

**NOIDA PUBLIC SCHOOL**  
**WINTER VACATION ASSIGNMENT**

**Session: 2023- 24**

**CLASS- XI A**

Dear Students, Winter Vacation is round the corner, Hurray!! Have you started listing all exciting things you will do? Why not have fun with a little bit of learning along the way? So, here's a list of some enjoyable learning activities you can do at the noon time. Do them neatly and submit them after the vacations. Here are the ways by which you can make your holidays fun and learning at the same time:

- Go for a walk, talk about things you see around. Speak in English as much as possible.
- Help parents in small household chores like dusting, cleaning and watering the plants. NOTE: Do all the Assignment in a neat and legible handwriting in the Homework notebook.

**ENGLISH**

**1. PROJECT:**

**Make one informative Project on any prose piece or poem from your Syllabus.**

The project must have-

- a. Title Page
- b. About the Author
- c. A brief summary of the prose/poem
- d. Themes covered in the chapter / poem
- e. The Characters.
- f. Which Character you liked the most and why.
- g. Some sketches or pictures on the topic.

**2. Cut out 5 clippings of Classified Ads from the newspaper under the heads –**

- a. Situation Vacant
- b. Situation Wanted
- c. For sale

**MATHEMATICS**

1. Make a PowerPoint presentation on the topics -

From Roll no. 1 to 15 :- Relations and Functions ( In which you have to explain all the type of functions including their graphs , Cartesian product of two sets etc. )

From Roll no. 15 to 30 :- Conic Sections ( in which you have to explain whole concepts of parabola , hyperbola , ellipse , circle. )

2. Do the class assignment in your Mathematics Notebook

**PHYSICAL EDUCATION**

**Training & Doping in Sports**

1. Concept and Principles of Sports Training
2. Training Load: Over Load, Adaptation, and Recovery
3. Warming-up & Limbering Down – Types, Method & Importance
4. Concept of Skill, Technique, Tactics & Strategies

Write down notes on your notebook.

**BIOLOGY**

1. Do assigned investigatory project work.
2. Lab manual compilation.

## PHYSICS

1. Ten moles of hydrogen gas in a container compressed (i) isothermally (ii) adiabatically to one third of initial volume at temperature  $27^{\circ}\text{C}$ . Calculate work done in the process?
2. Efficiency of a heat engine can not be 100%, comment.
3. A Carnot's reversible engine working between two temperature  $227^{\circ}\text{C}$  and  $27^{\circ}\text{C}$ , absorb 2000 calories of heat from source. Calculate (i) efficiency (ii) work done (iii) heat rejected to sink?
4. A refrigerator convert 2 L of water at  $50^{\circ}\text{C}$  in to ice at  $0^{\circ}\text{C}$  in 2 hrs. If room temperature is  $27^{\circ}\text{C}$ , calculate (i) coefficient of performance (ii) power of compressor (iii) heat reject to room ?
5. Define interference of sound wave. Write down necessary conditions for two waves for interference?
6. Amplitude of SHM given by  $y = a + b \sin(\omega t + \pi/4)$ ?
7. The displacement of a particle is given by  $x = a \sin \omega t + b \cos \omega t$ . Prove that the motion is oscillatory?
8. Two waves  $Y_1 = 5 \sin 314t$  and  $Y_2 = 2 \sin 12.56t$ . calculate (i) ratio of intensity of two waves (ii) beat frequency?
9. State Carnot's theorem. Derive expression for efficiency of Carnot's reversible engine in terms of temperature of source and temperature of sink.
10. State Bernoulli's principle and prove it.
11. Explain on basis of above principle (i) Magnus effect (ii) Why tin shade, are blown off during storm?

**Note: solve this assignment in separate A-4 size sheets.**

## CHEMISTRY

1. Prepare an investigatory project file on any chemistry topic which is in accordance with class XI syllabus.
2. Draw the resonance structures of Aniline, Toluene, Nitrobenzene, Phenol, Benzene, Benzoic acid.

## COMPUTER SCIENCE

### Objective Type Questions

1. A \_\_\_\_\_ is a set of values of specific sequence.
2. Tuples are mutable as lists in python. (True/False)
3. Whenever any changes made to any element, the tuple creates a new tuple. (True/False)
4. Which of the following statement creates an empty tuple?
  1. `t = Empty()`
  2. `t = ()`
  3. `t = Tuple()`
  4. `t = empty_tuple()`
5. `t=67, t=(67)` or `t=(67,)` are the same statements. (True/False)
6. Which of the following is the correct statement to create a tuple from the existing sequence?
  1. `t = ()`
  2. `t = new tuple(<sequence>)`
  3. `t = tuple(<sequence>)`
  4. `t = Tuple(<sequence>)`
7. Tuples created using comma-separated tuple of expressions is called \_\_\_\_\_ tuples.
8. What will be output of: `t=(11,22,33,44); print(t[1+2])`?
  1. 3
  2. 33
  3. 44
  4. 1+2
9. What will be the output of `print(t[-3])` with respect to tuple created in Q-8?
  1. 22
  2. 33
  3. 44
  4. 11
10. If `t=(4,3,2)`, then what will be the output of: `print((t*2)+t)`?
  1. (4,3,2)

2. (8,6,4)
  3. (4,3,2,4,3,2,4,3,2)
  4. (16,9,4,4,3,2)
11. Consider the above tuple and find out which of the following statements will produce the same output:
1. `tp[:-1]`
  2. `tp[0:3]`
  3. `tp[0:2]`
  4. `tp[-2]`
12. If `t=(20,56,89,54,32,12)`, then what will be output for `print(t[4:-1])`?
1. (20,56,89,54,32,)
  2. (32,)
  3. (12,32,)
  4. (56,89,54,32,12)
13. The \_\_\_\_\_ operator is used to check whether particular element is a part of tuple or not.
14. If `t=(3,2,1)`, then what will be the output of `print(t + (4))`?
1. (3,2,1,4,)
  2. (4,3,2,1)
  3. Error
  4. None of these
15. What will be the output of : `t=(44,56,78);print(77 not in t)`?
1. Error
  2. True
  3. False
  4. 77

### Subjective Type Questions

1. What do you mean by tuples? Illustrate your answer with an example.
2. What is the significance of this statement with respect to a tuple in python?
  1. `t=("T")`
  2. `t=("T",)`
  3. `t=('T',)`
3. What is the difference between these two statements?
  1. `t= 6,7,8`
  2. `t=(6,7,8)`
4. Create a tuple of student's data by including rollno, name, and marks or 3 subjects.
5. What will be the output of `t=tuple('TutorialAICSIP')`? Explain it.
6. How to convert a list into a tuple? Explain with example.
7. Create a tuple with 5 elements of your choice (The values entered by the user).
8. Write similarities and difference between tuple and list.
9. What do you mean by the immutability of tuples? Illustrate your answer with an example.
10. What are the ways to access elements of the tuple? Enlist them and explain each of them in two lines.

### COUNSELLING

1. Paste the picture by explaining which things motivate you in your life.
2. Paste the picture by explaining what creates problems in your life while making decisions in your life.