

# SUMMER BREAK ASSIGNMENT

## Class-XI (2026-2027)

### **ENGLISH (301)**

#### WRITE THE ANSWERS OF THE FOLLOWING QUESTIONS IN YOUR ENGLISH NOTEBOOK

- Q1. You are Jacqueline from 27, Green Park, New Delhi. Your pet dog Brownie is missing. Write advertisement for the missing columns of a newspaper.
- Q2. You would like to let out a portion of your independence house for office useful stuff. Write an advertisement for the classified columns of the local newspaper giving all the necessary details. Write the advertisement in not more than 50 words.
- Q3. Fill the gaps with a suitable form of the verb in brackets:  
Anyway, we (a)\_\_\_\_\_ (sit) in the plane and (b)\_\_\_\_\_ (just / take) off when there (c)\_\_\_\_\_ (be) a loud bang from the right hand side of the plane and I could see a lot of smoke coming from one of the engines. Of course, everyone (d)\_\_\_\_ (start) looking around but the plane (e)\_\_\_\_\_ (carry) on flying normally. And then a few minutes later the pilot \_\_\_\_\_ (come) on to the PA and said there was a problem with one of the engines and we'd have to return to the airport.
- Q4. The grandmother herself was not formally educated but was serious about the author's education. How does the text support this?
- Q5. How does the poet's past differ from her mother's? ( A Photograph)
- Q6. Explain: "Murad enjoyed being alive more than anybody else who had ever fallen into the world by mistake".
- Q7. How does the narrator portray his Uncle Khosrove?
- Q8. Cut out 2 clippings of Classified Advertisement under the following heads:
- For Sale
  - TO - LET
  - Missing Person
  - Situation Vacant
- Art-Integrated Project**
- Q9. Prepare a PowerPoint presentation on the theme of loss and the passage of time in 'A Photograph', with reference to poetic devices and personal emotions.



12. Calculate:

- Total number of spherical nodes in 3p orbital.
- Total number of nodal planes in 3p orbital.
- Nodal planes in 3d orbital.

13.a. State Heisenberg uncertainty principle. Give its mathematical expression. Also give its significance.

b. Calculate the uncertainty in the position of a dust particle with mass equal to 1 mg if the uncertainty in its velocity is  $5.5 \times 10^{-20}$  m/s.

14. A binary solution is made up of two liquids that are entirely miscible with each other. In a binary solution, the component with the lowest concentration is known as the solute, while the component with the highest concentration is known as the solvent. One mole of the solute a 1 molar solution. 1 molal solution is one in which one mole of solute is dissolved in one kilogram of solvent. The number of moles of a given component to the total number of moles in the solution is referred to as the mole fraction.

(a.)  $6.02 \times 10^{20}$  molecules of urea are present in 100 mL of its solution. The concentration of the solution is:

- (a) 0.02 M                      (b) 0.01 M                      (c) 0.001 M                      (d) 0.1 M

(b.) What will be the mole fraction of glycol  $C_2H_4(OH)_2$  in a solution containing 45 g of water and 56 g of glycol?

- (a) 0.31                      (b) 0.50                      (c) 0.26                      (d) 0.10

(c.) The value of molality for pure water is:

- (a) 55.55                      (b) 52.6                      (c) 52                      (d) 25

(d.) What is the mass per cent of the carbon in ethanol?

- (a) 59                      (b) 42                      (c) 45                      (d) 52

(e.) What is the correct advantage for using molality over molarity?

- (a) Molarity does not depend upon temperature    (b) Molality does not depend upon temperature  
(c) Molality depends on temperature.                      (d) None of the above

15. Read the following passage and answer the questions that follow:

Modern periodic table arranges the elements in the increasing order of atomic number. It has 18 groups and 7 periods. Atomic numbers are consecutive in a period and increases in group in a pattern. Elements are divided into four blocks, *s*-block, *p*-block, *d*-block and *f*-block based on their electronic configuration. 78% of elements are metals, about 20 elements are non-metals and few elements like B, Si, Ge, As are metalloids. Metallic character increases down the group but decreases along the period from left to right. The physical and chemical properties vary periodically with their atomic numbers. Periodic trends are observed in atomic size, ionisation enthalpies, electron gain enthalpies, electronegativity and valence. Oxides of metals are basic, some are amphoteric. Non-metals form acidic oxides, some form neutral oxides. *s*-block elements are soft, highly reactive, do not show variable oxidation states. *p*-block elements are metals, non-metals as well as metalloids, show variable oxidation states, exist as solids, liquids and gases. *d*-block elements are metals, form coloured ions, show variable oxidation states, have high melting and boiling points. Lanthanoids and actinoids are *f*-block elements, form coloured ions. All actinoids are radioactive.

(a) What are representative elements?

(b) Which of the following belong to d-block but are not transition elements? Zn, Cd, Hg, Ag.

(c) (i) What is difference between oxidation states of *p*-block and d-block elements?

(ii) Which group elements are most electropositive and most electronegative respectively?

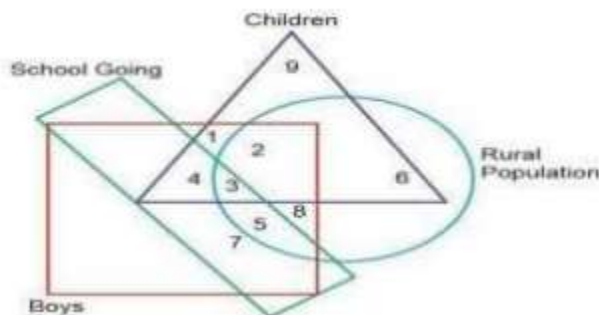


- Q8 A body sliding down on a smooth inclined plane slides down  $\frac{1}{4}$ <sup>th</sup> distance in 2s. It will slide down the complete plane in
- (a)4s                      (b)5s                      (c)2s                      (d)3s
- Q9 An object is in uniform motion along a straight line. What will be position – time graph for the motion of the object if
- (a) $x_0 = +ve$  ,  $v = +ve$                       (b) $x_0 = +ve$  ,  $v = -ve$
- Q10 The velocity-time relation of an electron starting from rest is given by  $v = kt$ , where  $k = 2 \text{ ms}^{-2}$ . Calculate the distance traversed in 3s.
- Q11 A ball is released from the top of a tower of height  $h$  metres. It takes  $T$  seconds to reach the ground. What is the position of the ball in  $T/3$  seconds?
- Q12 A player throws a ball upwards with an initial speed of 29.4m/s.
- (a)What is the direction of acceleration during the upward motion of the ball?
- (b)What are the velocity and acceleration of the ball at the highest point of its motion?
- Q13 Obtain dimensions of  
(i) impulse (ii) power (iii) surface energy (iv) bulk modulus (vi) force constant.
- Q14 State and prove the relation for distance travelled by a body in  $n^{\text{th}}$  second. Consider the acceleration remains uniform during the motion.

## **MATHEMATICS (041)**

### Q1. CASE BASED QUESTIONS

Venn diagrams were invented by a logician John Venn as a way of picturing relationships between different groups of things. These diagrams, also called Set diagrams or Logic diagrams, are widely used in mathematics, statistics, logic, teaching, linguistics, computer science and business. In the following diagram, triangle shows children, circle shows rural population, rectangle shows school going population & square shows boys.



Based on the information stated above answer the below given questions:-

- (i) The rural boys not going to school are denoted by which number?  
(a) 1 (b) 2 (c) 1,2 (d) 2,8
- (ii) The children from rural population not going to school are denoted by which number?  
(a) 1 (b) 2 (c) 6 (d) 2,6
- (iii) What is represented by number 4?  
(a) Children who are not from rural population  
(b) Children who are boys  
(c) School going boys  
(d) School going boys who are not from rural population
- (iv) School going boys from village are denoted by which number?  
(a) 3 (b) 3,5 (c) 3,4 (d) 3, 4, 5,7
- (v) Number of children who are not from rural population?  
(a) 8 (b) 2 (c) 7 (d) 9

Q2. If  $A = \{1, 3, 5, 7, 11, 13, 15, 17\}$ ,  $B = \{2, 4, 6, 8, \dots, 18\}$  and  $U$  is universal set then find:  $A' \cup [(A \cup B) \cap B']$ .

Q3. Let  $A = \{1, 2, 3, 4\}$ ,  $B = \{1, 2, 3\}$  and  $C = \{2, 4\}$ . Find all sets of  $X$  satisfying each pair of conditions:

- (a)  $X \subset B$  and  $X \not\subset C$   
(b)  $X \subset B$ ,  $X \neq B$  and  $X \not\subset C$   
(c)  $X \subset A$ ,  $X \subset B$  and  $X \subset C$

Q4. Let  $P$  and  $Q$  be sets, if  $P \cap X = Q \cap X = \emptyset$  &  $P \cup X = Q \cup X$  for some set  $X$ . Show that  $P = Q$ .

Q5. Let  $A = \{-2, -1, 0, 1, 2\}$  and  $f: A \rightarrow Z$  be given by  $f(x) = x^2 - 2x - 3$ .

- Find: (a) the range of  $f$   
(b) pre-images of 6, -3 and 5.

Q6. A teacher asked randomly his two students to draw graph (figure) on the black board. Two students Raman and Prashant draw figure (graphs)

- (a) and (b) one by one on the board as shown below:

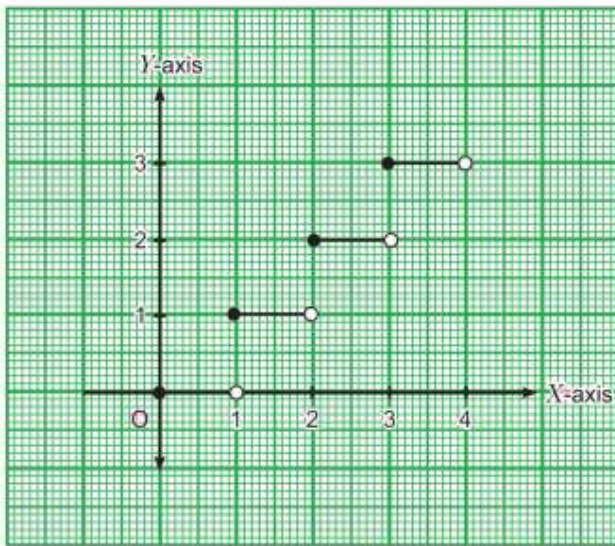


Figure (a)

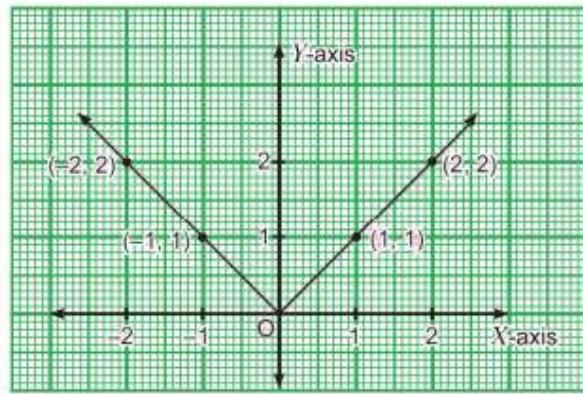


Figure (b)

- (i) For the figure (a), write the function in terms of  $x$ .  
 (ii) The function  $f : \mathbb{R} \rightarrow \mathbb{R}$  defined by  $f(x) = |x|$  then write the value of  $f(-3)$ .  
 (iii) (a) For the figure (b), write the function in terms of  $x$ .

**OR**

- (iii) (b) Write the range of the function  $f(x)$  of the figure (a).

$$2\sin^2 \frac{3\pi}{4} + 2\cos^2 \frac{3\pi}{4} - 2\tan^2 \frac{3\pi}{4}.$$

Q7. Find the value of

Q8. Prove the following :  $\sin 10^\circ + \sin 20^\circ + \sin 40^\circ + \sin 50^\circ = \sin 70^\circ + \sin 80^\circ$ .

Q9. Find the value of  $\tan 22^\circ 30'$ .

### Art-Integrated Project

Prepare Powerpoint presentation on : Trigonometry function, Conic sections

## BIOLOGY (044)

I. Complete the writing part of practical note book.

### Art-Integrated Project

II. Prepare an Investigatory Project on the topics of your choice.

III. Art Integrated Project (Make separate file for art integrated project)

- Task: Select any five organisms from different kingdoms and create a taxonomy chart for each.
- Instructions:
  1. Include Kingdom, Phylum, Class, Order, Family, Genus, and Species.
  2. Provide images or drawings of each organism.
  3. Write a short paragraph about each organism's habitat, behavior, and any unique characteristics.

## **ECONOMICS (030)**

Do all the questions in an assignment notebook.

### 1) Multiple Choice Questions (MCQ)

- 1) When the Percentage change in Quantity demanded is less than percentage change in price, elasticity of demand is :
  - a. Less than unity
  - b. More than unity
  - c. Equal to unity
  - d. None of the above
- 2) The statistical study begins with collection of data and ends with:
  - a. Organization of Data
  - b. Analysis of Data
  - c. Interpretation of Data
  - d. Presentation of Data
- 3) The survey which helps in pre-testing the questionnaire is called\_\_\_\_\_.
- 4) NSSO provides periodic estimates of-:
  - a. Literacy and utilization of educational services
  - b. Employment and Unemployment
  - c. Manufacturing and service sector enterprises
  - d. All of these
- 2) Distinguish between increase in demand and increase in quantity demanded of a commodity.
- 3) When price of a good is Rs.13 per unit ,the consumer buys 11 units of that good. When price rises to Rs 15 per unit , the consumer continues to buy 11 units. Calculate price Elasticity of Demand.
- 4) Explain the effect of the following on Price Elasticity of Demand of a commodity:
  - a. Number of substitutes
  - b. Nature of commodity
- 5)When price of a good is Rs.7 Per Unit a consumer buys 12 units .When Price falls to Rs.6 per unit , he spends Rs.72 on the good .Calculate Price Elasticity of Demand by using Percentage method.
- 6)Write any four methods of collecting primary data .Explain any one method along with its two merits and demerits.
- 7)“Statistics are figure, but all figures are not statistics”. Justify the statement.

### **Art-Integrated Project**

Project on any topic based on the curriculum as discussed in class

## **BUSINESS STUDIES (054)**

**Learn and write all questions in your Assignment Notebook.**

Q1. Sankalp is a successful entrepreneur dealing in Automobile sector especially with Two Wheelers at Ahmedabad. He has been constantly earning good profit from his business and investing surplus towards expansion of his business. All the latest Two Wheeler models are available at his showroom. His marketing and sales team are managed to create new customers from time to time. His unique style of business management has brought him success. Which type of objectives followed by the entrepreneur?



2. What is Accounting? State any 4 Limitations & Advantages.
3. Difference between Book- Keeping & Accounting. (Any 4 points)
4. Resignation by a Marketing Manager is not recoded in the books of Account. Why?
5. Write a short on Double Entry System of Accounting.
6. Explain the following terms with images & examples-  
Account, Capital, Drawings, Liabilities, Assets, Prepaid Expense,  
Outstanding Expense, Receipts, Trade Receivables and Trade Payables.
7. Paste the financial statements of various companies taken from daily newspaper.(Any 4)
8. Find out the names of any five companies registered on a stock exchange. Monitor the prices of their shares for 15 working days. Write your observation about changes in their prices.
9. Note down the Transactions for 15 days from 1st June 2026 to 15th June of the business organisation.

### **PSYCHOLOGY (037)**

- Q.1 \_\_\_\_\_ established the first experimental laboratory in Leipzig, Germany.  
a) John Dewey    b) John Watson    c) Carl Rogers    d) Wilhelm Wundt
- Q.2 John Watson and Skinner both contributed to which school of psychology?  
a) Psychoanalysis                      b) Behaviorism  
c) Functionalism                         d) Cognitive Psychology
- Q.3 The word Psychology comes from \_\_\_\_\_ words.  
a) Greek                                      b) Latin                                      c) Italian                                      d) Spanish
- Q.4 \_\_\_\_\_ work with people to help them solve problems of daily living and cope more effectively in challenging situation.  
(1)  
a) Clinical psychologist                      b) Organizational Psychologist  
b) Educational Psychologist                      d) Counselling Psychologist
- Q.5 Identify the correct sequence of the stages of evolution of Psychology.  
a) Constructivism, Psychoanalysis, Behaviourism & Introspection  
b) Structuralism, Gestalt psychology, Behaviourism & Psychoanalysis  
c) Introspection, Humanistic approach, Functionalism & Cognitive perspective  
d) Constructivism, Structuralism, Behaviourism & Functionalism
- Q.6 One the basis of language, a test can be of the following types?  
i. Group                                      ii. Verbal                                      iii. Non-verbal                                      iv. Performance  
a) i, ii and iv                                      b) i, iii and iv                                      c) ii, iii and iv                                      d) d.i, ii and iii

Q.7 In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice.

Assertion (A): In a speed test, there is a time limit within which the test taker is required to answer all the items.

Reason (R): The test evaluates the individual's underlying ability.

- Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of Assertion (A).
- Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).
- Assertion (A) is true, but Reason (R) is false.
- Assertion (A) is false, but Reason (R) is true.

Q.8 Explain the procedure of introspection.

Q.9 Differentiate between a psychologist and a psychiatrist.

Q.10. Describe some of the areas of everyday life where understanding of psychology can be put to practice.

Q.11 Explain the experimental method in detail?

Q.12. Read the case and answer the questions that follow. Mr. Iyer has been selected as a participant for research. He was called inside the psychology lab and handed over a form which had important details about the research. As a part of the research, he was randomly selected for a group which did not receive the manipulation of the independent variable. The research started and at end of the research, the researcher assured that all the participants of the research left the research with the same mental and physical state as they entered.

- In the above scenario, which ethic is being followed when Mr. Iyer enters the psychology lab?
- Which method of data collection is used in the above scenario and name the group of which Mr. Iyer is a part?

Q.13. What are the problems for which collaboration of psychologists with other disciplines can be fruitful? Take any two problems to explain.

Q.14. A researcher is studying the relationship between speed of cycling and the presence of people. Formulate a relevant hypothesis and identify the independent and dependent variables.

Q.15. What are the ethical guidelines that a psychologist needs to follow while conducting a psychological enquiry?

### **Art-Integrated Project**

The project would involve the use of different methods of enquiry like observation, survey, interview, questionnaire, small studies related to the topics covered in the course.

## **COMPUTER SCIENCE (083)**

Note: Do all the questions in assignment notebook.

**Q1 Convert the following numbers. Show all your rough work**

- Convert the Binary number 101011 to its Decimal equivalent.
- Convert  $(11011.101)_2$  to decimal.
- Convert  $(105.15)_{10}$  to binary
- Convert  $(23.25)_8$  to decimal

- (v) Convert  $(1E.8C)_{16}$  to decimal
- (vi) Convert  $(11100.1010)_2$  to hexadecimal equivalent.
- (vii) Convert the Hexadecimal number  $(10AF)_{16}$  to its Binary equivalent.
- (viii) Convert the Hexadecimal number  $(A42)_{16}$  to its Octal equivalent.
- (ix) Convert the Octal number  $(762)_8$  to its hexadecimal equivalent
- (x) Convert the  $(43)_{10}$  to its Binary number

**Q2. Define following gates and draw logic circuit diagram**

- (a) OR Gate
- (b) AND Gate
- (c) NOT Gate
- (d) NAND Gate
- (e) NOR Gate

**Q3. Prove by Boolean Algebra rules  $X(X + Y) = X$**

**Q4. Prove by Truth Table**

- (a)  $X + X'Y = X + Y$
- (b)  $AB + AC + ABC = AB + AC$

**Q5. Construct a logic diagram for expression**

- (a)  $A \cdot B + C$
- (b)  $A \cdot B + B \cdot C$
- (c)  $B \cdot (A + C)$

**Q6. Programming Section**

- (a) Write a program to calculate compound simple interest after taking the principle, rate and time.
- (b) Write a program to check the given year is leap year or not.
- (c) Write a program to take two numbers and check that the first number is fully divisible by second number or not.
- (d) Write a program to take the temperatures of all 7 days of the week and displays the average temperature of that week.

**Q7. Art-Integrated Project**

Prepare a PowerPoint Presentation or Video Making on “Use of Python Language in App Development”.

**ARTIFICIAL INTELLIGENCE(843)**

PYTHON PROGRAMMING (UNIT 3)

Note : Do your assignment in your classwork notebook

**Q1 Multiple choice questions**

1. Identify the datatype L = “45”
  - a. String
  - b. int
  - c. float
  - d. tuple
2. Which of the following function converts a string to an integer in python?
  - a. int(x)
  - b. long(x)
  - c. float(x)
  - d. str(x)
3. Which special symbol is used to add comments in python?
  - a. \$
  - b. //
  - c. /\*... \*/
  - d. #
4. Which of the following variable is valid?
  - a. Str name
  - b. lstr
  - c. \_str
  - d. #Str
5. Elements in the list are enclosed in \_\_\_\_\_ brackets
  - a. ( )
  - b. { }
  - c. [ ]
  - d. /\* \*/
6. Index value of last element in list is \_\_\_\_\_
  - a. 0
  - b. -10
  - c. -1
  - d. 10
7. What will be the output of the following code?
 

```
a = [10,20,30,40,50] print(a[0])
```

  - a. 20
  - b. 50
  - c. 10
  - d. 40

8. Name the function that displays the data type of the variable.  
 a. data()                      b. type()                      c. datatype()                      d. int()
9. Which library helps in manipulating csv files?  
 a. files                      b.csv                      c. math                      d. print
10. Which keyword can be used to stop a loop?  
 a. stop                      b.break                      c. brake                      d. close

### **ART- INTEGRATED PROJECT**

Q2 Prepare a Power point presentation on “ AI in everyday life “

## **PHYSICAL EDUCATION (048)**

### **Short Type Answer**

- Q1. Discuss the career opportunities in communication media in brief.
- Q2. Write a short note on performance related careers:  
 (a) As player                      (b) As coach
- Q3. Write down the rules of competitions for Ancient Olympic Games.
- Q4. Discuss about the National Olympic Committees.
- Q5. Elucidate about the development of values through Olympism.

### **Long Type Answer**

- Q6. Write short notes in brief on the following:  
 (1) Olympic Motto                      (2) Olympic Flag                      (3) Olympic Flame  
 (4) Olympic Award                      (5) Olympic Oath
- Q7. Briefly explain the International Olympic Committee.
- Q8. Elaborate the Khelo India Programme & Fit India Movement in detail.

### **PRACTICAL FILE WORK**

PRACTICAL 1- SAI Khelo India Fitness Test.

PRACTICAL 2- anyone IOA recognized sport/game of choice. Labelled diagram of field and equipment. Also mention its rules, terminologies and skills.

## **PAINTING (049)**

Question 1

"Create a village scene,

City scene , hili area scene, sunset scene, morning scene depicting two people and two animals/birds using watercolors or poster colors."

Question 2

"Create a scene depicting a balloon seller, Vegetable seller, market scene and anu 2 compositions using poster colors or watercolors."watercolor3

"Create any 5 still life in any 5 objects in this still life using poster colors or watercolors