



# **S.B.P. D.A.V. Centenary Public School, Fatehabad.**

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## **Assignments for Summer Vacations (2025-26) for Class XI ARTS**

### **General Instructions:**

1. *Get up early in the morning and go out for a walk daily. Do yoga daily for healthy living.*
2. *Make a Bird feeder and add seeds for birds daily and also place water for them.*
3. *Raise a small kitchen garden by planting seeds.*
4. *Learn any one folk song.*
5. *Help your mother in cooking and learn vegetable cooking and salad decoration.*
6. *The summer break for classes VI-XII will be from 01.06.2025 to 01.07.2025 (Both days inclusive). School will reopen on 02.07.2025.*
7. *Revise the syllabus of all subjects done before summer vacations for Unit Tests to be started from 07.07.2025.*
8. *Try to make your handwriting better by practicing and do your HW in good handwriting.*
9. *Do assignments in holidays homework notebook and activities/projects on A4 sheets for each subject & submit it for assessment to your class teacher on July 10, 2025.*
10. *Learn all the prayers and mantras given in student diary.*
11. ***Register & participate in 1<sup>st</sup> stage of 11<sup>th</sup> Online International Humanity Olympiad, International Open Oratory Contest and International Open Poetry Recitation Contest by accessing through web portal <https://www.dhyankaksh.org/value-your-virtues>. Every individual passing the exam (i.e. scoring minimum 40%) will get an e-certificate through e-mail immediately on their e-mails. School code is : FATE104. This certificate and certificates of courses earned by you during holidays should be part of your portfolio.***
12. ***Waste Warriors: Smart Sorting & Creative Recycling.** Survey at least 10 families in your surroundings and collect data how they Dispose off two types of waste and create awareness in them to segregate waste. Click pictures and paste in your portfolio.*

### **English**

**Revise the following syllabus for Unit Test-**

**Reading Section-**Unseen passages for comprehension

**Grammar:**Tenses,Prepositions

**Writing Section-** Advertisements

**Hornbill :**

1-The Portrait Of A Lady

2.We're Not Afraid to Die if We Can All be Together

## A Photograph(Poem)

### Snapshot:

1.The Summer of The Beautiful White Horse

2.The Address

### Solve the following worksheets in BBC Compacta in neat and clean handwriting (Use pencil only)

1.Worksheet 1to 5(Reading Comprehensions)

2.Do worksheets of Tenses,Preposition

3. Advertisement Writing- Any five according to prescribed syllabus(Unsolved)

4. Solve extracts of all the lessons and poems included in Unit Test (as mentioned above)

1. Read the lesson 'The Portrait of a Lady 'by Khushwant Singh. Relating to the topic, share your thoughts on how each family member contributes to a happy family. Discuss the roles of the father, mother, and children in maintaining family harmony.

2.After reading the story (We're not Afraid to Die if we can all.....)Develop a storyboard illustrating the key events of the story, such as the onset of the storm, the family's efforts to save the boat, and their eventual rescue.This visual representation will help in understanding the sequence of events and the challenges faced.

3.Create a podcast max 3 minutes/documentary/standup comedy/a short commercial (audio or visual) addressing any social issue/stereotype/superstition.

4.Watch Ted talks related to the Elderly,People with disabilities and Environment and express your opinion on the same in about 100 words each.

### Project work- As assigned in the class.

#### Hindi

1. आज का युग तकनीकी का युग है। इस युग में जनसंचार के साधनों ने विश्व को बहुत छोटा बना दिया है। संचार एवं जनसंचार के माध्यमों का विकास देश के विकास में किस प्रकार सहयोगात्मक है? यह माध्यम कौन-कौन से हैं, तथा किस किस क्षेत्र में अपना योगदान निभा रहे हैं? आप अपने आसपास रहने वाले जन समुदाय से इनके सकारात्मक एवं नकारात्मक प्रभावों पर चर्चा कर इनका उल्लेख करते हुए एक परियोजना कार्य तैयार करें।

2. पहला पृष्ठ- विद्यार्थी का नाम, कक्षा, वर्ग, अनुक्रमांक, विद्यालय का नाम एवं विद्यालय का प्रतीक चिह्न (लोगो)

दूसरा पृष्ठ-आभार ज्ञापन

तीसरा पृष्ठ- प्रमाण-पत्र

चौथा पृष्ठ- अनुक्रमणिका

पाँचवा पृष्ठ भूमिका/प्रस्तावना

छठा पृष्ठ - संपूर्ण चित्राकर्षक

### 3. निम्नलिखित विषयों पर लेख लिखें-

- \* फैशन की होड़ में बिगड़ता बजट
- \* वैश्वीकरण (ग्लोबलाइजेशन) के प्रभाव
- \* कितना कुछ देती है प्रकृति
- \* शहरों में बढ़ती ट्रैफिक जाम की समस्या

4. कोई दो संपादक के नाम पत्र लिखें।

5. आपके मोहल्ले में विगत एक माह से चोरी की वारदातें होती आ रही हैं | थाना अध्यक्ष महोदय को कई पत्र लिखने पर भी इसमें कोई सुधार नहीं हुआ | अतः अपने जिले के पुलिस अधीक्षक को पत्र लिखकर तुरंत कार्यवाही करने हेतु प्रार्थना कीजिए ।

6. आपका नाम अनामिका / अनामय है । पिछले महीने आपने अपना घर बदला है । अपने बैंक खाते में पुराने पते के स्थान पर अपना नया पता बदलवाने के लिए संबंधित बैंक प्रबंधक को लगभग 100 शब्दों में एक पत्र लिखें ।

7. प्रथम इकाई परीक्षा संबंधी पाठ्यक्रम

अपठित गद्यांश, अपठित काव्यांश

आरोह गद्य खंड - पाठ नमक का दरोगा एवं मियाँ नसीरुद्दीन काव्य खंड कबीर, मीरा, घर की याद  
अभिव्यक्ति और माध्यम - पाठ 1 एवं 2

### Political Science

#### **Syllabus of Unit Test- Chapter 1 to 7**

A) Learn chapters 1 to 7 & complete notes ( Book: Indian Constitution at work) and prepare for Unit Test.

a) Learn the names of the countries related to different incidents mentioned in the chapters, write statements related to them and mark their location on the map of the World ( 1 to 7 chapters).

b) Make a patriotic poem challenging militancy activities created by Pakistan in India.

B) Prepare a detailed project on Any one of the following themes:

1. Making of the Constitution.
2. Elections in India.
3. Working of the Indian Judiciary System.
4. Social Justice: Are ethics followed in Indian Politics?
5. Human Rights Act and its gratification in India.
6. Political impact on Indian Legislation.

➤ **The following essentials are required to be fulfilled for its preparation and submission:**

The total length of the project will be of 30 to 35 pages.

1 Cover Page ( Printed)	2 Certificate	3 Acknowledgement
4 Preface	5 Index	6 Preamble of India (printed)
7 Content presentation	8 Flag(printed)	9 Pictures(printed)
10 Map( printed)	11 Conclusion	12 Bibliography

Note: Use the following link for more guidance and help for the project Making of the Constitution.

<https://youtu.be/02iWG8YZ4Ho>

**Applied Maths**

• **Prepare yourself for Unit Test**

**Unit-1 Numbers , Quantification and Numerical Applications (Binary Number, Indices, Numerical Applications)**

**Unit-2 Algebra ( Sets & Relation, Permutation & Combinations, Sequence & Series)**

• **Make mind map of each topic given below : Sets & Relation , Sequence & Series ,Permutation & Combination, Quantification & Numerical Applications.**

• **Project Work: Do any one of the following projects**

- (i) **Fibonacci Sequence (Objective, Introduction, history, Presence in nature, Real life Applications, Importance ,Fun facts , Conclusion)**
- (ii) **Investigating Graphs of Functions for their Properties.(Objective, Introduction, Domain, Range , graphs and real life applications of different kind of functions)**
- (iii) **Use of Venn Diagrams in solving Practical Problems (Objective , Introduction, Atleast five Real Life Applications Different from your book, Conclusion)**

**Points to Remember while making Project: -**

- The project should consist of 15- 20 pages with proper and relevant information.
- Be as creative and innovative as you can in doing your project.
- The project should be handwritten.
- The work has to be done on A4 size sheets.
- Paste the relevant pictures and draw the graph to make the project attractive.
- The project should be maintained in a neat File.

## Psychology

Q.1) Identify the personality trait of any person Introvert or Extrovert. Write down the qualities that you have observed.

Q.2) Activity Self-Awareness. Write a paragraph on your living style in about 150-200 words. What do you think about yourself?

Q.3) According to Chapter-1 which field of Psychology would you like the most and why? Write in about 100-150 words.

Q.4) Write down the case- study of any person suffering from any psychological disorder.

Q.5) Introspect your areas of improvement and take resolution in summer break to improve it.

For example:- I have observed that sometimes my anger is uncontrollable and it affects my relationships. And I need to work on the same.

Q.6) Learn and write question answers of chapter-1,2 and 3 from NCERT Book.

Unit Test syllabus: Chapter 1 and 2.

## GEOGRAPHY

**A. Prepare an Atlas on A4 sheet by pasting maps based on following chapters:**

1. Distribution of oceans and continents are disturb.
2. India: location
3. Physiographic structure of India
4. Drainage

**B. Collect information and write a report about the project "Stardust" (website: [www.sci.edu/public.html](http://www.sci.edu/public.html) and [www.nasm.edu](http://www.nasm.edu)) on the following lines:-**

- i. Which is the agency that has launched this project?
- ii. Why are the scientists interested in collecting stardust?
- iii. Where is the Stardust being collected from?

**C. Prepare a collage related to damages caused by an earthquake.**

**D. Prepare the following chapters for unit test:**

**Fundamental of physical geography-**

Ch- 1 Geography as discipline

Ch- 2 The origin of the earth

Ch- 3 Interior of the earth

**India: Physical geography**

Ch- 1 India - Location

Ch- 2 Physiographic structure of India

Ch- 3 Drainage

### **HISTORY**

1. Prepare for unit test (chapter 1st and chapter 2nd )
2. The students should make a project file on Mesopotamia Civilisation or Roman Empire (any one aspect).

The project should consist of the following:

- i. Title page
- ii. Acknowledgment
- iii. Table of contents
- iv. Introduction
- v. The body of the project should have description of the selected topic, pictures, data and other relevant information
- vi. Conclusion should have students' observations on the topic
- vii. Bibliography and references

### **ECONOMICS**

**(A) Learn Chapter 1 to 9 (Statistics) for Unit Test.**

**(B) Solve Numericals of Ch-9 (Measures of Central Tendency- Arithmetic Mean) solved and unsolved in your notebook.**

**(C) Prepare “Economics Project” for final Exam**

(Questionnaire is already sent in the group)

- Consumer Awareness Survey
- Complete all the 5 stages of Statistical Study:
- Collection of Data (Questionnaires)
- Organisation of Data (Tabular Presentation)
- Presentation of Data (Histogram and Pie Chart)
- Analysis of Data (Percentage Table)
- Interpretation of Data (Result of the survey)

➤ The following essentials are required to be fulfilled for its preparation and submission.

1. 20 Questionnaires
2. The project should be handwritten.
3. The work has to be done on A4 size sheets.
4. Use graphs and colored sheets for Diagrammatic Presentation of data to make the project attractive.

5. The project should be presented in a folder/File (The file should not be Spiraled).
6. The cover page should include the Title of the Project, Student Information.
7. List of contents.
8. Acknowledgements and preface (acknowledging the institution, the places visited and the persons who have helped).
9. Introduction of project.
10. Result of the survey

### ELECTIVE MATHS

#### Sets

1. Let  $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$ ,  $A = \{1, 2, 3, 4, 5\}$ ,  $B = \{2, 4, 6, 8, 9, 10\}$  and  $C = \{4, 7, 9, 10\}$ . Then
  - [i] The value of  $A' \cap (B - C)$  is
 

[a] $\{5, 6, 7, 8, 9\}$	[b] $\{7, 9, 10\}$	[c] $\{7, 8, 9, 10\}$	[d] $\{4, 6, 7, 8, 9\}$
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  - [ii] The value of  $(B - C)'$ 

[a] $\{2, 3, 4, 5, 6, 9, 10\}$	[b] $\{2, 3, 4, 5, 6, 7, 9\}$	[c] $\{1, 3, 4, 5, 7, 9, 10\}$	[d] $\{2, 3, 4, 5, 7, 9, 10\}$
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2. Let  $A = \{4, 5, 8, 12\}$ ,  $B = \{1, 4, 6, 9\}$ ,  $C = \{1, 2, 3, 4\}$ , then  $A - (B - C)$  is
 

[a] $\{1, 4, 8, 12\}$	[b] $\{4, 5, 8, 12\}$	[c] $\{2, 4, 5, 12\}$	[d] $\{3, 4, 5, 12\}$
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3. If  $A = \{x : x \in \mathbb{N}, x \leq 6\}$  and  $B = \{x : x \in \mathbb{N}, 2 < x^2 < 26\}$ , then  $A \cap B$  is equal to :
 

[a] $\{3, 4, 5, 6\}$	[b] $\{3, 4, 5\}$	[c] $\{2, 3, 4, 5\}$	[d] $\{4, 5, 6, 7\}$
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4. The set builder form of  $A = \{2, 7, 12, 17, 22\}$ 

[a] $A = \{5n - 3, n \in \mathbb{N}, n \leq 5\}$	[b] $A = \{27 - 5n, n \in \mathbb{N}, n < 5\}$
[c] $A = \{5n - 3, n \in \mathbb{N}, n < 5\}$	[d] $A = \{27 - 5n, n \in \mathbb{N}, n \geq 5\}$
5. The set builder form of  $A = \{-12, -7, -2, 3, 8, 13\}$ 

[a] $A = \{5n - 17, n \in \mathbb{N}, n \leq 6\}$	[b] $A = \{17 - 5n, n \in \mathbb{N}, n < 6\}$
[c] $A = \{18 - 5n, n \in \mathbb{N}, n < 6\}$	[d] $A = \{18 - 5n, n \in \mathbb{N}, n \geq 6\}$
6. In a class of 50 students, 30 students like Maths, 25 like Bio and 16 like both Maths and Bio. Find the number of students who like neither Maths nor Bio.
 

[a] 12	[b] 10	[c] 11	[d] 13
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7. Let  $A = \{2, 3, 4, 5, 7, 8\}$ ,  $B = \{4, 5, 6, 7, 8\}$  and  $C = \{1, 3, 5, 6, 7, 8, 9\}$ , then  $(A \cap C) \cup B$  equals to
 

[a] $\{3, 4, 5, 6, 7, 8, 9\}$	[b] $\{3, 4, 5, 6, 7, 8\}$	[c] $\{2, 3, 4, 5, 6, 7\}$	[d] $\{3, 4, 6, 7, 8, 9\}$
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8. Let  $U = \{1, 2, 3, 4, 5, 6, 7, 8\}$ ,  $A = \{1, 2, 3, 5, 6\}$ ,  $B = \{2, 3, 4, 7, 8\}$  then the value of  $(A' \cup B)$  is equal to
 

[a] $\{1, 2, 3, 4, 5\}$	[b] $\{2, 3, 4, 7, 8\}$	[c] $\{1, 2, 4, 7, 8\}$	[d] $\{2, 3, 5, 6, 8\}$
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9. If  $A = \{2, 3, 4, 5, 6\}$ , then the number of proper subsets of  $A$  is :

- [a] 120                      [b] 30                      [c] 31                      [d] 32

10. In a school, there are 20 teachers who teach Mathematics or Physics. Of these 12 teachers teach Mathematics and 4 teach Mathematics and Physics. How many teach Physics?

- [a] 10                      [b] 11                      [c] 8                      [d] 12

[a]  $A$  is false and  $R$  is true.

[b]  $A$  is true and  $R$  is false.

[c] Both  $A$  and  $R$  are true and  $R$  is the correct explanation of  $A$ .

[d] Both  $A$  and  $R$  are true but  $R$  is not the correct explanation of  $A$ .

9. Assertion : the number of non-empty subsets of the set  $\{a, b, c, d, e, f\}$  is 63.

Reason : The number of proper subsets of the set  $A$  when  $n(A) = 2^k - 1$ .

10. Assertion : The collection of ten most talented writers of India form a set.

Reason : A set is a collection of well defined of distinct objects.

### Relations & Functions

1. If  $(4x - 7, 2y + 5) = (9, 15)$  then the value of  $(2x + y)$  is

- [a] 10                      [b] 8                      [c] 13                      [d] 11

2. Find the domain of :  $f(x) = 3x / (x^2 - 4x - 12)$

- [a]  $\{-2, 6\}$                       [b]  $\mathbb{R} - \{-2, 6\}$                       [c]  $\mathbb{R} - (-2, 6)$                       [d]  $\mathbb{R} - \{-2, 6\}$

3. If  $f(x) = 3x^2 - 7x - 8$ , then the value of  $f(4)$  is

- [a] 47                      [b] 46                      [c] 5                      [d] 12

4. The value of  $a$  and  $b$  if  $(3a, 4)$  and  $(2b, -1)$  belong to the set  $\{(x, y) : x - 5y = 13\}$

- [a]  $a = 11, b = 4$                       [b]  $a = 5, b = 11$                       [c]  $a = 11, b = 5$                       [d]  $a = 4, b = 11$

5. Let  $A = \{2, 3, 8\}$ ,  $B = \{2, 3, 5\}$ ,  $C = \{2, 5, 8, 9\}$  then  $(A - B) \times (B - C)$  is

- [a]  $\{(1, 2), (1, 5), (2, 5)\}$                       [b]  $\{(1, 4)\}$                       [c]  $\{(4, 5)\}$                       [d]  $\{8, 3\}$

6. Find the range of :  $y = (2x + 3) / (3x + 4)$

- [a]  $\mathbb{R} - \{-3/2\}$                       [b]  $\mathbb{R} - \{2/3\}$                       [c]  $\mathbb{R} - \{-2/3\}$                       [d]  $\mathbb{R} - \{3/2\}$

7. Find the domain of :  $f(x) = (x^2 - x - 3) / (2x^2 + 11x + 9)$

- [a]  $\{1, 9/2\}$                       [b]  $\mathbb{R} - \{-9/2\}$                       [c]  $\mathbb{R} - \{-1, -9/2\}$                       [d]  $\mathbb{R} - \{-9/2, 1\}$

8. Let  $A = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$ . Define a relation  $R$  from  $A$  to  $A$  by  $R = \{(x, y) : y = 2x + 1\}$ . The range of  $R$  is

- [a]  $\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$                       [b]  $\{1, 2, 3, 4, 5\}$   
[c]  $\{3, 4, 5, 6, 7, 8\}$                       [d]  $\{3, 5, 7, 9, 11\}$

9. Let  $A = \{x: x \in W, x < 2\}$ ,  $B = \{x: x \in N, 1 < x < 5\}$  and  $C = \{3, 5\}$ , then  $[A \times (B \cap C)]$

[a]  $\{(0,3), (1,3)\}$       [b]  $\{(0,3), (1,3), (3,3)\}$       [c]  $\{(1,3), (3,3)\}$       [d]  $\{(0,3), (3,3)\}$

10. Let  $A = \{2, 4, 6, 9\}$ ,  $B = \{4, 6, 18, 27, 54\}$  and a relation  $R$  from  $A$  to  $B$  is defined by  $R = \{(a, b): a \in A, b \in B, a \text{ is the factor of } B \text{ and } a \text{ less than } b\}$ . Then domain of  $R$  is

[a]  $\{2, 4, 6\}$       [b]  $\{2, 6, 9\}$       [c]  $\{4, 6, 9\}$       [d]  $\{2, 4, 6, 9\}$

[a]  $A$  is false and  $R$  is true.

[b]  $A$  is true and  $R$  is false.

[c] Both  $A$  and  $R$  are true and  $R$  is the correct explanation of  $A$ .

[d] Both  $A$  and  $R$  are true but  $R$  is not the correct explanation of  $A$ .

1. Assertion : If  $(2x+1, x+5y-2) = (9, 18)$ , then  $x=5$  and  $y=3$ .

Reason : Two ordered pairs are equal if their corresponding elements are equal.

2. Assertion : A relation  $R = \{(1,3), (2,2), (3,1)\}$  defined on the set  $A = \{1, 2, 3\}$  is a function.

Reason : A relation from set  $A$  to set  $B$  is a function if every element of  $A$  is related to a unique element of  $B$ .

### Complex Numbers

1. If  $x=3+2i$  and  $y=3-2i$ , find the value of  $5(x^2+y^2)+7(x+y)+8xy$ .

[a] 196      [b] 225      [c] 265      [d] 256

2. If  $(5x-8) - (7y+2)i = 17 - 44i$ , then the value of  $x + y$  :

[a] 11      [b] 4      [c] -4      [d] 8

3. The value of  $(4i^6 + 14i^{11} + 14i^{12} + 16i^{17})$

[a]  $10 + 6i$       [b]  $10 - 6i$       [c]  $10 + 2i$       [d]  $10 - 2i$

4. The value of  $(2+8i) / (1+i)$

[a]  $(3+4i)$       [b]  $(5+3i)$       [c]  $(5-6i)$       [d]  $(3-2i)$

5. The number  $\frac{(1+i)^8}{1-i^5}$  is equal to :

[a]  $i$       [b]  $-i$       [c]  $-1$       [d]  $-2$

6. If  $x - iy = \frac{(1+3i)^2}{2+i}$ , then the value  $(x + y)$  are :

[a] 2      [b] -2      [c] 6      [d] -6

7. If  $x + iy = \frac{(2+i)(1-3i)}{(1+2i)(3+i)}$ , then the value of  $x$  and  $y$  :

[a]  $x=3/5, y=4/5$       [b]  $y=-3/5, x=-4/5$       [c]  $x=-3/5, y=-4/5$       [d]  $y=3/5, x=4/5$

8. If  $(4x + 1) + (6y-8)i = (-7-2i)^2$  then the value of  $x$  and  $y$  :

[a]  $x=11, y=-6$       [b]  $x=11, y=6$       [c]  $x=-11, y=6$       [d]  $x=-11, y=-6$

[a] A is false and R is true.

[b] A is true and R is false.

[c] Both A and R are true and R is the correct explanation of A.

[d] Both A and R are true but R is not the correct explanation of A.

9. Assertion : If  $4x + i(3x+4y) = 15 + 11i$ , then  $x=15/4$  and  $y = 1/16$ .

Reason : Two complex numbers are equal if their corresponding real and imaginary parts are equal.

10. Assertion : If  $Z = \frac{1}{5+12i}$ , then  $|Z| = \frac{1}{17}$

Reason : If  $Z=a+ib$  then  $|Z| = \sqrt{a^2 + b^2}$

### Trigonometry

1. The value of  $\tan(25\pi/3)$

[a]  $\sqrt{3}$

[b]  $-\sqrt{3}$

[c]  $1/\sqrt{3}$

[d]  $-1/\sqrt{3}$

2. The value of  $\sin 120^\circ + \cos 210^\circ$

[a] 1

[b] 0

[c] 2

[d] -2

3. If  $\cos A = 4/5$ ,  $0 < A < \frac{\pi}{2}$ , and  $\sin B = -5/13$ ,  $\pi < B < \frac{3\pi}{2}$ , then the value of  $\cos(A-B)$

[a]  $33/65$

[b]  $-33/65$

[c]  $-63/65$

[d]  $63/65$

4. If  $x = \sec A - \tan A$  and  $y = \operatorname{cosec} A + \cot A$ , then the value of  $x - y + 1 + xy$  is

[a] 2

[b] 0

[c] 1

[d] -1

5. If  $\cos(a+b) = 4/5$ , and  $\sin(a-b) = 5/13$ , then the value of  $\tan(2a)$  is

[a]  $24/25$

[b]  $33/56$

[c]  $56/33$

[d]  $25/24$

6. If  $\sin A = 1/2$ , then the value of  $\sin 3A$  is :

[a]  $1/2$

[b]  $1/3$

[c] 0

[d] 1

7. The value of  $\cos 68^\circ + \cos 52^\circ - \cos 8^\circ$  is :

[a] 2

[b] 3

[c] 0

[d] 1

8. If  $\cos(A-B) = 3 \cos(A+B)$ , then  $\cot A \cdot \cot B$  is equal to

[a] 1

[b] 2

[c] 3

[d] -2

9. If  $\cos A = -20/29$ , A lies in second quadrant, then the value of  $(1 + \operatorname{cosec} A)$

[a]  $49/20$

[b]  $-5/2$

[c]  $50/21$

[d]  $-50/21$

10. If  $\sin A = -5/13$ , A lies in 4th quadrant, then the value of  $(\sec A - \tan A)$

[a]  $18/5$

[b]  $17/5$

[c]  $3/2$

[d]  $-3/2$

11. If A lies in II quadrant and  $3 \tan A + 4 = 0$ , then the value of  $(2 \cot A - 5 \cos A + \sin A)$  is

[a]  $-53/10$

[b]  $-7/10$

[c]  $7/10$

[d]  $23/10$



3. Assertion : If  $\cot A = \frac{7}{24}$ ,  $\pi < x < \frac{3\pi}{2}$ , then the value of  $\sin A + \cos A$  is  $\frac{-31}{25}$ .

Reason : In third quadrant the value of  $\tan A$  and  $\cot A$  is +ve and other ratio is -ve.

4. Assertion : The value of  $\tan 75^\circ = \frac{\sqrt{6} + \sqrt{2}}{4}$

Reason :  $\tan(A + B) = \frac{\tan A + \tan B}{1 - \tan A \tan B}$

### Case Study

1. In a survey of 25 students, it was found that 21 had taken Mathematics, 26 had taken Physics and 29 had taken Chemistry, 14 had taken Mathematics and Physics, 12 had taken Mathematics and Chemistry, 14 had taken Physics and Chemistry and 8 had taken all the three subjects. Based on the above information, answer the following questions.

[i] The number of students who had taken only Mathematics is

- [a] 8                      [b] 3                      [c] 4                      [d] 5

[ii] The number of students who had taken at least one of the three subjects is

- [a] 45                      [b] 48                      [c] 44                      [d] 50

[iii] The number of students who had taken only one of the subjects is

- [a] 20                      [b] 19                      [c] 15                      [d] 25

[iv] The number of students who had taken Mathematics and Physics but not Chemistry is

- [a] 8                      [b] 9                      [c] 6                      [d] 11

[v] The number of students who had taken Chemistry and Physics but not Mathematics is

- [a] 4                      [b] 3                      [c] 8                      [d] 6

2. The mathematics teacher was teaching the students of class XI the following concepts of trigonometric equations. An equation involving trigonometric functions of an unknown angle or angles is called a trigonometric equation. The solution in the interval  $[0, 2\pi]$  is called the principal solution of the given equation.

**Based on the above information, answer the following questions.**

[i] If  $\tan x = \frac{-1}{2}$  and  $\operatorname{cosec} x = \frac{3}{2}$  then in which quadrant they lie.

- [a] I                      [b] II                      [c] III                      [d] IV

[ii] The value of  $2\sin^2 x$  is equal to :

- [a]  $(1 - \cos x)$                       [b]  $(1 + \cos x)$                       [c]  $(1 + \cos 2x)$                       [d]  $(1 - \cos 2x)$

[iii] If  $\cot x = -1/\sqrt{3}$  and  $x$  lies in 2<sup>nd</sup> quadrant the value of  $(1 + \sec x)$

- [a] 1                      [b] 3                      [c] -1                      [d] 0

[iv] The degree measures of  $\left(\frac{8\pi}{9}\right)^c$  is :

- [a]  $320^\circ$                       [b]  $340^\circ$                       [c]  $280^\circ$                       [d]  $160^\circ$

[v] The value of  $\cot 75^\circ$

- [a]  $3 + \sqrt{2}$                       [b]  $2 + \sqrt{3}$                       [c]  $2 - \sqrt{3}$                       [d]  $3 - \sqrt{2}$

### Activities

1. Draw the graph of the function  $f(x) = \begin{cases} 3 - x, & \text{if } x > 1 \\ 1, & \text{if } x = 1 \\ 2x, & \text{if } x < 1 \end{cases}$

2. Represent the given complex number on Arganda plane :  $\frac{2+i}{(1+i)(1-2i)}$

3. Draw the graph of  $\cos x$  such that the value of  $x$  lies between  $-180^\circ$  to  $180^\circ$

### **Syllabus of UT (July)**

1. Sets
2. Relations & Functions
3. Trigonometric Functions
4. Complex Number

### PHYSICAL EDUCATION

1. Make a project file on yoga and modern olympics
2. Revise chapters 1,2,3 for UNIT TEST

### MUSIC

#### **Revise syllabus for Unit Test:-Unit 1, 2 and 4**

Q 1. Play and sing the notation of Gayatri Mantra with different scale or note.

Q 2. Make a video of any classical or semi classical song, and send video through whatsapp on 9416726190.

Q 3. Make a composition of Raga Bhairavi with following words-

प्रभुवर हमारे मन को , भक्ति का दान देना,  
सबके मैं काम आऊँ, बुद्धि का दान देना |  
जीवन में मेरे दाता, तेरा ही नाम गाऊं,  
तुम्हें छोड़ कर मैं दाता, कहीं और कैसे जाऊं |  
सुख में तुझे न भूलूँ , शक्ति का दान देना |

## PAINTING

### **Syllabus for Unit Test: Unit 1 & 2**

- 10 sheets of Nature Painting ,
- 10 sheets of still life , 5 coloured and 5 shading ( A3 size )

## HOME SCIENCE

- Prepare for unit test

### **Syllabus:**

Unit I Introduction to Home Science

Unit II: Understanding oneself: Adolescence

Ch. - Understanding the Self.

A. 'Who am I'?

B. Development and Characteristics of the Self (Development characteristics and needs of adolescents)

C. Influences on Identity

Ch. Food, Nutrition, Health and Fitness

Ch. Management of Resources

Ch. Fabric Around us

Ch. Media and Communication Technology