



ARMY PUBLIC SCHOOL CLEMENTTOWN, DEHRADUN
SUMMER HOLIDAY HOMEWORK
SCIENCE STREAM(XII)

ENGLISH

“Hold yourself responsible for a higher standard than anybody else expects of you.”

- Henry Ward Beecher

1 A. WRITE NOTICES FOR THE FOLLOWING OCCASIONS (ONE OF EACH CATEGORY)

a. Tours b. Sports c. Cultural / Extra- curricular activities d. Lost & Found e. Appeals

1 B. Download English Core (301) Board Examination question paper (2022-23) and solve Section A- Q1 and Q2.

1C. Frame 5 MCQs from each chapter/ poem taught in the class.

2.SUGGESTED FILMS TO WATCH

A) TOWERING INFERNO B) THE MAN WHO KNEW INFINITY – A BIOPIC

C) GANDHI - DIRECTED BY RICHARD ATTEN BOROUGH (MUST WATCH AS IT IS REFERENCE TO TEXT "THE INDIGO")

Write a critical appreciation of any 1 film -word limit 200 words ..

3.ART INTEGRATED (ANY ONE)

1.Flamingo: "The Last Lesson" by Alphonse Daudet •

Art Reflection: Create a visual representation of your favorite scene from the story using any art medium of your choice. You can draw, paint, or use mixed media to depict the emotions and themes of the story.

2. Flamingo: "Lost Spring" by Anees Jung

Art reflection: Collage of Despair: Create a collage using newspaper clippings and magazine cutouts to represent the harsh realities of child labor and poverty discussed in the chapter. The collage can capture the essence of the story and evoke emotions related to the theme.

4.ENGLISH PROJECT (2023-24)

1. INTRODUCTION

The project consists of 10 MARKS out of which, 5 MARKS will be allotted for the PROJECT FILE and the remaining 5 MARKS for the VIVA based on the file.

2. CONTENT OF THE PROJECT FILE:

The project file to include the following:

- Cover page, with the title of the project, school details and details of the student.
- Certificate of Completion under the guidance of the teacher.
- Objectives of the topic
- Action Plan for the completion of assigned tasks (steps involved in doing the project)
- Essay/report should be written in 800-1000 words.
- Student reflections (the new learning experience/outcome achieved after completing the project)
- If possible, photographs that capture positive learning experience of the students (collages/pics from various online sources) can be pasted.
- List of Resources/Bibliography (Last page of the project file)

3. INSTRUCTIONS:

- Refer to the links of the videos attached with each topic (You can also select different videos available on YouTube, relevant to your topic).
- Listen to these podcasts, documentaries, interviews etc. on the given topics.
- Do a thorough research on the topic assigned.
- Prepare a report/essay in about 800-1000 words describing the topic/issue/ giving your own opinion/ suggestions/measurs/ viewpoints/its impact on people/your learning experience.
- The project should be neat, legible, with an emphasis on quality of content, accuracy of information, creative expression, proper sequencing and should be relevant as per the assigned topic.
Use coloured practical sheets.
Plagiarism is strictly prohibited.

Students can select any one of the given topics for your English Project:

1. Existential risk from artificial general intelligence
Include the following sub-headings:
 - What is AI?
 - Brief history of AI
 - Difficulties
 - Argument in favour and against AI
 - Hypothetical scenarios
 - Will Chatbot technology deceive human intelligence. Write a poem/ article and paste pictures to present your views.

2. Unleash your real potential – be bold, be resilient, be strong (Importance of a resilient attitude)

- What do you mean by Resilient Attitude.
- Traits, qualities and characteristics of Resilient person.
- How personal choices help or hinder our resilience.
- Tips for Building and Cultivating Resilience.
- Why is resilience important?
- Is Resilience a skill or character strength?
- What are the seven C's of Resilience?
- Different types of resilience
- Key component and element of resilience life
- Take an example of the chapter— Deep Water
- Other examples of great personalities

3. "When a people are enslaved, as long as they hold fast to their language it is as if they had the key to their prison."

- Importance of Language
- Meaning of 'Linguistic chauvinism'
- Find examples in history where conquered people had their language taken away from them or had a language imposed on them—What was the result/outcome
- Problems faced by linguistic minority
- How can they keep their language alive
- Linguistic human rights
- Linguistic Chauvinism examples from English literature

DATE OF SUBMISSION: 10 July 2023.

PHYSICS

A. Each student of class XII has to prepare a slide show /PPT with audio and file on the same topic.

B. AIP- The topics can be chosen from the mentioned list

- **First slide- (a) Name of school – APS CLEMENT TOWN DEHRADUN**
(b) Name of student –
(c) Class and Section –
- **Second slide onwards – Related to the topic (Literature and Photos)**

(MINIMUM 20 SLIDES)

- **Topics (any one) –**
 - (1) Electrostatic Charge and Electrostatic Field**
 - (2) Gauss's Theorem and Electrostatic Potential**
 - (3) Current Electricity**
 - (4) Magnetic Effect of Current**
 - (5) Electromagnetic Induction**
 - (6) Reflection of Light**
 - (7) Refraction of Light**
 - (8) Dual nature of radiation and Matter**
 - (9) Atoms and Molecules**
 - (10) Semiconductor Devices**

C. Each student of class XII has to prepare Working model and Project file on same topic.

THE TOPICS CAN BE CHOSEN FROM THE MENTIONED LIST

- **Electrostatic Charge and Electrostatic Field**
- **Current Electricity**
- **Magnetic Effect of Current**
- **Electromagnetic Induction**
- **Reflection of Light**
- **Refraction of Light**
- **Semiconductor devices**

Note: CONTENTS OF PROJECT FILE

(a) Page-1 ----- Title of project with your name and school name.

- (b) Page-2----- Acknowledgement.
- (c) Page-3----- Certificate.
- (d) Page-4----- List of components and values of components.
- (e) Page-5----- Circuit diagram of model.
- (f) Page-6----- Working of model.

- (g) Page-7----- Bibliography.

NOTE-----(a) Page no. 1 to 4 and page 6 and 7 should be computerized printout

(b) Page no. 5----- Draw a neat circuit diagram.

D. Do following questions in physics holiday homework notebook

Q1.The electrostatic force on a small sphere of charge $0.4 \mu\text{C}$ due to another small sphere of charge $-0.8 \mu\text{C}$ in air is 0.2N (a) what is the distance between two spheres? (b) What is the force on the second sphere due to the first.

Q2. Four point charges $q_A = 2 \mu\text{C}$, $q_B = -5 \mu\text{C}$, $q_C = 2 \mu\text{C}$ and $q_D = 5 \mu\text{C}$ are located at the corners of the square ABCD of side 10cm . What is the force on a charge $1 \mu\text{C}$ placed at the center of the square.

Q3. Two point charges $q_A = 3 \mu\text{C}$ and $q_B = -3 \mu\text{C}$ are located 20 cm in apart in vacuum, (a) What is the electric field at the midpoint O of the line AB joining the two charges? (b) If a negative test charge of magnitude $1.5 \times 10^{-9} \text{ C}$ is placed at this point, what is the force experienced by the test charge.

Q4. A system has two charges $q_A = 2.5 \times 10^{-7} \text{ C}$ and $q_B = -2.5 \times 10^{-7} \text{ C}$ located at the points A: $(0,0,-15\text{cm})$ and B: $(0,0,+15\text{cm})$ respectively. What are the total charge and electric dipole moment of the system?

Q5. Suppose the spheres A and B have identical sizes and charges. A third sphere of the same size but uncharged is brought in contact with a first, then brought in contact with second and finally removed from both. What is the new force of repulsion between A and B?

Q6. Consider a uniform electric field $E = 3 \times 10^3 \text{ i N/C}$. (a) What is the flux of this field through a square of 10cm on a side, whose plane is parallel to the yz plane? (b) What is the flux through the same square, if the normal to its plane makes a 60° angle with x-axis.

Q7. What is the net flux of uniform electric field $E = 3 \times 10^3 \hat{i}$ N/C through a cube of side 20cm oriented so that its faces are parallel to the coordinate planes?

Q8. A uniformly charged conducting sphere of 2.4m diameter has a surface charge density of $80 \mu\text{C}/\text{m}^2$. (a) Find the charge on the sphere. (b) What is the total electric flux leaving the surface of the sphere?

Q9. An infinite line charge produces a field of 9×10^4 N/C at a distance of 2cm. Calculate the linear charge density.

Q10. Two charges $5 \times 10^{-8}\text{C}$ and $-3 \times 10^{-8}\text{C}$ are located 16cm apart. At what point (s) on the line joining the two charges is the electric potential zero?

Q11. A regular hexagon of side 10cm has a charge $5 \mu\text{C}$ at each of its vertices. Calculate the potential at the center of the hexagon.

Q12. Two charges $2 \mu\text{C}$ and $-2 \mu\text{C}$ are placed at points A and B, 6cm apart.

(a) Identify an equipotential surface of the system.

(b) What is the direction of the electric field at every point on this surface?

Q13. A spherical conductor of radius 12cm has a charge of 1.6×10^{-7} C distributed uniformly on its surface. What is the electric field (a) inside the sphere (b) just outside the sphere (c) at a point 18cm from the center of the sphere.

Q14. A charge of 8 mC is located at the origin. Calculate the work done in taking a small charge of -2×10^{-9} C from a point P(0, 0, 3 cm) to a point Q(0, 4cm, 0), via a point R(0, 6cm, 9cm)

Q15. A spherical conducting shell of inner radius r_1 and outer radius r_2 has a charge Q. (a) A charge q is placed at the center of the shell. What is the surface charge density of the inner and outer surfaces of the shell? (b) Is the electric field inside a cavity (with no charge) zero, even if the shell is not spherical, but has an irregular shape? Explain.

Q16. Define the term drift velocity. Obtain the expression for it.

Q17. At room temperature 27°C the resistance of a heating element is 100 ohm. What is the temperature of element if the resistance is found to be

117 ohm, given that the temperature coefficient of material of resistor is 1.7×10^{-4} per $^{\circ}\text{C}$?

Q18. Show variation of resistivity of copper as a function of temperature.

Q19. Why constantan or manganin wire is used for making standard resistance wire.

Q20. State the condition for maximum current to be drawn from a cell?

Q21. State the condition under which terminal potential difference is a) greater than emf b) equal to emf

Q22. Obtain the relation of resistivity with relaxation time.

Q23. Plot a graph showing variation of emf with a) Internal resistance for a cell. b) Current obtained through a cell.

Q24. Plot a graph showing variation of V and I for Ga-As.

Q25. If the ammeter in the given circuit shown in the diagram reads 2A, the resistance R is

(a) 1Ω (b) 2Ω (c) 3Ω (d) 4Ω

Q26. The heat produced by 100W heater in 2 minutes is equal to

(a) 10.5kJ (b) 16.3Kj (c) 12.0kJ (d) 14.2kJ

Q27. Kirchhoff's second law is based on law of conservation of

(a) Sum of mass and energy (b) momentum (c) energy (d) charge

Q28. Two wires A and B of equal masses and of the same metals are taken. The diameter of the wire A is half the diameter of the wire B. If the resistance of A is 24Ω then find the resistance of wire B?

(a) 0.5 (b) 1 (c) 1.5 (d) 3

Q29. Drift velocity v_d varies with the intensity of electric field as per the relation

(a) $v_d \propto E$ (b) $v_d \propto 1/E$ (c) $v_d = \text{constant}$ (d) $v_d \propto E^2$

Q30. Determine the magnitude of the magnetic field B at the centre of the circular coil of wire carrying a current of 0.4 A and having 100 turns with 8 cm being the radius of each turn.

Q31. Determine the direction and magnitude of B at a point that is 2.5 m away in the east direction of the long straight wire that is in a horizontal plane carrying a current of 50 A in North to South direction.

Q32. A flat overhead electrical cable carries a current of 90 A in the east to west course. What is the direction and magnitude of the magnetic field due to the current 1.5 m below the line?

Q33. A wire carrying a current of 8 A makes an angle of 30° with the direction of a uniform magnetic field of 0.15 T. Find the magnitude of magnetic force per unit length on the wire.

Q34. Two long and parallel wires, wire A carrying current 8.0 A and wire B carrying current 5.0 A in the same direction are isolated by a distance of 4 cm. Calculate the force on a 10 cm section of wire A.

Q35. Determine the magnitude of the torque experienced by the square coil when it is suspended vertically and the normal to the plane makes an angle of 30° with the direction of a uniform horizontal magnetic field of magnitude 0.8 T. Taking square coil of side 10 cm consisting of 20 turns and carrying a current of 12 A.

E. Make a question bank of 1 mark, 2 marks and 3 marks other than given in NCERT book (10 questions each from units electrostatics and current electricity covered in class and solve it)

CHEMISTRY

1. Write the experiments in lab manual, which is done in lab.(Titration & Detection of functional group)
2. Each student of class XII has to prepare an Investigatory Project file for board exam, 2024.

Note- Topic of the project can be any topic related to chemistry. Do inform your teacher once you decide the topic of the investigatory project. Select it wisely so that you can give viva on that topic. First understand it, do research properly and then make it. As this will be your final project, so give your best.

Investigatory project should include:

- (a) Page-1----- Title of project with your name and school name.
- (b) Page-2----- Certificate. [Sign of Examiner, Sign of Principal, Sign of Subject Teacher]
- (c) Page-3----- Acknowledgement.
- (d) Page-4----- Index
- (e) Page-5----- Introduction
- (f) Theory
- (g) Relevant images [HD]
- (h) Observation : Investigation
- (i) Conclusion
- (j) Bibliography.

NOTE- (a) Page no. 1 to 4 should be computerized printouts.

(b) Content should be hand written in A4 size plane pages on the right side and draw neat diagrams, paste data and related pictures on the left side.

3. AIP- Each student of class XII has to prepare a slide show /PPT on the same topic.

4. Make a question bank of 1 mark, 2 marks and 3 marks other than given in NCERT book (10 questions each from Haloalkanes & Haloarenes; Alcohols, Phenols and Ethers and solve it).

MATHS

Solve the Questions from the following Chapters

RELATIONS AND FUNCTIONS

- 1) State whether the function is one – one, onto or bijective $f: \mathbb{R} \rightarrow \mathbb{R}$ defined by $f(x) = 1 + x$
- 2) Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be define as $f(x) = x^4$ check whether the given function is one – one onto,

or other.

3) Let T be the set of all triangles in a plane with R a relation in T given by $R = \{(T_1, T_2) : T_1 \text{ is congruent to } T_2\}$.

Show that R is an equivalence relation.

4) Show that the relation R in the set Z of integers given by $R = \{(a, b) : 2 \text{ divides } a-b\}$ is an equivalence relation.

5) Check whether the relation R defined in the set $\{1, 2, 3, 4, 5, 6\}$ as $R = \{(a, b) : b = a+1\}$ is reflexive, symmetric or transitive.

6) Show that the relation in the set R of real no. defined $R = \{(a, b) : a < b^3\}$, is neither reflexive nor symmetric nor transitive. Show that the relation in the set R of real no. defined $R = \{(a, b) : a < b^3\}$, is neither reflexive nor symmetric nor transitive.

INVERSE TRIGONOMETRIC FUNCTIONS

1 Draw the Graphs of all Inverse Trigonometric Functions.

DIFFERENTIATION

1. Find the derivatives of the following functions at any point of their domains :

(i) $\sec(2x + 3)$

(ii) $\cos x^2$

(iii) $\cos(\log x)$

(iv) $\sqrt{1 + \tan x}$

(v) $\sin \sqrt{x} + \cos 2\sqrt{x}$

2. Differentiate w.r.t x :-

(i) $(\sin 2x)/(1 + \cos 2x)$

(ii) $(1 - \cos x)/(1 + \cos x)$

(iii) $\sqrt{\log(\sin((x^2/3) - 1))}$

(iv) $\log \sqrt{(1 - \sin x)/(1 + \sin x)}$

(v) $\sqrt{\sin \sqrt{x}}$

(vi) $\sin(e^x \log x)$

(vii) $e^{ax} / \sin(bx + c)$

(viii) $\log(x + e\sqrt{x})$

3. Find the second derivative of the following functions:

(i) $ax^3 + bx^2 + cx + d$

(ii) $\log(\log x)$

(iii) $\log\{x + \sqrt{x^2 + 1}\}$

4. (i) If $y = \tan x$, prove that $y^2 = 2y y_1$.

(ii) If $y = x + \tan x$, prove that $\cos 2x (d^2y/dx^2) - 2y + 2x = 0$.

(iii) If $y = 3e^{2x} + 2e^{3x}$, prove that $(d^2y/dx^2) - 5(dy/dx) + 6y = 0$

- (iv) If $y = a \cos(\log x) + b \sin(\log x)$, show that $x_2 y_2 + x y_1 + y = 0$.
- (v) If $y = 2 \sin x + 3 \cos x$, prove that $y + (d^2 y / dx^2) = 0$.
- (vi) If $y = \log \{x + \sqrt{(x^2 + a^2)}\}$, show that $(x^2 + a^2) y_2 + x y_1 = 0$.

5. Differentiate the following functions with respect to x :

- 1) $(x+1)^2 (x+2)^3 (x+3)^4$
- 2) $x^y y^x = ab$
- 3) $x^y + y^x = 1$
- 4) $x^y = e^{x-y}$.
- 5) $Y = x^x$
- 6) $y = (2x+3)x^{-5} (\cos x)^x + (\sin x) 1/x$
- 7) $y = x \sin x + \cos x$.

MATRICES

1 Do the solved Examples and Miscellaneous of chapter 3

2 Do the solved Examples and Miscellaneous of chapter 4

DO IT YOURSELF

- Make a question bank of 2 marks ,3 marks .5 marks(10-10 questions each from Exercises covered in class and solve it)
- Art Intregrated learning on any topic covered in class

MULTIPLE CHOICE QUESTION

1. The smallest integer function $f(x) = [x]$
 (a) One-one (b) Many-one (c) Both (a) & (b) (d) None of these
2. Which of the following functions from Z into Z are bijective?
 (a) $f(x) = x^3$ (b) $f(x) = x + 2$ (c) $f(x) = 2x + 1$ (d) $f(x) = x^2 + 1$
3. Let $A = \{1, 2, 3, \dots, n\}$ and $B = \{a, b\}$. Then the number of surjections from A into B is
 (a) nP_2 (b) $2^n - 2$ (c) $2^n - 1$ (d) none of these
4. Let us define a relation R in R as aRb if $a \geq b$. Then R is
 (a) an equivalence relation (b) reflexive, transitive but not symmetric
 (c) symmetric, transitive but not reflexive (d) neither transitive nor reflexive but symmetric
5. Let $X = \{-1, 0, 1\}$, $Y = \{0, 2\}$ and a function $f : X \rightarrow Y$ defined by $y = 2x^4$, is
 (a) one-one onto (b) one-one into
 (c) many-one onto (d) many-one into
6. For real x , let $f(x) = x^3 + 5x + 1$, then
 (a) f is one-one but not onto R (b) f is onto R but not one-one
 (c) f is one-one and onto R (d) f is neither one-one nor onto R

7. Let set $X = \{1, 2, 3\}$ and a relation R is defined in X as : $R = \{(1, 3), (2, 2), (3, 2)\}$, then minimum ordered

pairs which should be added in relation R to make it reflexive and symmetric are

- (a) $\{(1, 1), (2, 3), (1, 2)\}$ (b) $\{(3, 3), (3, 1), (1, 2)\}$
(c) $\{(1, 1), (3, 3), (3, 1), (2, 3)\}$ (d) $\{(1, 1), (3, 3), (3, 1), (1, 2)\}$

8. Let T be the set of all triangles in the

Euclidean plane, and let a relation R on T be defined as aRb if a is congruent to b , $a, b \in T$. Then R is

- a) equivalence b) reflexive but not transitive
c) transitive but not symmetric d) none of these

9. If $A = (1, 2, 3)$, $B = (4, 6, 9)$ and R is a relation from A to B by ' x is smaller than y '. The range of R is

- a) $\{4, 6, 9\}$ b) $\{1\}$ c) none of these d) $\{1, 4, 6, 9\}$

10. Let R be the relation "is congruent to" on the set of all triangles in a plane is

- (a) reflexive (b) symmetric (c) symmetric and reflexive (d) equivalence

Q. 11. Let $f : R \rightarrow R$ be defined by $f(x) = 1/x$, for all x belong to R Then f is

- (A) one-one
(B) onto
(C) bijective
(D) f is not defined

Q.12. A relation R in a set A is called _____, if $(a_1, a_2) \in R$ implies $(a_2, a_1) \in R$, for all $a_1, a_2 \in A$.

- (a) symmetric (b) transiivet (c) equivalence (d) non-symmetric

Q.13. Let R be a relation on the set N of natural numbers defined by nRm if n divides m . Then R is

- (a) Reflexive and symmetric (b) Transitive and symmetric
(c) Equivalence (d) Reflexive, transitive but not symmetric

Q.14. The maximum number of equivalence relations on the set $A = \{1, 2, 3\}$ are

- (a) 1 (b) 2 (c) 3 (d) 5

Q.15. If set A contains 5 elements and the set B contains 6 elements, then the number of one-one and onto mappings from A to B is

(a) 720 (b) 120 (c) 0 (d) none of these

Q.16. Let $A = \{1, 2, 3\}$. Then the number of relations containing (1, 2) and (1, 3), which are reflexive and symmetric but not transitive is

(a) 1 (b) 2 (c) 3 (d) 4

Q.17. Number of binary operations on the set $\{a, b\}$ are

(a) 10 (b) 16 (c) 20 (d) 8

Q.18. Let $f : \mathbb{R} \rightarrow \mathbb{R}$ be defined by $f(x) = 3x - 4$. Then $f^{-1}(x)$ is given by

(a) $(x + 4)/3$ (b) $(x/3) - 4$ (c) $3x + 4$ (d) None of these

Q.19. Set A has 3 elements, and set B has 4 elements. Then the number of injective mappings that can be defined from A to B is

(a) 144 (b) 12 (c) 24 (d) 64

Q.20. Let $f : \mathbb{R} \rightarrow \mathbb{R}$ be defined by $f(x) = x^2 + 1$. Then, pre-images of 17 and -3 , respectively, are

(a) $\emptyset, \{4, -4\}$ (b) $\{3, -3\}, \emptyset$ (c) $\{4, -4\}, \emptyset$ (d) $\{4, -4\}, \{2, -2\}$

BIOLOGY

A. Complete the practical file, write core experiments and spotting from the lab manual.

B. Each student of class XII has to prepare a Working model and Project file.

THE TOPICS CAN BE CHOSEN FROM THE BIOLOGY SYLLABUS OF CLASS XII

C. Make investigatory project with following contents -

(a) Page-1 ----- Title of project with your name and school name.

(b) Page-2----- Certificate.

(c) Page-3----- Acknowledgement.

(d) Page-4-----Index

(e) Page-5----- Introduction

(f) Theory

(g) Observation : investigation

(h) Conclusion

(i) Case study with questionnaire and conclusion

(j) Bibliography.

NOTE----- (a) Page no. 1 to 4 should be computerized printout.

(b) Content should be hand written in A4 size plane pages on the right side and draw neat diagrams, paste data and related pictures on the left side.

D. AIP- Each student of class XII has to prepare a slide show /PPT with audio.

The topics can be chosen from the mentioned list-

Principles of inheritance and variation

Molecular basis of inheritance

Evolution

Human Health and Diseases

Biotechnology

Ecology

Environmental issues

· **First slide- (a) Name of school – ARMY PUBLIC SCHOOL CLEMENT TOWN DEHRADUN**

(b) Name of student –

(c) Class and Section –

· **Second slide onwards –** Related to the topic (Literature and Photos)

(MINIMUM 20 SLIDES)

· **Topics (any one) –**

E. Make a question bank of 1 mark, 2 marks and 3 marks other than given in NCERT book (10 questions each from units covered in class and solve it).

INFORMATICS PRACTICES

1. Complete Practical File work as per the instructions given in the class.
2. Solve questions based on PYTHON from last three years sample papers issued by CBSE.

3. **ART INTEGRATED PROJECT:** Prepare **Powerpoint presentation** on any one topic out of the given topics:

- Cyber Safety and Security
- Information Technology ACT 2000
- E-Waste and Its Management

OR

- **Kahoot Quiz** On Python Pandas/ Matplotli
4. Revise MYSQL Concepts(Review of class XI).
5. Prepare **Question Bank of 25 MCQs/T-F/ F-B/One word on Python Pandas and Matplotlib.**

COMPUTER SC

- Practice & implement programming on Chapter: **Functions**
- Practice & implement programming on Chapter: **Exception Handling**
- Practice & implement programming on Chapter: **File Handling**
- Complete Practical file work.
- Solve the following questions:

1. Observe the following programs carefully, and identify the error:

a) def create (text, freq):

 for i in range (1, freq):

 print(text)

create(5) #function call

b) from math import sqrt,ceil

def calc():

 print(cos(0))

calc() #function call

c) mynum = 9

def add9():

```
mynum = mynum + 9
```

```
print(mynum)
```

```
add9()          #function call
```

```
d) def findValue( val1 = 1.1, val2, val3):
```

```
    final = (val2 + val3)/ val1
```

```
    print(final)
```

```
findValue()     #function call
```

```
e) def greet():
```

```
    return("Good morning")
```

```
greet() = message      #function call
```

2. How is `math.ceil(89.7)` different from `math.floor(89.7)`?
3. Out of `random()` and `randint()`, which function should we use to generate random numbers between 1 and 5. Justify.
4. How is built-in function `pow()` function different from function `math.pow()` ? Explain with an example.
5. Using an example show how a function in Python can return multiple values.
6. Differentiate between following with the help of an example:
 - a) Argument and Parameter
 - b) Global and Local variable
7. Does a function always return a value? Explain with an example.

PHYSICAL EDUCATION

1. Complete Practical File work as per the instructions given in the class .Which Include the following topics.

(A) Fitness test administration.(SAI Khelo India test)

(B) Write Procedure for Asanas, Benefits & Contraindication for any two Asanas for each lifestyle disease.

(C) Any one IOA recognized Sport/Game of your choice. (Labelled Diagram of field & Equipment) also, Mention its Rules, Terminologies & Equipment.

2.: Prepare 15-15 MCQ questions from unit one and unit two.

3. Make a knock - Out fixture of 25 & 28 teams.

4. Make a league fixture of 7 & 10 teams by Cyclic & Tabular Method

5. Explain the causes for the low participation of Women in sports in INDIA.

PAINTING

1. Complete 10 paintings for your portfolio.
2. Write and revise Origin and development of Pahari school, Deccan School and Main features of Pahari school and Deccan School.
3. Prepare 5 Canvas Boards painting size :30/40cm as sessional work.
4. Prepare 50 MCQ 'S from Modern Trends in Indian Art.