Class 11 C
English Holiday Homework

1. Read the lessons:
   a) The Portrait of a Lady
   b) We are not afraid to die ...
   c) Discovering Tut

   Write the meanings of the hard words in your Notebook and frame meaningful sentences.

2. Solve the PT 1 Question Paper in your Notebook

COMPUTER SCIENCE

1. Revise and Practice Class 10 and 11 Python concepts covered.

2. Complete the notebook work , Output questions (by giving proper reason for the desired output) and programs given.

   Write a menu driven program that has options to

   - accept the marks of the student in five major subjects in Class X and display the same.

   - calculate the sum of the marks of all subjects.

   - Divide the total marks by number of subjects (i.e. 5), calculate percentage = total marks/5 and display the percentage.

   - Find the grade of the student as per the following criteria:

Criteria	Grade
percentage > 85	A
percentage < 85 && percentage >= 75	B
percentage < 75 && percentage >= 50	C
percentage > 30 && percentage <= 50	D
percentage <30	Reappear

3. Prepare program from If - elif - else and looping statement from the Reference book and Ncert.

4. A leap year is a year that consists of 366 (not 365) days. It occurs roughly every four years. More specifically, a year is considered leap if it is either divisible by 4 but not by 100 or it is divisible by 400.
   Write a program that asks the user for a year and replies with either leap year or not a leap year.

5. Program to arrange 3 numbers in descending order using if-else.

Subject-Yoga

1.1 Yoga Etymology, Aim, objectives and misconception text.
1.2 Yoga, Origin History and development.
1.3 Rules and Regulations to be followed by Yoga practitioners.
1.4 Ashtanga Yoga

Subject-Hindi

अभिव्यक्ति और मध्यम पुस्तक के पाठ दो 1-'पत्रकारिता के विविध आयाम' की सहायता से एक परियोजना कार्य तैयार कीजिए। जिसमें पत्रकारिता के विविध आयाम जैसे- समाचार, संपादकीय, विचार टिप्पणी,संपादकीय, कार्टून कोना और रेखांकन और कार्टोग्राफी को समझाते हुए दैनिक समाचार पत्र में आए इन आयाम की कटिंग काटकर फाइल पेज में चिपका कर उसका विवरण भी दीजिए।

2-अभिव्यक्ति और मध्यम की कॉपी में हिंदी वर्णमाला सुंदर अक्षरों में लिखे। और हिंदी शब्दकोश मे आये शब्द इस वर्णमाला से कैसे भिन्न है समझिए।

3-ग्रीष्मकालीन अवकाश में यादगार दिन अथवा घटना को डायरी शैली में लिखें।

4-पढ़ाए गए पाठों के दिए गए प्रश्नों के उत्तर को कॉपी में लिखें।

SUBJECT: ECONOMICS

WORKSHEET

CHAPTER-1 INTRODUCTION TO MICROECONOMICS

Note :Do this worksheet in Economics subject register

1. Scarcity of resources exists:

   a. at the micro level
   b. at the macro level
   c. micro as well as macro level
   d. none of these

2. Who controls economic activities under centrally planned economies?

a. Industrialists b. Government c. Private firms d. Consumers

3. Which of the following is related to the problem 'how to produce'?

   a. Factoral distribution of income
   b. choice of technique
   c. choice of product
   d. none of these

4. When an economy is operating on the PPC, it indicates:

   a. potential output> actual output
   b. potential output= actual output
   6. potential output<actual output
   c. None of the above.

5. Concavity of PPC implies:

   a. increasing slope
   b. decreasing slope
   c. constant slope
   d. none of these

6. The opportunity cost of 100 kg of rice produced on a land which can also produce 80 tonnes of wheat is:

   a) 100 kg of wheat

b) 80 tonnes of wheat
c) 8,000 tonnes of wheat
d) none of these

7. State the two characteristics of resources.

8. What is the problem of choice?

9. What do you mean by economising the use of resources?

10. What is the problem of resource allocation?

Q. 11. PREPARE A QUESTIONNAIRE TO KNOW THE POPULARITY OF JUNK FOOD AMONG TEENAGERS.

Sub: Accountancy

Answer the following questions:-

1. Explain the following concepts with example
   I.   Business Entity
   II.   Money measurement
   III.   Going concern
   IV.   Accounting Period
   V.   Dual concept
   VI.   Revenue Recognition
   VII.   Matching concept
   VIII. Consistency concept
   IX.   Conservatism concept
   X.   Materiality concept
   XI.   Objectivity concept
   XII.   Cost concept

2. Why is it necessary for accountants to assume that business entity will remain a going concern?

3. Why should revenue be recognised? Are there exceptions to the general rule?
4. Why is it important to adopt a consistent basis for the preparation of financial statements? Explain
5. Why is the evidence provided by Source documents important to accounting?
6. Explain GST with its characteristics and advantages.
7. Writ short note on systems of accounting & Basis of Accounting
8. Write the difference between Cash basis of accounting and Accrual basis of accounting.
9. Define Accounting standards, it's need , benefits and limitations.
10. Solve NCERT text book, Accounting Equation   - que. No. 1 to 9.

Business Studies

1. **Visit** any business unit in your locality. Interact with the owner to find out the steps in starting the business. Prepare a project report of your visit.

2. **Answer the following:-**
    a. Types of industries with example
    b. Objectives of business

3. Read chapter 1 and chapter 2 thoroughly.

Sets

1. Decide, among the following sets, which are subsets of which.

   $A = \{x : x$ is a solution of $x^2 - 8x + 12 = 0\}$, $B = \{2, 4, 6\}$,

   $C = \{x : x$ is an even natural number$\}$, $D = \{6\}$.

2. State whether each of the following statements is true or false for the sets A and B where

   $A = \{x : x$ is a letter in the word TRACT$\}$,

   $B = \{x : x$ is a letter in the word CATARACT$\}$

   (i) $n(A) = 5$ (ii) $n(B) = 8$ (iii) $A \subset B$

   (iv) A is a proper subset of B   (v) $A = B$.

3. Let ξ = the set of all letters in the word 'TAMILNADU' and

   $X = \{x : x$ is a vowel and $x \in \xi\}$

   (i) Write ξ and X in the roster form.

   (ii) Tell $n(\xi)$ and $n(X)$.

   (iii) List all the proper subsets of X.

   (iv) What is the cardinal number of the power set of X?

4. Let A be the set of letters in the word "POOR". Write the power set of A.

5. Find the power sets of the following sets:

   (i) $\{-1, 0, 1\}$ (ii) $\{0, 1, \{0, 1\}\}$.

6. If $A = \{2, 3, 5, 7, 8\}$, $B = \{1, 5, 9\}$ and $A' = \{1, 4, 6, 9\}$, verify that

   (i) $(A \cup B)' = A' \cap B'$ (ii) $B - A = A' \cap B$.

7. For all sets A, B and C, is $A - (B - C) = (A - B) - C$ true? Justify your answer.   (Exemplar)

8. If $n(\xi) = 30$, $n(A') = 15$, $n(B) = 5$ and $n(A \cap B) = 3$, find

   (i) $n(A)$ (ii) $n(A \cup B)$ (iii) $n(A - B)$.

9. If $n(\xi) = 40$, $n((A \cup B)') = 12$, $n(A - B) = 10$ and $n(B - A) = 14$, find

   (i) $n(A)$ (ii) $n(B)$ (iii) $n(A \cap B)$.

10. Two sets A and B are such that $n(A \cup B) = 18$, $n(A' \cap B) = 3$ and $n(A \cap B') = 5$, find $n(A \cap B)$.

11. Two sets A and B are such that $n(A \cup B) = 21$, $n(A' \cap B') = 9$ and $n(A \cap B) = 7$, find $n((A \cap B)')$.

12. If $n(\xi) = 50$, $n(A) = 3x$, $n(B) = 2x$ and $n(A \cap B) = x = n((A \cup B)')$, find

    (i) the value of x (ii) $n(A - B)$.

13. If $n(\xi) = 15$, A and B are two sets such that $A \subset B$, $n(A) = 8$ and $n(B) = 12$, use Venn diagram to find the following:

    (i) $n(A')$ (ii) $n(B')$ (iii) $n(A \cap B')$ (iv) $n(A' \cap B)$.

Sets

14. In a survey of 400 students in a school, 100 were listed as drinking coffee, 150 as drinking tea and 75 were listed both coffee as well as tea. Find how many students were drinking neither coffee nor tea.

15. In an examination, 56 percent of the candidates failed in English and 48 percent failed in Science. If 18 percent failed in both English and Science, find the percentage of those who passed in both the subjects.

16. From amongst the 6000 literate individuals of a city, 50% read newspaper A, 45% read newspaper B and 25% read neither A nor B. How many individuals read both the newspapers A as well as B?

17. In a beauty contest, half the number of judges voted for Miss A, $\frac{2}{3}$ of them voted for Miss B, 10 voted for both and 6 did not vote for either Miss A or Miss B. Find how many judges, in all, were present there.

18. In a group of 50 students, the number of students studying French, English and Sanskrit were found to be as follows:

    French = 17, English = 13, Sanskrit = 15;

    French and English = 9, English and Sanskrit = 4, French and Sanskrit = 5;

    English, French and Sanskrit = 3.

    Find the number of students who study:

    (i) French only   (ii) French and Sanskrit but not English

    (iii) English only   (iv) French and English but not Sanskrit

    . (v) Sanskrit only   (vi) English and Sanskrit but not French

    (vii) atleast one of the three languages   (viii) none of the three languages. (*Exemplar*)

19. If A and B are two sets such that $n(A) = 10$ and $n(B) = 7$, then find:

    (i) the least value of $n(A \cap B)$ (ii) the greatest value of $n(A \cap B)$

    (iii) the greatest value of $n(A \cup B)$ (iv) the least value of $n(A \cup B)$.

Relations and Functions

1. If f and g are real functions defined by $f(x) = x^2 + 7$ and $g(x) = 3x + 5$, then find the values of

   (i) $f(3) + g(-5)$ (ii) $f(-2) + g(-1)$ (iii) $f\left(\dfrac{1}{2}\right) \times g(14)$

   (iv) $f(t) - f(-2)$ (v) $\dfrac{f(t) - f(5)}{t - 5}, t \neq 5$

                                                                    (Exemplar)

2. If $f(x) = e^x$ and $g(x) = \log x$, then find:

   (i) $(f - g)(1)$ (ii) $(fg)(1)$ (iii) $\left(\dfrac{f}{g}\right)(3)$

3. If f and g are two real valued functions defined by $f(x) = 2x + 1$ and $g(x) = x^2 + 1$, then find the following functions:

   (i) $f + g$ (ii) $f - g$ (iii) fg (iv) $\dfrac{f}{g}$ (Exemplar)

4. If $f(x) = x^3 + 1$ and $g(x) = x + 1$ be two real functions, then find the following functions:

   (i) $f + g$ (ii) $g - f$ (iii) fg (iv) $\dfrac{f}{g}$ (v) $2g^2 - 3f$.

5. If $f(x) = \sqrt{x - 2}$ and $g(x) = \sqrt{x^2 - 1}$ be two real valued functions, then find the following functions:

   (i) $f + g$ (ii) $g - f$ (iii) fg (iv) $3f - 2g$

   (v) $\dfrac{f}{g}$ (vi) $2f^2 + \sqrt{3}g$ (vii) $\dfrac{1}{f}$ (viii) $\dfrac{g}{f}$.

6. If $f(x) = x^3 - \dfrac{1}{x^3}$, prove that $f(x) + f\left(\dfrac{1}{x}\right) = 0$.   (Exemplar)

7. If $f(x) = x + \dfrac{1}{x}$, prove that $(f(x))^3 = f(x^3) + 3f\left(\dfrac{1}{x}\right)$.

8. If $y = f(x) = \dfrac{6x - 5}{5x - 6}$, prove that $f(y) = x, x \neq \dfrac{6}{5}$.

Relations and Functions

1. If $A = \{1, 2, 3\}$, $B = \{4, 5\}$ and $C = \{5, 6\}$, then verify that
   (i) $A \times (B \cup C) = (A \times B) \cup (A \times C)$ (ii) $A \times (B \cap C) = (A \times B) \cap (A \times C)$
   (iii) $A \times (B - C) = (A \times B) - (A \times C)$.

2. Let $A = \{2, 4, 6, 8\}$ and $B = \{0, 6, 8, 9, 10\}$. Find the elements of $(A \cap B) \times (A - B)$ corresponding to the relation 'is a multiple of'.

3. Let $A = \{6, 7, 8, 10\}$, $B = \{2, 4, 5\}$, $a \in A$, $b \in B$ and R be the relation from A to B defined by $a\,R\,b$ if and only if a is divisible by b. Write R in the roster form.

4. Let $R = \{(x, y); x + 2y < 6, x, y \in N\}$
   (i) Find the domain and the range of R   (ii) Write R as a set of ordered pairs.

5. Let $R = \{(x, y); y = x + 1 \text{ and } y \in \{0, 1, 2, 3, 4, 5\}\}$.
   (i) List the elements of R.   (ii) Represent R by an arrow diagram.

6. Let f be the subset of $Q \times Z$ defined by $f = \left\{\left(\dfrac{m}{n},\ m\right) : m, n \in Z, n \neq 0\right\}$. Is f a function from Q to Z? Justify your answer.

7. Let $f : X \to Y$ be defined by $f(x) = x^2$ for all $x \in X$ where $X = \{-2, -1, 0, 1, 2, 3\}$ and $Y = \{0, 1, 4, 7, 9, 10\}$.
   Write the relation f in the roster form. Is f a function?

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

9. Determine a quadratic function 'f' defined by
   $f(x) = ax^2 + bx + c$ if $f(0) = 6, f(2) = 11$ and $f(-3) = 6$.

10. Find the domain and the range of the function $f(x) = 2 - 3x^2$. Also find $f(-2)$ and the numbers which are associated with the number -25 in its range.

11. Find the domain and the range of the following functions:
    (i) $\sqrt{x - 3}$ (ii) $\sqrt{25 - x^2}$ (iii) $5 - |x + 1|$.

12. Draw the graph of the function $f(x) = \begin{cases} 1 + 2x, & x < 0 \\ 3 + 5x, & x \geq 0 \end{cases}$.
    Hence, find its range.

13. If $f(x) = 2x + 5$ and $g(x) = x^2 - 1$ are two real valued functions, find the following functions:
    (i) $f + g$ (ii) $f - g$ (iii) fg (iv) $\dfrac{f}{g}$ (v) $\dfrac{g}{f}$ (vi) $3g + 2f^2$.

Trigonometry

1. Find the value of tan 1° tan 2° tan 3° ... tan 89°.

2. If tan θ = 3 and θ lies in the third quadrant, then find the value of sin θ.

3. Write $\tan\left(\dfrac{3\pi}{2} + \theta\right)$ in terms of θ.

4. Range of secant function is $R - (-1, 1)$. State true or false.

5. Find the value of $\sin\left(\dfrac{-11\pi}{3}\right)$.

6. Find the value of $\cot\left(\dfrac{-15\pi}{4}\right)$.

7. Find the value of cos 210°.

8. Find the value of tan(−1125°).   **[DoE]**

Section A

9. Find the value of $\sin\dfrac{5\pi}{3}$.

10. Prove that

    tan 225° . cot 405° + tan 765° . cot 675° = 0.

11. Prove that

    $$2\sin^2\dfrac{3\pi}{4} + 2\cos^2\dfrac{\pi}{4} + 2\sec^2\dfrac{\pi}{3} = 10$$

12. Simplify

    $$\dfrac{\tan(90° - \theta)\sec(180° - \theta)\sin(-\theta)}{\sin(180° + \theta)\cot(360° - \theta)\csc(90° - \theta)}.$$

13. Find x from the equation: cosec(90° + A) + x cos A cot(90° + A) = sin(90° + A).

14. Prove that $\dfrac{\sin 225° - \cos 120°}{\sin 225° + \cos 120°} = (3 - 2\sqrt{2})$.