DAV POLICE PUBLIC SCHOOL

New Police Lines, Panipat

Vacation Work (2026-27)

Class- XI (Commerce)

ENGLISH CORE (301)

Project Work:

Each student should prepare and submit his/her Project Work Report. Following essentials need to be fulfilled for its preparation and submission.

The following parameters will be applicable for the topic:

1. The entire project should be in file format.
2. The project should be handwritten in blue/ black pen (Highlighters can be used).
3. The project report should be developed in the following sequence-
    * Cover page: School Name, Title Statement, Name of the student and year / Session.
    * Index (List of contents)
    * Acknowledgement
    * Certificate
    * Introduction Statement (The purpose of the project)
    * Detailed project report
    * Learning outcomes/experiences
    * Use A4 size sheets
    * Project work should be well illustrated with relevant / related / supportive photos/pictures there of

    *Total pages: 10-15

Topics are allotted section wise which are mentioned below:

A1- THE PORTRAIT OF A LADY
A2 – We're NOT AFRAID TO DIE. IF WE CAN ALL BE TOGETHER
A3 – THE ADDRESS
B1- A PHOTOGRAPH
C1& C2- THE SUMMER OF THE BEAUTIFUL WHITE HORSE

ACCOUNTANCY

- Chapter 2:- Basic Terms
- Chapter 6:- Accounting Equation
- Chapter 9:- Journal Entries (upto illustration 10)

Project Work:
Each student should prepare and submit his/her Project Work Report.

BUSINESS STUDIES

- Chapter 1:- Evolution of Business
- Chapter 2:- Forms of Business (Sole Proprietorship and Partnership)

Project Work:
Make a comprehensive project on
1. Visit to a handicraft unit
2. Visit to a mall
3. Auxiliaries of business
4. Insurance and types of Insurance
5. Export and Import and the documents required for the licence
6. Company and the documents required fir its incorporation

Each student should prepare and submit his/her Project Work Report.

ECONOMICS

Ch- 1Concepts of Economics and significance of Statistics in Economics
Ch-2 Collection of Data
Ch-3 Census and Sample
Ch-5 Theory of Demand
Ch-6 Elasticity of Demand

- Revise all the chapters and do 30 numerical of Elasticity of Demand
- Do practice of Diagrams of Theory of Demand

Topics for project work

- Collection of Primary and Secondary Data
- Organisation and Presentation of Data
- Measures of Central Tendency
- Correlation
- Consumer Awareness
- Demand and Elasticity of Demand
- Supply and Elasticity of Supply
- Consumer Equilibrium and Utility Analysis

- Forms of Market and Price Determination under Perfect Competition
- Demand and Elasticity of Demand
- Supply and Elasticity of Supply
- Consumer Equilibrium and Utility Analysis
- Forms of Market and Price Determination under Perfect Competition
- Following essentials need
  to be fulfilled for its preparation and submission.

  Note :Parameters to be fulfilled for completion of the project report for ACCOUNTACY, BUISINESS STUDIES AND ECONOMICS
  The following parameters will be applicable for the topic:
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  pictures thereof
  *Total pages: 30- 40

MATHEMATICS (041)

- Revise the following chapters
  Chapter 1 - Sets
  Chapter 2 - Relations and functions

- Do Lab Manual Activity 1 (Set Theory) and Activity 2 (Elementary Set Theory) in Practical File.
- Solve the assignment questions in separate Notebook.

PAINTING (049)

Complete your 10 page in art file (05 with pencil shading and 5 with colour. **One student submit one project.**

Project work (Note Canvas board size 15 inch/18 inch)

- Buddha painting on Canvas board with acrylic color.
- Mandala painting on canvas board with acrylic color.
- Lippan art painting on MDF board and canvas with acrylic color and mirror work.
- African painting on MDF board and canvas with acrylic color.
- Warli art painting on canvas board with color and permanent marker

PSYCHOLOGY

Solve the assignment shared.

INFORMATICS PRACTICES / ARTIFICIAL INTELLIGENCE

- Write any 10 programs of Python Basic based on Operators and Variables in lab manual and practice.

PHYSICAL EDUCATION

Do all the assigned work in lab manual:

a) Write down 3 Test in Lab Manual
- 1. Body Mass Index Test (BMI)
- 2. Flamingo Balance Test
- 3. Sit and Reach Test

b) Write down any one Game and Diagram should be hand made .

c) Do practice of 5 Yoga Asan :
- Gomukhasana
- Setubandhasana
- Baddhapadmasana
- Garudasana
- Shalabhasana

DAV POLICE PUBLIC SCHOOL
Holiday Homework (2026-27)
Class- XI (COMMERCE)

ENGLISH

Instructions:

- Complete all tasks neatly in your English notebook.
- Follow the word limit and format guidelines strictly.
- Submit the homework on the first day after the vacation.
- Originality will be appreciated. Avoid plagiarism.
- Use your creativity where required

(I) Fill in the blanks choosing the most appropriate options from the one given below..

1.Marita read the newspaper sitting (a)…….. the library. She read about a woman (b)…….. had climbed Mt. Everest. Marita said, ” Maybe, one day I (c)…… climb it too.’’

(a) (i) the (ii) in (iii) along (iv) on
(b) (i) which (ii) whose (iii) who (iv) she
(c) (i) is (ii) was (iii) are (iv) shall

2. There is a general belief (a) …… students that (b)……. who write long sentences get (c) …….marks.

(a) (i) in (ii) of (iii) among (iv) between
(b) (i) they (ii) those (iii) all (iv) them
(c) (i) more (ii) many (iii) most (iv) much

3. As soon as I saw the elephant, I knew certainly that I ought not (a) _____ him. But at the moment I (b) _____ round at the crowd that had followed me and were eager (c) _____ fun and meat. The crowd (d) _____ the road for a long distance on either side.

(a) (i) shoots (ii) is shooting (iii) shot (iv) shoot
(b) (i) glances (ii) glanced (iii) is glancing (iv) will be glancing
(c) (i) follow (ii) follows (iii) following (iv) had followed
(d) (i) has blocked (ii) had blocked (iii) will be blocked (iv) blocks

4. Yesterday, as I (a) _____ along the mall, a taxi (b) _____ near me. A man (c) _____ me by my first name. I (d) _____ as I failed to recognise the man, who (e) _____ and repeating my name.

(a) (i) walks (ii) is walking (iii) was walking (iv) had been walking
(b) (i) stopped (ii) stops (iii) to stop (iv) will stop
(c) (i) addressing (ii) addressed (iii) to address (iv) has addressed
(d) (i) is surprised (ii) was surprised (iii) surprising (iv) to surprise
(e) (i) smiles (ii) to smile (iii) was smiling (iv) has been smiling

(II) Read the following sentences and change them into Indirect speech.

1. My uncle said, "I am cooking lunch."
2. My brother said, "I had already eaten."
3. The old lady said to the girl, "Where do you come from?"
4. Jon said, "I like to play rugby."
5. I said to Daniel, "Are you reading this book?"
6. My mother said to me, "Help me carry this bag."
7. I said to Alka, "How long will you stay here?"
8. Raj said to Simran, "Have you ever been to the National Museum?"
9. The teacher said to Vivek, "Draw the diagram of the plant's parts."
10. Rohan said, "I am playing the piano."

(III) Speech Writing

1. The increasing amount of time spent playing indoor games has been a major cause of decreasing the outdoor appearance of children. With this concern, write a speech to be delivered in the morning assembly in 120-150 words. You are Parag/Pragati.
2. You have to speak in the school's morning assembly on 'The Harm that Mobile Phones and Smartphones are Creating in Students' Lives'. Write the speech in 120-150 words. You are Javed/Jyotsana of class XI-A.

(III) Answer the following questions in 120-150 words.

1. Explain how the title 'The Portrait of a Lady' suits the writing.
2. What impression do you form of the poetess and the poetess's mother after reading the poem 'A Photograph'?
3. How did the narrator and his companions save the boat from sinking?
4. Narrate the story of the stolen white horse.
5. Contrast the character of the narrator's mother and Mrs Dorling.

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A1- THE PORTRAIT OF A LADY

A2- A PHOTOGRAPH

A3- “WE’RE NOT AFRAID TO DIE..IF WE CAN ALL BE TOGETHER”

B1- THE LABURNAM TOP

C1- THE SUMMER OF THE BEAUTIFUL WHITE HORSE

C2-THE ADDRESS

DAV POLICE PUBLIC SCHOOL
MATHEMATICS (XI)
HOLIDAYS's HOMEWORK

Chapter 1: Sets

MCQs

1.The set $A = \{x : x \in R, x^2 = 16 \text{ and } 2x = 6\}$ equals
(a) ϕ (b) {3,4} (c){3} (d) {4}

2. Which of the following is true?
(a) $a \in \{\{a\}, b\}$ (b) $\{b, c\} \in \{a, \{b, c\}\}$
(c) $\{a, b\} \in \{a, \{b, c\}\}$ (d) None of these

3. Which of the following is a singleton set?
(a) $\{x : |x| = 5, x \in N\}$ (b) $\{x : |x| = 6, x \in Z\}$
(c) $\{x : x^2 + 2x + 1 = 0, x \in N\}$ (d) $\{x : x^2 = 7, x \in N\}$

4. If A and B are two sets, then $A \cap (A \cup B)'$ is equal to
(a) A (b) B (c) ϕ (d) None of these

5. The number of the proper subset of {a, b, c} is:
(a) 3 (b) 8 (c) 6 (d) 7

6. In a group of 52 persons, 16 drink tea but not coffee, while 33 drink tea. How many persons drink coffee but not tea?
(a) 17 (b) 36 (c) 23 (d) 19

7. Which of the following sets is a finite set?
(a) A = {x : x ∈Z and $x^2 - 5x + 6 = 0$} (b) B = {x : x ∈Z and x^2 is even}
(c) C = {x : x ∈Z and x > −10} (d) All of these

8. Which of the following is a null set?
(a) {0} (b) {x: x > 0 or x < 0}
(c) {x: x 2 = 4 or x = 3} (d) {x : x 2 + 1 = 0, x ∈**R**}

9. Let P be a set of squares, Q be set of parallelograms, R be a set of quadrilaterals and S be a set of rectangles. Consider the following :
I. P ⊂Q II. R ⊂P III.P ⊂S IV. S⊂R
Which of the above are correct?
(a) I, II and III (b) I, III and IV (c) I, II and IV (d) III and IV

10. Write $\{x: x \in R, -12 < x \leq -10\}$ as intervals.
(a) $(-12, -10)$ (b) $(-12, -10]$ (c) $[-12, -10]$ (d) $[-12, -10)$

1 Mark Each

11. Write all subsets of set {1, 3, 9}

12. Write {14, 21, 28, 35, ……., 98} in set builder form.

13. Write the following set in the roster form:
A={x: x is a positive integer les that 10 and $2^x - 1$ is an odd number}

14. If A and B are two finite sets, then $n(A) + n(B)$ is equal to _____.

15. Write set builder form of set $\left\{\frac{1}{2}, \frac{2}{5}, \frac{3}{10}, \frac{4}{17}, \frac{5}{26}\right\}$.

16. Write down all possible subsets of {1,{1}}

17. Two sets have m and n elements. Then number of subsets of the first set is 56 more than that of the subsets of second set. Find the value of m and n.

2 Marks Each

18. Write the following sets in roster form:
(i) A=$\{x: x \text{ is an integer and } -3 \leq x < 7\}$
(ii) B={x: x is a natural number less than 6}
(iii) C={x: x is a two digit natural number such that the sum of the digit is 9}
(iii) D= {x: x is a prime number which is divisor of 60}

19. A={3,5,7,9,11}, B={7,9,11,13},C={11,13,15} and D={15,17} find $A \cap (B \cup D)$

20. If A={2,4,6,8,10}, B={1,2,3,4,5,6,7} and C={2,6,7,10} then show that
$A - (B \cup C) = (A - B) \cap (A - C)$

21. If U={1,2,3,4,5,6,7,8,9}, B={1,2,3,4}, C={2,4,6,8} and C={3,4,5,6} find:
(i) $(A \cup B)'$ (ii) $A - (B - A)$

22. Write the following as intervals:-
(i)$A = \{x: x \in R, -4 < x \leq 6\}$ (ii) $B = \{x: x \in R, 0 \leq x \leq 10\}$
(iii) $C = \{x: x \in R, -3.2 < x \leq 1.5\}$ (iv) $D = \{x: x \in R, 7/4 < x < 4/5\}$

23. Prove that
(i) $(A \cup B)' = A' \cap B'$ (ii) $(A \cap B)' = A' \cup B'$

3 Marks Each

24. Draw the venn diagrams to illustrate the following relationship among set E, M and U where E is the set of students studying English in a school, M is the sets of students studying Mathematics in the same school, U is the set of all student in that school.
(a) All the students who study Mathematics study English also, but some students who study English do not study Mathematics.
(b) There is no student who studies both Mathematics and English.
(c) Some of the students study Mathematics but do not study English, some study English but do not study Mathematics and some study both.
(d) Not all students study Mathematics but every student studying English studies Mathematics.

25. If U={1,2,3,4,5,6,7,8}, A={1,2,3,4}, B={3,4,6}, C={5,6,7,8} then verify that
(i) $A - (B \cup C) = (A - B) \cap (A - C)$
(ii) $(A \cup B)' = A' \cap B'$
(iii) A$\cup$ $(B \cap C) = (A \cup B) \cap (A \cup C)$

26. If U={1,2,3,4,5,6,7,8,9}, X={1,3,5,9}, Y={2,3,4,6}, Z={1,9} Find

(i) X′	(ii) $X' \cap Y'$	(iii) $X \cap (Y \cup Z)$	(iv) $X \cup (Y \cap Z)$
(v) $X - Y$	(vi) $Y - X$	(vii) $(X \cap Y) \cup (Y \cap Z)$	(viii) X$\cap$ Y'

27. Let A and B be two sets. If $A \cap X = B \cap X = \phi$ and $A \cup X = B \cup X$ for some set X Prove that $A = B$

28. From 50 students taking examinations in Mathematics, Physics and Chemistry, each of student has passed in at least one of the subject, 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 has passed all three examination?

29. In a survey of 60 people, it was found that 25 people read newspaper H, 26 read newspaper T, 26 read newspaper I, 9 read both H and I, 11 read both H and T, 8 read both T and I, 3 read all three newspapers. Find:
(i) the number of people who read at least one of the newspapers
(ii) the number of people who read exactly one newspaper

30. Draw the venn diagram of each of the following

(i) A'	(ii) $A - B$	(iii) $A \cup B$	(iv) $A \cap B$
(v) $(A \cup B)'$	(vi) $(A \cap B)'$	(vii) $A' \cap B'$	(viii) $A' \cup B'$
(ix) $A \cup B \cup C$	(x) $(A - B) \cup (B - A)$	(xi) $(A \cap B) \cup (A \cap C)$	(xii) $A \cup B - C$

31. **Case study-1**
Two non- empty sets A and B are given by:
A={x:x is a letter in ' I LIKE MATHEMATICS}
B={x:x is a letter in ' I LIKE STATISTICS}
Based on the above information, answer any four of the following questions:

(a) Which set is a subset of other.	(b) What will be A$\cup$B
(c) What will be A$\cap$B	(d) What will be $B - A$

32. **Case Study-2**
You are the manager of a local supermarket, and you have three sets of products that represent different categories of items in your store : Set A={1,3,4,5,7,9} represents the inventory of fruits. Set B={0,2,4,6} represents the inventory of dairy products. Set C={4,7,8,9} represents the inventory of customer-favorite items. Your goal is to optimize your supermarket's inventory and customer satisfaction. You plan to use set operations to make informed decisions.
(i) Which items can you offer to your customers if you combine the inventories of fruits (A) and dairy products (B)?
(ii) You want to stock items that are both fruits (A) and customer favourites (C). Find the items.
(iii) To maximize sales, you want to offer products that are either fruits (A) or items that are both dairy products (B) and customer favourites (C). Find the items.

33. **Case study -3**

The sum of cardinal numbers of two finite sets A and B is 9. The ratio of number of subsets of set A is to number of set B is 8:1. Based on above information answer the following questions:

(i) What is the cardinal number of set A?

(ii) What is the cardinal number of set B?

(iii) What is maximum value of $n(A \cup B)$?

(iv) If B is subset of A, then what is $n(A \cap B)$?

Chapter 2: Relations and Functions

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

(a) $\alpha = 1, \beta = 1$ (b) $\alpha = 2, \beta = -1$ (c) $\alpha = 1, \beta = -2$ (d) $\alpha = -2, \beta = -1$

2. If $f(x) = x^3 - \frac{1}{x^3}$ then $f(x) + f\left(\frac{1}{x}\right)$ is equal to

(a) $2x^3$ (b) $2\frac{1}{x^3}$ (c) 0 (d) 1

3. Domain of $\sqrt{a^2 - x^2}$, (a>0) is

(a) (–a, a) (b) [–a, a] (c) [0, a] (d) (–a, 0]

4. The domain of the function f defined by $f(x) = \frac{1}{\sqrt{x-|x|}}$ is

(a) R (b) R^- (c) R^+ (d) ϕ

5. The domain of the function f defined by $f(x) = \frac{1}{\sqrt{x+|x|}}$ is

(a) R (b) R^- (c) R^+ (d) ϕ

6. Consider the following statements.

I. The relation $R = \{(x, x^3) : x \text{ is a prime number less than } 10\}$ is $\{(3, 27), (5, 125), (7, 343)\}$

II. The range of the relation

$R = \{(x + 2, x + 4) : x \in N, x < 8\}$ is $\{1, 2, 3, 4, 5, 6, 7\}$.

Choose the correct option.

(a) Only I is true (b) Only II is true (c) Both are true (d) Both are false

7. If $f : R \to R$ is defined by $f(x) = 3x + |x|$, then $f(2x) - f(-x) - 6x =$

(a) f(x) (b) 2f(x) (c) – f(x) (d) f(– x)

8. If $(4x + 3, y) = (3x + 5, -2)$, then the sum of the values of x and y is

(a) 0 (b) 2 (c) –2 (d) 1

9. The number of elements in the set $\{(x, y) : 2x^2 + 3y^2 = 35, x, y \in Z\}$, where Z is the set of all integers,

(a) 8 (b) 2 (c) 4 (d) 6

10. If n (X) = 5 and n (Y) = 7, then the number of relations on X ×Y is 2^k. The value of 'k' is

(a) 5 (b) 7 (c) 35 (d) 12

1 Mark Each

11. Given A={1,2,3,4,5} and R ={(x, y): $x \in$ A, $y \in$ B } find the ordered pairs which satisfy the condition $x + y < 5$.

12. If A={$-1,1$} find A×A×A

13. If A={$x: x \in W, x < 2$}, B={$x: x \in N, 1 < x < 5$} and C={3,5} then find A×(B∪C).

14. If A ⊆ B, prove that A × C ⊆ B × C for any set C.

15. $If\ y = f(x) = \frac{ax-b}{bx-a}$ prove that $f(y) = x$

16. Let f be a function defined by the rule $f(x) = 4x^2 + 2x - 3$ find $f(2)$ also $f(f(1))$

2 Marks Each

17. Find range of the following:

(i) $f(x) = -|x|$ (ii) $f(x) = \frac{x^2-16}{x-4}$

18. Let R be the set of real numbers. Define a real function $f: \boldsymbol{R} \to \boldsymbol{R}$ by $f(x) = x + 10$. Sketch the graph of the function.

19. In the set of natural numbers, Let R be a relation defined as a R b if and only if a, b ∈ N and $a + 2b = 11$. Write relation in roster form also write domain and range.

20. Let A be a non-empty set such that A×B= A×C. Show that $B = C$.

21. Let A={1,2,3,4,……..25} and R is a relation "is one fourth of" in A . Write R as a subset of A×A. Also find domain and range of R.

22. Let $f = \{(1,1), (2,3), (0,-1), (-1,-3), \ldots \ldots \ldots\}$ be a function from Z to Z defined by $f(x) = ax + b$, for some integer a and b. Determine a and b.

23. Let A be the set of first ten natural numbers and let R be a relation on A defined by $(x, y) \in R \leftrightarrow x = y^2$. Express R as sets of ordered pairs and also find R^{-1}.

3 Marks Each

24. Let A = {1, 2, 3, 4, 5, 6}. Define a relation R from A to A by R = {$(x, y) : y = x+1$}
(i) Depict this relation using an arrow diagram.
(ii) Write down the domain, co-domain and range of R.

25. Let $P = \{x: x < 3,\ x \epsilon N\}, Q = \{x: x <= 2, x \in W\}$ Find $(P \cup Q) \times (P \cap Q)$ where W is a set of whole numbers.

26. Let A = {0, 1, 2, 3}, B = {3, 4} and C = {4,5,6}. Find

(i) $A \times (B \cap C)$ (ii) $(A \times B) \cap (A \times C)$

(iii) $A \times (B \cup C)$ (iv) $(A \times B) \cup (A \times C)$

27. Prove Let A = {1, 2, 3, 4, 6}. Let R be the relation on A defined by $\{(a, b): a, b \in A, b$ is exactly divisible by $a\}$.

(i) Write R in roster form

(ii) Find the domain and range of R

(iii) Find R^{-1}.

28. Let R be a relation from **N** to **N** defined by $R = \{(a, b) : a, b \in \mathbf{N}$ and $a = b^2\}$. Are the following true?

(i) $(a, a) \in R$, for all $a \in \mathbf{N}$

(ii) $(a,b) \in R$, implies $(b,a) \in R$

(iii) $(a, b) \in R$, $(b,c) \in R$ implies $(a,c) \in R$.

29. Let $f, g: \boldsymbol{R} \to \boldsymbol{R}$ be defined, respectively by $f(x) = x + 1, g(x) = 2x - 3$

find $f + g,\ f - g,\ f.g,\ f/g$

30. Let $f = \left\{\left(x, \frac{x^2}{1+x^2}\right) : x \in \boldsymbol{R}\right\}$ be a function from **R** to **R** Determine the range of f.

31. Define greatest integer function. Draw graph. Write domain and range also.

32. Find domain and range of $f(x) = \frac{x}{1+x^2}$

33. Draw the graph of function $f(x) = x + |x + 1|$. Hence find the range.

34. If $f(x)$ is a real function defined by $f(x) = \frac{x-1}{x+1}$ then prove that $f(2x) = \frac{3f(x)+1}{f(x)+3}$

35. Find domain of following

(i) $\frac{x^3+3x-4}{x^2-8x+12}$ (ii) $\sqrt{3 - 2x - x^2}$ (iii) $1 - |x - 2|$

36. Find the domain and range of the following

(i) $f(x) = \sqrt{4 - x^2}$ (ii) $f(x) = \frac{|x-1|}{x-1}$ (iii) $[x] - x$ (iv) $\sqrt{x^2 - 16}$