



DAV PUBLIC SCHOOL HEHAL, RANCHI

Subject:-Computer Science (083)

Holiday Homework (2026-27)

Class: XII

<p>1. Find the output: a)</p> <pre>def cal(m,n): if m==n: return m*3 else: return n*2 s = cal("Amit", "Anuj") print(s)</pre> <p>a. AmitAmitAmit</p> <p>b. AmitAmit</p> <p>c. AnujAnujAnuj</p> <p>d. AnujAnuj</p>	<p>b)</p> <pre>def cal(m,n): if m==n: return m*3 else: return m*2 s = cal(9, 8) print(s)</pre> <p>a. 16</p> <p>b. 18</p> <p>c. 27</p> <p>d. 24</p>
<p>c)</p> <pre>def s(n1): print(id(n1)) n2=4 s(n2) print(id(n2))</pre> <p>a. Function name is 's'</p> <p>b. Function 's' is taking one parameter.</p> <p>c. Both print statement will print the same value.</p> <p>d. Both print statement will print different value.</p>	<p>d)</p> <pre>def s(n1): print(n1) n2=4 s(n2)</pre> <p>Statement A : n1 and n2 have same memory Address Statement B : both n1 and n2 are referring to the same value, so they have same identity</p> <p>a. Statement A is True and Statement B is False</p> <p>b. Statement A is False and Statement B is True</p> <p>c. Both the statements are True</p> <p>d. Both the statements are False</p>

<p>2. Which statement will execute in last.</p> <pre>def s(n1): #Statement 1 print(n1) #Statement 2 n2=4 #Statement 3 s(n2) #Statement 4</pre>	
<p>3. Which is having wrong header.</p> <p>a. <code>def sum(n1, n2, n = 3):</code></p> <p>b. <code>def scan(p1, p2 = 4, p3 = 5):</code></p> <p>c. <code>def div(p1=4, p2, p3):</code></p> <p>d. <code>def mul(p1, n1, m1):</code></p>	<p>4. Which of the following(s) is True.</p> <p>a. We can create function with no argument and no return value.</p> <p>b. We can create function with no argument and with return value(s)</p> <p>c. We can create function with argument(s) and no return value.</p> <p>d. All of the above</p>
<p>5.</p> <pre>a = 9 def sound(): _____ a print(a) sound()</pre> <p>a) local b) global</p>	<p>6.) Find the output:</p> <pre>a = 9 def sound(): b = 7 print(a) sound() print(b)</pre>
<p>7. Find the output</p> <pre>def check(): i = 5 while i > 1: if i // 2 == 0: x = i + 2 i = i - 1 else: i = i - 2 x = i print(x) check()</pre>	<p>8.</p> <pre>x = 3 def myfunc(): global x x += 2 print(x, end=' ') print(x, end=' ') myfunc() print(x, end=' ')</pre>

9. <pre>def my_func(var1=100, var2=200): var1 += 10 var2 = var2 - 10 return var1+var2 print(my_func(50),my_func())</pre>	10. <pre>value = 50 def display(N): global value value = 25 if N%7==0: value = value + N else: value = value - N print(value, end="#") display(20) print(value)</pre>
11. <pre>def ChangeVal(M,N): for i in range(N): if M[i]%5 == 0: M[i]//=5 if M[i]%3 == 0: M[i]//=3 L = [25,8,75,12] ChangeVal(L,4) for i in L: print(i,end="#")</pre>	

Please complete in your Homework copy.



DAV PUBLIC SCHOOL HEHAL, RANCHI

Subject:-Biology

Holiday Homework (2026-27)

Class: XII

A) Make “investigatory project” (spiral binding and it should be printed) with following heading in it.

1. First page- topic, submitted to/submitted by
2. Certificate
3. Acknowledgment
4. Contents
5. Introduction
6. Theory
7. Observation
8. Conclusion
9. Bibliography

B) Write down the answer of the following questions:-

- Q1. Describe the structure of anatropous ovule with labelled diagram.
- Q2. Explain menstrual cycle and hormonal regulation.
- Q3. Describe different contraceptive methods with advantages.
- Q4. A man underwent vasectomy but still produced sperms normally. Explain why pregnancy does not occur.
- Q5. How do self-incompatibility restrict autogamy? How does pollination occur in such plants?
- Q6. What are the characteristics of wind, water and insect-pollinated flowers?
- Q7. Why is parturition considered a neuroendocrine mechanism?
- Q8. With diagram explain the development of dicot embryo.
- Q9. Explain significance of double fertilization in seed formation.
- Q10. A woman missed her menstrual cycle and pregnancy test showed high levels of hCG hormone.
- a) Which organ secretes hCG initially?
 - b) What is the role of hCG?
 - c) Which structure nourishes the embryo?
 - d) Why does menstruation stop during pregnancy?
- Q11. An infertile couple underwent IVF treatment where ova and sperms were fertilized outside the body and embryo was transferred into uterus.
- a) Expand IVF.
 - b) Why is IVF useful in infertility?
 - c) Where does fertilization occur in this method?
 - d) Name one other ART technique.



DAV PUBLIC SCHOOL HEHAL, RANCHI
Subject:-Painting (049)
Holiday Homework (2026-27)
Class: XII

- (1) Draw still life composition with effect of light and Shadow.(9)
- (2) Draw composition (City ,village, sports,festival) and paint with watercolour medium, including human figures . (9)
- (3) Draw(own choices') composition (2)

Note: -On A3 Sheet



DAV PUBLIC SCHOOL HEHAL, RANCHI

Subject:-Chemistry (043)

Holiday Homework (2026-27)

Class: XII

01.	3.9 g of benzoic acid is dissolved in 49 g of benzene shows a depression in freezing point of 1.62 K. Calculate the van't Hoff factor and predict the nature of solute (associated or dissociated). (Given: Molar mass of benzoic acid = 122 g mol^{-1} , K_f for benzene = $4.9 \text{ K kg mol}^{-1}$)
02.	A solution containing 1.9g per 100mL of KCl ($M = 74.5 \text{ g mol}^{-1}$) is isotonic with a solution containing 3g / 100mL of urea ($M = 60 \text{ g mol}^{-1}$). Calculate the degree of dissociation of KCl solution. Assume that both the solutions have same temperature.
03.	Explain : a) Measurement of osmotic pressure method is preferred for the determination of molar masses of macromolecules such as proteins and polymers. b) Elevation of boiling point of 1 M KCl solution is nearly double than that of 1 M sugar solution
04.	Automobile radiator is filled with 1.0 kg of water. How many grams of ethylene glycol (Molar mass = 62 g/mol) should be added to get the freezing point of the solution lowered to -2.8°C . (K_f for water is $1.86 \text{ K kg mol}^{-1}$)
05.	The mass of silver (Molar mass of Ag : 108 g mol^{-1}) displaced by a quantity of electricity which displaces 5600mL of O_2 at S.T.P. will be _____ g.
06.	The hydrogen electrode is dipped in a solution of pH = 3 at 25°C . The potential of the electrode will be _____ $\times 10^{-2} \text{ V}$.
07.	The standard electrode potential (M^{3+}/M^{2+}) for V, Cr, Mn & Co are -0.26 V , -0.41 V , $+1.57 \text{ V}$ and $+1.97 \text{ V}$, respectively. The metal ions which can liberate H_2 from a dilute acid are.
08.	A metal surface of 100 cm^2 area has to be coated with nickel layer of thickness 0.001mm. A current of 2A was passed through a solution of $\text{Ni}(\text{NO}_3)_2$ for 'x' seconds to coat the desired layer. The value of x is (Nearest integer) (ρ_{Ni} (.. density of Nickel) is 10 g mL^{-1} , Molar mass of Nickel is _____ 60 g mol^{-1} $F = 96500 \text{ C mol}^{-1}$)
09.	Resistance of a conductivity cell filled with a solution of an electrolyte of concentration 0.1M is 100Ω . The conductivity of this solution is 1.29 S m^{-1} . Resistance of the same cell when filled with 0.2M of the same solution is 520Ω . The molar conductivity of 0.2M solution of electrolyte will be.
10.	Calculate the electricity that would be required to reduce 12.3 g of nitrobenzene to aniline, if the current efficiency for the process is 50 per cent. If the potential drop across the cell is 3.0 volt, how much energy will be consumed?



DAV PUBLIC SCHOOL HEHAL, RANCHI

Subject:-English (301)

Holiday Homework (2026-27)

Class: XII

- 1) Franz thinks, "will they make them sing in German, even the pigeons?" The Last Lesson illustrates linguistic Chauvinism. Discuss.
- 2) What poetic devices has the poet used in "My Mother at Sixty Six"?
- 3) According to Charley, why can't Sam go back to his old business in Galesburg?
- 4) The callousness of our society is responsible for the plight of the downtrodden. Justify the statement in relation to the theme of "Lost Spring".
- 5) You are Vrinda Tripaathi/Vinod Tripaathi, President of 'Literature club'. Draft a notice in 50 words for your school notice board giving necessary details and inviting students for a 'Literature Quiz' to be held in your school auditorium.



DAV PUBLIC SCHOOL HEHAL, RANCHI

Subject:-Economics (030)

Holiday Homework (2026-27)

Class: XII

1. “Delhi Mumbai Industrial Corridor (DMIC) has been envisaged as one of the largest infrastructure projects being implemented in India, along with Smart Cities Mission, Bharatmala and Sagarmala – both in financial and geographical terms.” Elaborate the impact of these projects on GDP and welfare.
2. During an economic downturn the government encourages citizens to save more for their future security. However, economists argue that if every household increases their savings simultaneously without a corresponding increase in investment, the total national income will fall.
Q1.) Using the circular flow logic, explain why “Savings” are considered a leakage.
Q2.) Describe the “multiplier effect” in reverse that occurs when leakages exceed injections in the circular flow.

3. Calculate Gross National Product at Factor Cost from the following data by Income Method:

Particulars	(Rs. In Crore)
(i) Private final consumption expenditure	1000
(ii) Net domestic capital formation	200
(iii) Profits	400
(iv) Compensation of employees	800
(v) Rent	250
(vi) Government final consumption expenditure	500
(vii) Consumption of fixed capital	60
(viii) Interest	150
(ix) Net current transfer from rest of the world	(-) 80
(x) Net factor income from abroad	(-) 10
(xi) Net exports	(-) 20
(xii) Net indirect taxes	80

4. Calculate national Income:

Particulars	(Rs. In Crore)
(i) Corporation tax	100
(ii) Private final consumption expenditure	900
(iii) Personal income tax	120
(iv) Government final consumption expenditure	200
(v) Undistributed profits	50
(vi) Change in stocks	(-) 20
(vii) Net domestic capital formation	120
(viii) Net imports	10
(ix) Net indirect tax	150
(x) Net factor income from abroad	(-) 10
(xi) Private income	1000

5. In an economy, there are only two producers, A and B.
- Firm A sells goods worth Rs. 2000 to Firm B and Rs. 3000 to households.
 - Firm B sells goods worth Rs. 4000 to consumers and exports goods worth Rs. 1000.
 - Firm A's opening stock was Rs. 500 and closing stock is Rs. 700.
 - Firm B bought raw materials worth Rs. 1500 from the rest of the world.
- Calculate (i) Value Added by Firm A and B, (ii) GDP at MP.

6. Calculate National Income.

Particulars	(Rs. In Crore)
(i) Value of output of primary sector	1000
(ii) Value of output of secondary sector	800
(iii) Value of output of tertiary sector	600
(iv) Intermediate consumption of primary sector	500
(v) Intermediate consumption of secondary sector	400
(vi) Intermediate consumption of tertiary sector	300
(vii) Consumption of fixed capital	80
(viii) Indirect taxes	100
(ix) Subsidies	20
(x) Net factor income from abroad	(-) 30

7. Calculate national income by (a) Income Method and (b) Expenditure Method:

Particulars	(Rs. In Crore)
(i) Mixed income of self employed	700
(ii) Old age pensions	200
(iii) Profit	600
(iv) Government final consumption expenditure	1100
(v) Net indirect tax	150
(vi) Interest	400
(vii) Net domestic capital formation	650
(viii) Net factor income from abroad	(-) 40
(ix) Private final consumption expenditure	2400
(x) Compensation of employees	1500
(xi) Net imports	60
(xii) Rent	300
(xiii) Consumption of fixed capital	100



DAV PUBLIC SCHOOL HEHAL, RANCHI

Subject:-Mathematics (041)

Holiday Homework (2026-27)

Class: XII

Question no -1

Gautam buys 5 pens, 3 bags and 1 instrument box and pays a sum of ₹ 160. From the same shop, Vikram buys 2 pens, 1 bag and 3 instrument boxes and pays a sum of ₹ 190. Also Ankur buys 1 pen, 2 bags and 4 instrument boxes and pays a sum of ₹ 250.

Based on the above information, answer the following questions :

(I) Convert the given above situation into a matrix equation of the form $AX = B$.

(II) Find $|A|$.

(III) Find A^{-1} .

OR

(III) Determine $P = A^2 - 5A$.

Question no -2

Sonia and Deepa were playing snakes& ladder at home during Covid-19 lockdown.

While rolling the dice Sonia's Brother Ravi observed that the possible outcomes on rolling the dice are $\{1, 2, 3, 4, 5, 6\}$



Question no -3

Let A be the set of players and B be the set of outcomes of a throw i.e. $A = \{S, D\}$ and $B = \{1, 2, 3, 4, 5, 6\}$

Answer the following questions using the above information

1) Let R be a relation on B defined as $R =$

$\{(a, b) : a \text{ is divisible by } b\}$, then check R is equivalence relation ?

2) Ravi wants to know about the functions from A to B . How many functions are possible ?

3) Ravi wants to know the number of relations possible from A to B . How many relations are possible from A to B ?

Question no -4

A scholarship is a sum of money provided to a student to help him or her pay for education. Some students are granted scholarships based on their academic achievements, while others are rewarded based on their financial needs.



Every year a school offers scholarships to girl children and meritorious achievers based on certain criteria. In the session 2022 – 23, the school offered monthly scholarship of ₹ 3,000 each to some girl students and ₹ 4,000 each to meritorious achievers in academics as well as sports.

In all, 50 students were given the scholarships and monthly expenditure incurred by the school on scholarships was ₹ 1,80,000.

Based on the above information, answer the following questions :

- (i) Express the given information algebraically using matrices. 1
- (ii) Check whether the system of matrix equations so obtained is consistent or not. 1
- (iii) (a) Find the number of scholarships of each kind given by the school, using matrices. 2

OR

- (iii) (b) Had the amount of scholarship given to each girl child and meritorious student been interchanged, what would be the monthly expenditure incurred by the school? 2

5. If $A = \begin{bmatrix} 1 & -1 & 0 \\ 2 & 3 & 4 \\ 0 & 1 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 2 & 2 & -4 \\ -4 & 2 & -4 \\ 2 & -1 & 5 \end{bmatrix}$. Find AB . Hence, solve the system of equations :
 $x - y = 3, 2x + 3y + 4z = 17, y + 2z = 7$

6. Let N denote the set of all natural numbers and R be the relation on $N \times N$ defined by

$(a, b)R(c, d)$ if $ad(b + c) = bc(a + d)$. Show that R is an equivalence relation

7. Let $f: N \rightarrow N$ be obtained by

$$f(x) = \left\{ \begin{array}{l} \frac{n+1}{2}, \text{ if } n \text{ is odd} \\ \frac{n}{2}, \text{ } n \text{ is even} \end{array} \right\} \forall a \in N$$

State whether the function f is bijective. Justify Your answer



DAV PUBLIC SCHOOL HEHAL, RANCHI

Subject:-Informatics Practices (065)

Holiday Homework (2026-27)

Class: XII

1. What is a Series and how is it different from a 1-D array, a list and a dictionary?
2. What is a DataFrame and how is it different from a 2-D array?
3. How are DataFrames related to Series?
4. What do you understand by the size of (i) a Series, (ii) a DataFrame?
5. Create the following Series and do the specified operations:
 - a) EngAlph, having 26 elements with the alphabets as values and default index values.
 - b) Vowels, having 5 elements with index labels 'a', 'e', 'i', 'o' and 'u' and all the five values set to zero. Check if it is an empty series.
 - c) Friends, from a dictionary having roll numbers of five of your friends as data and their first name as keys.
 - d) MTseries, an empty Series. Check if it is an empty series.
 - e) MonthDays, from a numpy array having the number of days in the 12 months of a year. The labels should be the month numbers from 1 to 12.
6. Create the following DataFrame Sales containing year wise sales figures for five sales persons in INR. Use the years as column labels, and sales person names as row labels.

	2014	2015	2016	2017
Madhu	100.5	12000	20000	50000
Kusum	150.8	18000	50000	60000
Kinshuk	200.9	22000	70000	70000
Ankit	30000	30000	100000	80000
Shruti	40000	45000	125000	90000

7. Use the DataFrame created in Question 6 above to do the following:
 - a) Display the row labels of Sales.
 - b) Display the column labels of Sales.
 - c) Display the data types of each column of Sales.
 - d) Display the dimensions, shape, size and values of Sales.
 - e) Display the last two rows of Sales.
 - f) Display the first two columns of Sales.

Note: Do in Separate Copy and Submit it



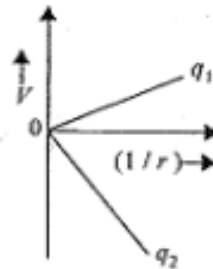
DAV PUBLIC SCHOOL HEHAL, RANCHI

Subject:-Physics (042)

Holiday Homework (2026-27)

Class: XII

1. A soap bubble is given a negative charge, then how its radius will change?
2. Two point charges q_1 and q_2 are placed close to each other in air. What is the nature of force between them when (i) $q_1q_2 > 0$ (ii) $q_1q_2 < 0$
3. How does electric field intensity vary with distance r due to a
 - a. Infinite plane sheet of charge
 - b. Line charge
 - c. Point charge
 - d. Electric dipole
4. The two graphs drawn below, show the variation of electrostatic potential (V) with $1/r$ (r being distance of the field point from the point charge) for two point charges q_1 and q_2 . a. What are the signs of the two charges? b. Which of the two charges has a larger magnitude and why?



5. Define electric flux. Write its SI units. A spherical rubber balloon carries a charge that is uniformly distributed over its surface. As the balloon is blown up and increases in size, how does the total electric flux coming out of the surface change? Give reason.
6. A small metal sphere carrying charge $+Q$ is located at the centre of a spherical cavity in a large uncharged metal sphere as shown in the fig. Use Gauss's theorem to find the electric field at points P_1 and P_2 .

