.

9. How many groups and periods are there in modern periodic table?

10. Why there was a need to change atomic mass to atomic number for basis of classification.

11. Find the number of atoms in 46g of Na.

12. Why some elements show variable valency?

13. What is the difference between O_2 and 2O?

14. How many and atoms of sulphur are present in 0.1 mole of S_8 molecules?

15. Calculate mass of 1.5 gram atoms of calcium. (at. Mass=40)

Subject: Maths

ASSIGNMENT (DO IN A SEPARATE NOTEBOOK)

Sequences and Series

1. 13/6 is the sum of two numbers. An even number of mathematical means are placed between them, and their sum exceeds their number by one. What is the number of inserted means multiplied by two?

2. How many terms of GP 3, 3 2, 3 3, …. Are needed to give the sum 120?

3. Find the sum to n terms of the sequence 3, 33, 333, 3333……..

4. Find the sum to infinity of : (i) 1, 2/3, 4/9,.... (ii) 0.3, 0.18, 0.108,…..

5. Prove that 3 1/2 . 3 1/4 . 3 1/8 …. = 3

6. Find the sum to n terms of the series of cubes of natural numbers.

7. Find the sum to n terms of the series of squares of natural numbers.

8. If S 1, S 2 and S 3 are the sum of first n natural numbers, their squares and their cubes respectively,

Show that 9S 2 2 = S 3 (1 + 8S 1).

9. Find the sum of the first n terms of the series 3×8 + 6×11 + 9×14 +…….

10. If a, b, c are three consecutive terms of a GP then prove that x b – c . y c – a . z a – b = 1.

Relations and Functions

1. Let A = {1, 2, 3, 4} and B = {5, 7, 9}. Determine:

(i) A × B (ii) B × A (iii) Is A × B = B × A ? (iv) Is n (A × B) = n (B × A) ?

2. If P = {x : x < 3, x ∈ N}; Q = {x : x ≤ 2, x ∈ W}. Find (P ∪ Q) × (P ∩ Q), where

W is the set of whole numbers.

3. If A = {x : x ∈ W, x < 2} B = {x : x ∈ N, 1 < x < 5} C = {3, 5} find

(i) A × (B ∩ C) (ii) A × (B ∪ C)

4. In each of the following cases, find a and b.

(i) (2a + b, a – b) = (8, 3)

(ii) (a/4, a – 2b) = (0, 6 + b)

5. Given A = {1, 2, 3, 4, 5}, S = {(x, y) : x ∈ A, y ∈ A}. Find the ordered pairs

which satisfy the conditions given below:

(i) x + y = 5

(ii) x + y < 5

(iii) $x + y$ > 8

6. Given $R = \{(x, y) : x, y \in W, x^2 + y^2 = 25\}$. Find the domain and Range of R.

7. If $R_1 = \{(x, y) \mid y = 2x + 7$, where $x \in R$ and $-5 \leq x \leq 5\}$ is a relation. Then find the domain and Range of R_1.

8. If $R_2 = \{(x, y) \mid x$ and y are integers and $x^2 + y^2 = 64\}$ is a relation. Then find R_2.

9. If $R_3 = \{(x, |x|) \mid x$ is a real number$\}$ is a relation. Then find domain and range of R_3.

10. Is the given relation a function? Give reasons for your answer.

(i) $h = \{(4, 6), (3, 9), (-11, 6), (3, 11)\}$

(ii) $f = \{(x, x) \mid x$ is a real number$\}$

(iii) $g = \{(n, 1/n) \mid n$ is a positive integer$\}$

(iv) $s = \{(n, n^2) \mid n$ is a positive integer$\}$

(v) $t = \{(x, 3) \mid x$ is a real number$\}$

11. Find the domain and range of (i) (ii)

12. Let f and g be real functions defined by $f(x) = 2x + 1$ and $g(x) = 4x - 7$.

(a) For what real numbers x, $f(x) = g(x)$?

(b) For what real numbers x, f(x) < g(x)?

13. If f and g are two real valued functions defined as $f(x) = 2x + 1$, $g(x) = x^2 + 1$, then find: (i) $f + g$ (ii) $f - g$ (iii) fg (iv) f/g

14. Express the following functions as set of ordered pairs and determine their range.

$f : X \rightarrow R$, $f(x) = x^3 + 1$, where $X = \{-1, 0, 3, 9, 7\}$

15. Find the values of x for which the functions

$f(x) = 3x^2 - 1$ and $g(x) = 3 + x$ are equal

16. Is $g = \{(1, 1), (2, 3), (3, 5), (4, 7)\}$ a function? Justify. If this is described by the relation, $g(x) = \alpha x + \beta$, then what values should be assigned to α and β?

17. Find the domain of each of the following functions given by

(i) $f(x) = 1/\sqrt{(1 - \cos x)}$

(ii) $f(x) = 1/\sqrt{(x + |x|)}$

(iii) $f(x) = x|x|$

(iv) $f(x) = (x^3 - x + 3)/(x^2 - 1)$

(v) $f(x) = 3x/(2x - 8)$

18. Find the range of the following functions given by

(i) $f(x) = 3/(2 - x^2)$

(ii) $f(x) = 1 - |x - 2|$

(iii) $f(x) = |x - 3|$

(iv) $f(x) = 1 + 3\cos 2x$

(Hint : $-1 \leq \cos 2x \leq 1 \Rightarrow -3 \leq 3\cos 2x \leq 3 \Rightarrow -2 \leq 1 + 3\cos 2x \leq 4$)

19. Redefine the function $f(x) = |x - 2| + |2 + x|, -3 \leq x \leq 3$

20. Find the domain for which the functions $f(x) = 2x2 - 1$ and $g(x) = 1 - 3x$ are equal.

Sets

Q 1: Write the following sets in the roaster form.

(i) $A = \{x \mid x$ is a positive integer less than 10 and $2x - 1$ is an odd number$\}$

(ii) $C = \{x : x^2 + 7x - 8 = 0, x \in R\}$

Q 2: State which of the following statements are true and which are false. Justify your answer.

(i) $37 \notin \{x \mid x$ has exactly two positive factors$\}$

(ii) $28 \in \{y \mid$ the sum of the all positive factors of y is $2y\}$

(iii) $7,747 \in \{t \mid t$ is a multiple of $37\}$

Q 3: If X and Y are subsets of the universal set U, then show that

(i) $Y \subset X \cup Y$

(ii) $X \cap Y \subset X$

(iii) $X \subset Y \Rightarrow X \cap Y = X$

Q 4: Given that $N = \{1, 2, 3, ..., 100\}$, then

(i) Write the subset A of N, whose element are odd numbers.

(ii) Write the subset B of N, whose element are represented by $x + 2$, where $x \in N$.

Q 5: Given that $E = \{2, 4, 6, 8, 10\}$. If n represents any member of E, then write the following sets containing all numbers represented by

(i) $n + 1$

(ii) n^2

Q 6: Let $X = \{1, 2, 3, 4, 5, 6\}$. If n represent any member of X, express the following as sets:

(i) $n \in X$ but $2n \notin X$

(ii) $n + 5 = 8$

(iii) n is greater than 4

Q 7: Draw the Venn diagrams to illustrate the following relationship among sets E, M and U, where E is the set of students studying English in a school, M is the set of students studying Mathematics in the same school, U is the set of all students in that school.

(i) All the students who study Mathematics study English, but some students who study English do not study Mathematics.

(ii) There is no student who studies both Mathematics and English.

(iii) Some of the students study Mathematics but do not study English, some study English but do not study Mathematics, and some study both.

(iv) Not all students study Mathematics, but every student studying English studies Mathematics.

Q 8: For all sets A, B and C, is $(A \cap B) \cup C = A \cap (B \cup C)$? Justify your statement.

Q 9: Use the properties of sets to prove that $A – (A \cap B) = A – B$.

Q 10: For all sets A, B and C, is $(A – B) \cap (C – B) = (A \cap C) – B$? Justify your answer.

Q 11: Let A, B and C be sets. Then show that $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$.

Q 12: Let P be the set of prime numbers and $S = \{t \mid 2\ t – 1$ is a prime$\}$. Prove that $S \subset P$.

Q 13: From 50 students taking examinations in Mathematics, Physics and Chemistry, each of the student has passed in at least one of the subjects, 37 passed Mathematics, 24 Physics and 43 Chemistry. At most 19 passed Mathematics and Physics, at most 29 Mathematics and Chemistry and at most 20 Physics and Chemistry. What is the largest possible number that could have passed all three examinations? (Use Venn diagrams to solve).

Q 14: Using properties of sets prove the statement: For all sets A and B, $A \cup (B – A) = A \cup B$

Q 15: Two finite sets have m and n elements respectively. The total number of subsets of first set is 56 more than the total number of subsets of the second set. The values of m and n respectively are:

Options: (A) 7, 6 (B) 5, 1 (C) 6, 3 (D) 8, 7

Q 16: The set $(A \cup B \cup C) \cap (A \cap B' \cap C')' \cap C'$ is equal to

Options: (A) $B \cap C'$ (B) $A \cap C$ (C) $B \cup C'$ (D) $A \cap C'$

Q 17: Each set X_r contains 5 elements and each set Y_r contains 2 elements and . If each element of S belongs to exactly 10 of the X r ’s and to exactly 4 of the Y r ’s, find n.

Options : (A) 10 (B) 20 (C) 100 (D) 50

Q 18: If A is a finite set containing n element, then number of subsets of A is _____.

Q 19: Let R and S be the sets defined as follows: $R = \{x \in Z \mid x \text{ is divisible by } 2\}$ $S = \{y \in Z \mid y \text{ is divisible by } 3\}$ then $R \cap S = \varphi$ (True/False)

Q 20: In a survey it was found that 21 people liked product A, 26 liked product B and 29 liked product

C. If 14 people liked products A and B, 12 people liked products C and A, 14 people liked products B and C and 8 liked all the three products. Find how many liked product C only.

[Draw Venn Diagrams and the formula $n(A \cup B) = n(A) + n(B) - n(A \cap B)$]

PROJECT

Draw the graph of the following trigonometric functions on a Cartesian plane: sin x, cos x and tan x

Take three A4 size cardboards, paste graph on the whole cardboard to make it look like big Cartesian Planes. Represent the graphs of the three trigonometric functions accurately on each plane. Use wool, wires, LED Lights (fitted with batteries and a switch to make it glow) or any other creative method to show the curves on the graphs.

Subject: Biology

Prepare one investigatory project (10 marks) The project report to be written as follows:

- Title Page – This is the first page carry the following information

(i) Title / Aim of the project

(ii) Name of the student with class and section

- Table of contents – This page records the content of the project report preferably with corresponding page numbers.

- Introduction and review

. • Experimental – This section should include the following information: (i) Apparatus /equipment (ii) Procedure /experimental methodology (iii) Data / observation (with proper units of all the quantities (iv) Calculations (use the correct formulae for the calculations (v) Graphs / diagrams / charts (vi) Result and conclusion • Bibliography – On this page a list of books, periodicals, review article, research work (if any) related to the present work is to be reported.

TOPICS:

I) Human embryo development - The process by which a baby develops from a single cell is miraculous and few events are more exciting than a human birth.Human development is a continuous process that begins when an ovum is fertilized by a sperm. Cell division, growth, differentiation, and even cell death, transform the fertilized ovum into a multicellular human being.

II) The world of DNA and DNA fingerprinting- DNA fingerprinting is a way to identify a certain individual, rather than simply identifying a particular species or a particular trait.

III) Application of Biotechnology - Genetically Modified Organisms (GMOs), gene therapy for ADA deficiency, producing human insulin via recombinant DNA technology, and studying Bt cotton. These projects demonstrate how molecular biology is applied to agriculture and medicine to improve crops and health.

IV) ART (Assisted reproductive technology) Infertility has been a growing medical issue in the World in recent years. Medical science has advanced to help families grow their families and have healthy and nourished children. Assisted reproductive technology provides treatment for both men and women. It helps them overcome infertility and have the chance to have a happy family.

You are required to select any one of the below mentioned projects as Investigatory project, • Each project should be a minimum 15 to 20 A4 size paper which should include- Title of project, Index & Conclusion/Learning outcome.

- Photographs and creative presentation should be a part of the project.

- There should be at least one experiment analysis related to the topic.

Subject: Computer Science

Part A: Assignment Questions

(To be attempted in Computer Science register)

Q1 Perform the following memory conversions:

(i) 256 TB = Bytes

(ii) 32 PB = KB

(iii) 64 YB = MB

(iv) 128 KB = bits

Q2 Perform the following number conversions:

(i) $(101111001010)_2$ into octal

(ii) $(7532.41)_8$ into binary

(iii) $(111101001.011)_2$ into hexadecimal

(iv) $(7AB4)_{16}$ into octal

(v) $(57329.35)_{10}$ into hexadecimal

Q3 Distinguish between (write 2 points of difference in tabular format):

(i) Interactive mode and Script mode in Python

(ii) Keyword and Identifier in Python

Q4 Identify the data types of the following values given below:

3, 3j, 13.0, "14", 2+0j,19.6, [1,2,3],(3,4,5)

Q5 Evaluate the following expressions manually:

(i) 12 + (3**4–6)/2

(ii) 24 + 6 (8 -12) /4

(iii) 3 + 18/9 - 3**2+1

(iv) ((4 + 24)/8 - (2**3+3)

Part B: List of Practicals

(To be attempted in Python Idle on your laptop/PC)

Instructions:

i. Copy the Python source code of all the programs as well as paste the screenshots of the program outputs in a Microsoft Word document.

ii. Make a practical file according to the format discussed in class.

LIST OF PRACTICALS

1. Write a Python program to accept two numbers and swap their values

(i) using a third variable

(ii) without using a third variable

(iii) using multiple assignment

2. Write a Python program to convert temperature in Celsius to Fahrenheit and vice-versa. The temperature must be input in decimal number.

3. Write a Python program to accept principal, rate of interest and time period of an investment and compute and print the simple interest.

4. Write a Python program that uses arithmetic operators (+,-,*, /, %) on two numbers input from the user, and displays the respective results.

5. Write a Python program to obtain temperatures of 7 days of a week and then display the average temperature of the week. The input must be taken from the user in decimals.

6. Write a Python program to take values of x,y,z from the user and calculate the equation: $4x^4 + 3y^3 + 9z^2 + 6$

7. Write a Python program that asks your height in centimeters and converts it into foot and inches.

8. Write a Python program to check if a number input from the user is even or odd.

9. Write a Python program to find if a given year is leap year or not.

10. Write a program to calculate bonus for employees based on following conditions: if the employee is male, bonus will be 10 % of salary where salary is less than 50000 otherwise bonus will be 15 % if the employee is female, bonus will be 20 % of salary where salary is less than 50000 otherwise bonus will be 25 %

11. Write a Python program that inputs a student's marks in five subjects (out of 100), then prints the percentage of marks, and calculates grades as per the following rules:

Marks	Grade
85% and above	A
75-84%	B
65-74%	C
50-64%	D
40-49%	E
39% and below	Fail

12. Write a Python program to find the largest of 3 numbers input from the user.

Subject: Informatics Practices

Part A: Assignment Questions

(To be attempted in Informatics Practices register)

Q1 What is Utility Software? Write its significance in computer performance.

Q2 How will you troubleshoot your computer if it fails to show up the interface?

Q3 Why Python is called a cross-platform language and an interpreted language?

Q4 Identify the types of following literals:

i. 23.789

ii. False

iii. “True”

iv. 34.71E-4

v. None

vi. 4+3j

Q5 Identify valid or invalid identifiers:

True, Student-Name, IF, PRINT, 1stAge, Number1

Q6 Distinguish between (write 2 points of difference in tabular format):

(i) Interactive mode and Script mode in Python

(ii) Keyword and Identifier in Python

(iii) Local variables and Global variables

(iv) Statement and Expression

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2. Write a Python program to convert temperature in Celsius to Fahrenheit and vice-versa. The temperature must be input in decimal number.

3. Write a Python program to accept principal, rate of interest and time period of an investment and compute and print the simple interest.

4. Write a Python program that uses arithmetic operators (+,-,*, /, %) on two numbers input from the user, and displays the respective results.

5. Write a Python program to obtain temperatures of 7 days of a week and then display the average temperature of the week. The input must be taken from the user in decimals.

6. Write a Python program that calculates and displays the area and perimeter of a circle, a square, a rectangle and a triangle. Take appropriate inputs from the user.

7. Write a Python program to check if a number input from the user is even or odd.

8. Write a Python program to find if a given year is leap year ornot.

9. Write a Python program that inputs a student's marks in five subjects (out of 100), then prints the percentage of marks, and calculates grades as per the following rules:

Marks	Grade
85% and above	A
75-84%	B
65-74%	C
50-64%	D
40-49%	E
39% and below	Fail

10. Write a Python program to find the greater of 2 numbers input from the user.

Subject: Physical Education

PRACTICAL FILE WORK

Total three practical to be done in practical file

1. Yoga as preventive measure for lifestyle diseases.
   (Any two asana to be written for EACH lifestyle disease, including their procedure, benefits and contraindication)

2. SAI Khelo India Fitness Administration Test for school going children.

3. Labelled diagram of field & equipment History, Rules, Terminologies & Skills of any ONE game recognised by IOC (International Olympic Committee).
   (Football, Volleyball, Kabaddi, Wrestling, Judo, Badminton, Table tennis, Basketball, etc)

ALL THE PRACTICALS MUST BE DONE IN THE SPECIFIED FILE FOR PHYSICAL EDUCATION CLASS XII ONLY.

https://drive.google.com/file/d/196dgGxfUfD9bXJqaeankYN-N02EVWu6W/view?usp=sharing **(FOR THE REFERENCE)**

Subject: Political Science

1. <u>Project</u>

Prepare a project according to CBSE guidelines on the given topics:-

1. Project Work on Topics:

1. Making of the Constitution.

2. Rights in the Indian Constitution.

3. Elections in India.

4. Working of the Indian Judiciary System.

5. Federalism in India.

6. Social Justice: Are ethics followed in Indian Politics , John Rawls Theory of the Veil of Ignorance.

7. Human Rights Act and its gratification in India.

8. Executive,its types, How parliament controls executive and relevant case studies.

8. Political impact on Indian Legislation

9. Local government , analysis of its Success in India.

10. Freedom: J.S mill theory, views on Freedom.

11. Equality theories , impact on society.

12. Secularism in India and Western countries.

Which is better and why?

<u>INSTRUCTIONS:</u>

- Each student will be assigned one topic.
- Each student will have a separate project file.
- The project should be of minimum 30-35 pages each.
- Use colourful sheets, paste relevant pictures, newspaper clippings if any for the work.
- The **cutting of pictures and decorative material should be clean, neat, and symmetrical**.
- Every picture, map or diagram must be **properly labelled with captions**. Avoid untidy pasting of the pictures.
- Cover the file using a chart paper, with name, class, session, roll number and topic written on it.
- The project should be totally research and survey based.

- The project must be neat and well presented and must be completely handwritten.
- The project should be done on A-4 sized sheets.
- Students have to cite the various sources as well as any research papers that they may have used for the assignment (To be attached at the end of the project- Bibliography)

Project Structure

Students should prepare the Project under the following headings:-

1. **Cover Page-** Design an attractive cover page with the title, your name, class, and date.
2. **Acknowledgement**
3. **Certificate**
4. **Index-** Include a table of contents with the sections of your project for easy navigation.
5. **Research Question-** Define the research question or objective of your project. Example: *How did the cultural and intellectual revival during the Renaissance influence humanism in key Italian city-states like Florence, Venice, and Rome?*
6. **Data/Statistical Analysis/Map Work**
    - Provide relevant data, maps, or graphs to support your study.
    - For example, if your topic involves historical battles or geographical locations, include maps of places like Europe, Places of Renaissance, Mongolia or graphs comparing timelines or political shifts.
7. **Analysis/Explanation and Interpretation**
    - Analyze your findings. Interpret the data and explain how it answers your research question.
    - Provide insights into the historical significance of your topic, highlighting key figures, events, and outcomes.
8. **Bibliography**
    - List all the sources you referred to while preparing the project, such as books, articles, websites, or **any places you have visited** etc.
    - Ensure the bibliography is well-organized.

Subject: History

1. Project

Prepare a project according to CBSE guidelines on the given topics:-

1. The **Legacy of Mesopotamia civilization** with special reference to- town planning, Script and Writing system, Mathematics, Astronomy, Science and their calendar.
2. The **Roman Empire** with special reference to its **architecture, government and society.**
3. Role of **Genghis Khan** in establishing a nomadic empire and his chief innovations in army, courier system etc.
4. The period of **Renaissance and Humanism** in 14th century Europe, with special reference to Italy, Florence, Venice and Rome. Renaissance and its subsequent contributions to art, architecture, literature and sculpture that shaped the foundation of modern Western culture.
5. The great **American civilizations**- the displacement of these indigenous people by the Europeans, their history, culture and their struggle for rights.
6. **History of Aborigines of Australia**– with special reference to indigenous people of **Australia** exploring the origins, culture and struggles of the indigenous peoples highlighting their way of life before and after European colonization.
7. Process of **modernization by Japan** with special reference to Meiji Restoration and Modernization, Imperial policies, Military reforms, Sino-Japanese war, Russo-Japanese War and educational reforms.
8. Process of the **modernisation of China** under Sun Yat Sen, Chiang Kai Shek and Mao Zedong.
9. **South Korea** – A Success Story through rapid industrialization, technological innovation, and strategic government policies, becoming a model of development in the modern world.

INSTRUCTIONS:

- Each student will be assigned one topic.
- Each student will have a separate project file.
- The project should be of minimum 30-35 pages each.
- Use colorful sheets, paste relevant pictures, newspaper clippings if any for the work.
- The **cutting of pictures and decorative material should be clean, neat, and symmetrical**.
- Every picture, map or diagram must be **properly labelled with captions**. Avoid untidy pasting of the pictures.
- Cover the file using a chart paper, with name, class, session, roll number and topic written on it.
- The project should be totally research and survey based.
- The project must be neat and well presented and must be completely handwritten.

- The project should be done on A-4 sized sheets.
- Students have to cite the various sources as well as any research papers that they may have used for the assignment (To be attached at the end of the project- Bibliography)

Project Structure

Students should prepare the History Project under the following headings:-

1. **Cover Page-** Design an attractive cover page with the title, your name, class, and date.
2. **Acknowledgement**
3. **Certificate**
4. **Index-** Include a table of contents with the sections of your project for easy navigation.
5. **Research Question-** Define the research question or objective of your project. Example: *How did the cultural and intellectual revival during the Renaissance influence humanism in key Italian city-states like Florence, Venice, and Rome?*
6. **Data/Statistical Analysis/Map Work**
    - Provide relevant data, maps, or graphs to support your study.
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7. **Analysis/Explanation and Interpretation**
    - Analyze your findings. Interpret the data and explain how it answers your research question.
    - Provide insights into the historical significance of your topic, highlighting key figures, events, and outcomes.
8. **Bibliography**
    - List all the sources you referred to while preparing the project, such as books, articles, websites, or **any places you have visited** etc.
    - Ensure the bibliography is well-organized.

Subject: Sociology

Make a project on any one of the following topics

a) Dowry as a social evil
b) E learning
c) Age of Artificial Intelligence
d) Politicization of religion
e) Role of women in the decision making in modern family.
f) Problems of old age.
g) Increasing violence against women.

Instructions

The project should include the following information:

1) Introduction
2) Relevance of the topic
3) Purpose of your study
4) Positive and negative impacts of the topic
5) Conclusion

Subject: Economics

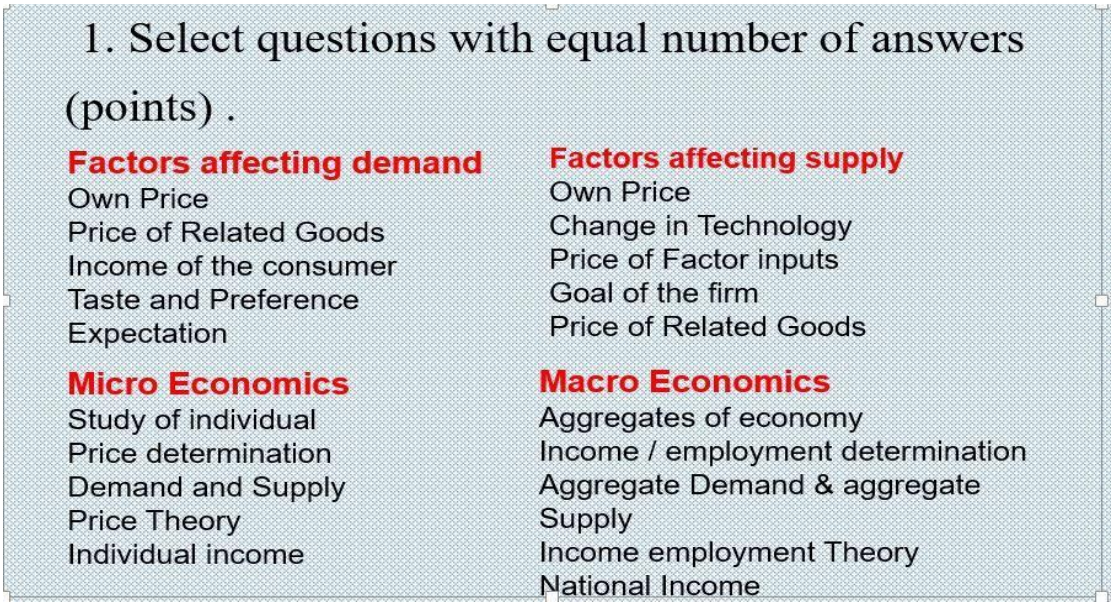
Homework – The teacher's way to find out how smart students are!

1. Tambola

Make a PPT of 30 – 40 Questions (Topics will be given to each student in whatsapp group

2. Rummy

30 Cards (1 question + 5 answers) as given in picture below.



4. Crossword Puzzle

Each student has to make one 'Find the word' and one 'Crossword puzzle' using economic terms.

Subject: Accountancy

PROJECT WORK

No. of Pages: 5 to 6 pages

Note down the Transactions for 15 days from June 1st June 2019 to 15th June

2019 of the business organisation and Prepare an Accounting Equation for the transactions that has been noted.:

1. Grocery Shop
2. Salon
3. Cosmetic Shop
4. Optician
5. Bakery Shop
6. Sweet Shop

Or any form of Business Organization.

Prepare an Accounting Equation for the transactions that has been noted.

ASSIGNMENT SHEET

Solve the assignment sheet given below in separate register and submit it in a channel file

ACCOUNTING EQUATIONS

1. Prepare accounting equation from the following:
   (a) Started business with Cash ₹ 2,00,000.

   (b) Purchased goods for Cash ₹ 60,000 and on Credit ₹ 1,50,000.

   (c) Sold goods for Cash costing ₹ 40,000 at a profit of 20% and on Credit costing ₹ 72,000 at a profit of 25%.

   (d) Paid for rent Rs5,000.

2. What will be the effect of the following on the Accounting Equation
   (a) Harish started business with cash ₹ 1,80,000.

   (b) Purchased goods for cash ₹ 60,000 and on credit ₹ 30,000.

   (c) Sold goods for cash ₹ 40,000; costing ₹24,000.

   (d) Rent paid ₹ 5,000; and rent outstanding ₹ 2,000.

   (e) Sold goods on credit ₹ 50,000 (costing ₹ 38,000).

   (f) Salary paid in advance ₹ 3,000.

   [Ans. Assets: Cash Rs1,52,000+Stock ₹ 28,000+Debtors ₹ 50,000 + Prepaid Expenses ₹ 3,000 = Liabilities: Creditors ₹ 30,000+ Outstanding Expenses ₹ 2,000 + Capital ₹ 2,01,000.]

3. Prepare Accounting Equation from the following:-
   (a) Started business with cash ₹ 75,000 and goods ₹ 25,000.
   (b) Paid for rent ₹ 2,000.
   (c) Bought goods for cash ₹ 30,000 and on credit for ₹ 44,000.
   (d) Goods costing ₹ 50,000 sold at a profit of 25% out of which ₹ 27,500 received in cash.
   (e) Purchased a Motor-cycle for personal use ₹ 20,000.
   [Ans. Assets: Cash ₹ 50,500 + Stock ₹ 49,000 + Debtors ₹ 35,000 = Liabilities : Creditors ₹ 44,000 + Capital ₹ 90,500.]

4. Prepare Accounting Equation from the following and also prepare a Balance Sheet:-

   (a) Raghu started business with cash ₹ 1,50,000.

   (b) Bought goods for cash ₹ 80,000 and on credit for ₹ 40,000.

   (c) Goods costing ₹ 75,000 sold at a profit of $33\frac{1}{3}$%. Half the payment received in cash.

   (d) Goods costing ₹ 10,000 sold for ₹ 12,000 on credit.

   (e) Paid for rent ₹ 2,000 and for salaries ₹ 4,000.

   (f) Goods costing ₹ 20,000 sold for ₹ 18,500 for cash.
   [Ans. Assets : Cash ₹ 1,32,500 + Stock ₹ 5,000 + Debtors ₹ 62,000 = Liabilities : Creditors ₹ 40,000 + Capital ₹ 1,69,500 ; Balance Sheet Rs2,09,500.]

5. Prepare the Accounting Equation on the basis of the following:

   (a) Started business with cash ₹ 1,40,000 and Stock ₹ 2,50,000.

   (b) Sold goods (costing ₹ 50,000) at a profit of 25% on cost.

   (c) Deposited into bank account ₹ 1,80,000.

   (d) Purchased goods from Mohan ₹ 80,000.

   [Ans. Cash ₹ 22,500+Stock ₹ 2,80,000+Bank ₹ 1,80,000=Creditors ₹80,000+Capital ₹ 4,02,500.]

6. Prepare the Accounting Equation from the following:
   (a) Started business with cash ₹ 50,000 and goods ₹ 30,000.

(b) Purchased goods for cash ₹ 30,000 and on credit from Karan ₹ 20,000.

(c) Goods costing Rs40,000 were sold for Rs55,000 for cash.

(d) Withdrew cash for personal use Rs10,000.

(e) Rent outstanding ₹ 2,000.

7. Show the accounting equation on the basis of the following transactions and also the Balance sheet:

(a) Started business with cash ₹ 60,000 and goods ₹ 30,000.

(b) Purchased goods for cash ₹ 40,000 and on credit ₹ 25,000.

(c) Goods costing ₹ 48,000 sold at a profit of $33\frac{1}{3}$%.Three-fourth payment received in cash.

(d) Goods costing ₹ 20,000 sold at a loss of 5%, out of which ₹ 12,000 received in cash.

(e) Paid rent ₹ 4,000 and salary ₹ 6,000.

(f) Received cash from debtors ₹ 15,000.

(g) Paid telephone bill amounting to ₹ 800.

8. Show the Accounting Equation on the basis of the following transactions & prepare the Balance Sheet

(a) Ram commenced business with ₹ 30,000

(b) Paid rent in advance ₹1,200

(c) Purchase a typewriter for Rs.4,200

(d) Bought furniture from M/s Mohan Furniture on credit for ₹ 1,800

(e) Purchased goods from Sohan for cash ₹ 21,000

(f) Sold goods to Shyam for cash ₹ 24,000 (costing ₹ 18,000).

(g) Bought goods from Ramesh for ₹ 18,000.

(h) Sold goods to Naveen costing ₹ 18,000 for ₹ 30,000

(i) Purchased household goods for ₹ 9,000 giving ₹ 3,000 in cash and the balance through a loan.

(j) Goods destroyed by fire (Cost ₹ 300, Sale Price ₹ 360)

(k) Paid half the amount owed to Mohan Furniture.

(l) Paid cash ₹ 300 for loan and ₹ 180 for interest.

(m) Withdrew goods for personal use (Cost ₹ 300, sale price ₹ 360)

(n) Received ₹ 29,700 from Naveen in full settlement.

(o) Paid ₹ 17,820 to Ramesh in full settlement.

(p) Paid salary ₹ 300 and salary outstanding ₹ 60

(q) Charged depreciation of ₹ 180 on furniture and ₹ 60 on typewriter.

Subject: Business Studies

Instructions: Holiday Homework Completion will be considered in Internal Evaluation report.

1. 2 worksheets related to chapter- 1and 2 which includes objective questions and case studies.
2. Students will create a business plan with specific regulations given in start-up India scheme and will present in class as a ppt.
3. Students are required to choose any one topic to make a project file during their summer vacations.
   i. Visit to a mall
   ii. Visit to an industry
   iii. Visit to a wholesale market
   iv. Visit to a departmental store

   Students are required to observe and research about the following

   a. nature of business organisation
   b. factors affecting the location of business
   c. form of business enterprise – sole proprietorship, Partnership, Hindu Undivided family or a Joint stock company.
   d. Different stages of production process
   e. Auxiliaries involved in the process
   f. Methods of wage payment to the workers
   g. Social responsibilities discharged by the business
   h. Capital structure employed by the firm
   i. Storage of raw materials

<u>Presentation and submission of the Project</u>

- Total project must be in the file format consisting of graphs and pictures of the business
- Project must be handwritten project must include student information
- Cover page should include certificate, acknowledgement introduction with project title etc.

Internal assessment will be done on the following criteria

- Creativity
- Presentation
- Content, observation and research work and Viva

Subject: Psychology

PRACTICAL FILE

Students are required to prepare a Psychology Practical File based on a psychological topic or phenomenon. The practical file should reflect understanding of human behaviour, observation skills, analysis, creativity, and presentation. The file should be completely handwritten and research-based.

TOPICS FOR CASE PROFILE / SMALL STUDY

Students may choose ANY ONE topic from the following: **EMOTIONAL & MENTAL HEALTH TOPICS**

1. Anger Management in Adolescents
2. Stress and Coping Mechanisms
3. Anxiety Among Students
4. Emotional Regulation in Teenagers
5. Mental Health and Wellbeing
6. Self-esteem and Confidence
7. Loneliness and Social Isolation
8. Happiness and Emotional Wellbeing
9. Overthinking and Academic Stress
10. Emotional Impact of Failure and Success

SOCIAL PSYCHOLOGY TOPICS

11. Peer Pressure Among Teenagers
12. Impact of Social Media on Youth
13. Bullying and Cyberbullying
14. Friendship and Social Relationships
15. Cooperation and Competition
16. Group Behaviour in School Students
17. Leadership Qualities in Adolescents
18. Compliance and Obedience

19. Gender Roles and Stereotypes

20. Influence of Family Environment on Behaviour

COGNITIVE & LEARNING RELATED TOPICS

21. Attention Span in Students

22. Memory and Forgetting

23. Learning Styles in Adolescents

24. Motivation and Academic Performance

25. Role of Sleep in Concentration

26. Decision Making in Teenagers

27. Study Habits and Productivity

28. Problem Solving Ability in Students

29. Impact of Mobile Phones on Attention

30. Creativity and Thinking Patterns

PERSONALITY & DEVELOPMENT TOPICS

31. Personality Development in Adolescence

32. Introversion vs Extroversion

33. Identity Formation in Teenagers

34. Emotional Maturity in Adolescents

35. Role of Parenting Styles on Personality

36. Behavioural Changes During Adolescence

37. Goal Setting and Motivation

38. Self-control and Discipline

39. Empathy and Altruism

40. Communication Skills and Personality

MAIN TASK: Each student will choose ONE person to study and prepare a detailed psychological case profile based on the chosen topic. The person may be:

● a friend, ● sibling, ● parent, ● cousin, ● classmate, ● neighbour, ● or any adolescent/adult known to the student.

METHODS TO BE USED Students may use: ● Observation ● Interview ● Questionnaire ● Informal Interaction ● Behavioural Analysis

GENERAL INSTRUCTIONS

● The practical file should be completely handwritten.

● Use A-4 sized sheets.

● The file should be neat, organized, and creative.

● Use colourful sheets/charts if required.

● Paste relevant pictures, graphs, or illustrations neatly.

● All diagrams/pictures should have captions.

● Maintain proper headings and margins.

● Mention all sources in bibliography.

PRACTICAL FILE STRUCTURE

1. Cover Page Include: ● Title of the Project ● Student's Name ● Class & Section ● Roll Number ● Session ● School Name

2. Acknowledgement Write a short paragraph thanking: ● teacher, ● school, ● parents, ● and the participant.

3. Certificate "This is to certify that _____of Class _____has successfully completed the Psychology Practical File under the guidance of the Psychology teacher during the academic session 2026–27."

4. Index Include page numbers and headings.

5. INTRODUCTION Write about: ● Meaning of Psychology ● Importance of Psychology in daily life ● Importance of practical work in Psychology ● Explanation of the chosen topic (Students may include concepts from both Class XI and XII Psychology.)

6. AIM OF THE STUDY Example: "To study the impact of social media on attention span in adolescents."

7. OBJECTIVES Write 3–5 objectives related to the topic. Example: ● To understand behavioural patterns. ● To study emotional responses. ● To analyze psychological effects of the chosen phenomenon.

8. RESEARCH QUESTION Frame one psychological question related to the topic. Example: "How does peer pressure influence decision making in adolescents?"

9. SUBJECT DETAILS Category Information Name _____Age _____Gender _____ Occupation/Class _____Relationship with Student _____

10. METHODS USED Explain the methods used: ● Observation ● Interview ● Questionnaire ● Informal interaction

11. OBSERVATION Write behavioural observations of the subject: ● emotions, ● communication, ● habits, ● reactions, ● social behaviour, ● coping strategies, ● routines, etc.

12. INTERVIEW QUESTIONS Prepare 8–10 relevant questions related to the chosen topic. Example: ● What causes stress in your life? ● How do you manage anger? ● How much time do you spend on social media daily? ● What motivates you academically?

13. ANALYSIS AND INTERPRETATION Analyze: ● behavioural patterns, ● emotional reactions, ● strengths, ● weaknesses, ● coping styles, ● psychological findings. Explain how the observations answer the research question.

14. CONCLUSION Summarize: ● findings, ● understanding developed, ● behavioural insights, ● psychological significance of the topic.

15. LEARNING OUTCOMES Write what you learned through the project: ● understanding behaviour, ● conducting interviews, ● observing emotions, ● applying psychology practically.

16. BIBLIOGRAPHY Mention all sources referred: ● NCERT textbooks, ● articles, ● websites, ● journals, ● interviews, ● surveys, ● newspapers, etc.