St. Mary's School, Dwarka
Holiday Homework
Std. XI
Week 1
Worksheet 1

Subject: English

General Instructions:

1) **The work should be done neatly and in a systematic way.**
2) **The given questions are to be done in the English notebook.**
3) **Attempt questions based on specific instructions for each section.**

SECTION A- READING

Q1.Read the following passage carefully.

1. "The slogan we promoted was 'Avoid Plastic-Avoid Hunger'. We wanted to get rid of plastic and also feed the hungry," says Pedireddi, a Peddapuram-based entrepreneur. The programme was launched on Mahatma Gandhi's 150th birth anniversary on 2 October. Within days, the group collected around 400 kgs of plastic and distributed an equal amount of rice and other materials during the drive. Now they plan to do it every Sunday.

2. "The plastic that was collected was deposited at the local municipality office. They promised that it will be recycled," says Pedireddi. For a town of around 70,000 people, the amount of plastic they collected through these drives is just a drop in the ocean. But the group says that they will continue to raise awareness among the residents of the town.

3. "The most satisfying thing about this drive has been that it has inspired people in other towns of the district to launch such initiatives," says Pedireddi. The Mana Peddapuram, besides raising civic issues like cleanliness, deforestation, and cultural events, has also run campaigns spreading awareness on blood donation and the pledging of organs.

4. The group claims that funds are not a problem as the people in Peddapuram are generous when it comes to donating money for worthy causes. "We have hundreds of young people in this group and we hope to take up many more issues in the coming months and years," says Pedireddi. We can only hope for many more such enthusiastic youth organizations that work for nation-building.

Based on your understanding of the passage, answer the questions given below. (1x5-5)

(i). Social media group called 'Mane Peddapuram' was launched for…………
(a) commercial purposes to earn profit
(b) keep contact with friends and relatives
(c) creating a platform to discuss social issues
(d) gaining popularity among the villagers

(ii) What was the idea behind the concept of the 'rice-for-plastic' campaign?

(iii) Which of the following sentences uses the word 'drive' similar in meaning to the one given in the above sentence?
(a) Mr. Gupta's son drives his car very cautiously and sensibly.
(b) Cruelty at the workplace can drive workers to go on strike.
(c) The supermarket is only a five-minute drive away from here.
(d) Our school launched a drive to collect funds for orphan children.

(iv) Arrange the following events in chronological order:
I. The plastic is deposited at the municipality for recycling.
II. 400 kg of plastic is collected from surrounding places.
III. Social media group called 'Mana Peddapuram' is launched.
IV. An equal amount of rice and other material is distributed.
V. People from other areas also got inspired to join the campaign.

(a) III, II, I, V, IV
(b) III, II, IV, I, V
(c) IV, II, I, III, V
(d) V, II, I, IV, III

(v) How could hunger be avoided in the slogan 'Avoid Plastic, Avoid Hunger'?
(a) engaging in social service
(b) sale of the non-biodegradable waste
(c) distribution of rice to poor and hungry
(d) all of the above

SECTION B -Literature

Answer the following questions in 20 to 30 words. (2x2-4)

Q2. "The thought was almost revolting," the narrator said.
    What was that thought and why was it disgusting?

Q3. 'And the sea, which appears to have changed less, washed their terribly transient feet'.
    What is the idea conveyed in this line?

Answer the following questions in 100 words. (1x3=3)

Q4. The lesson **'We're Not Afraid to Die'** is a story of adventure, bravery and courage. Comment.

SECTION C- Grammar

Q5. Identify the error in each of these sentences and write along with the correction in the box given below:- (½x4=2)

1. Many peoples attended the funeral of the great man.
2. The shepherd took the cattles to the field.
3. Sita could not understands what the teacher was saying.
4. Do you know the importance for clean water?

Error	Correction
1.	1.
2.	2.
3.	3.
4.	4.

Q6.**i) Complete the dialogue by choosing the correct option.** **(1)**

      A: _____

      B: We have eight a day. They are 40 minutes long.

  A. Are there any foreign students in your school?

  B. How many days are there in a week?

  C. How far is your school to your house?

  D. How many lessons do you have every day?

Q7. Select the appropriate option and fill in the blank. **(1)**

When Hemant was at Chirag's flat yesterday, Hemant asked if he _____ use the phone.

 (A) can

 (B) may

 (C) must

 (D) could

SECTION D- Writing

Q8. Design a poster to create awareness about 'Yoga' as a means to improve mental health**. (2)**

Q9. Taking care of the elderly is a responsibility that everyone should take.

   Write an article in the newspaper about the need to respect and take care of the elderly. **(4)**

Q10. The Garoghlanian tribe in the lesson 'The Summer of the White Beautiful Horse' was known for its hallmarks of trust and honesty despite its poverty. Research about any tribe from India or the world and present it in the form of a magazine. The magazine should throw light on different aspects of their lives with colourful pictures. (3)

Subject: Physics

Objectives:

- Revision of concepts
- Application of the concepts to real life situations.
- Skills to carry out research work and develop scientific aptitude.

Instructions:

- Neatly write all the answers in your assignment notebook.
- Attempt the questions keeping in mind the weightage of each question

1. Which of the following quantities don't relate to the dimensional formula [$ML^{-1} T^{-2}$]   1
(a)   Pressure   (b) power   (c) stress   (d) Strain

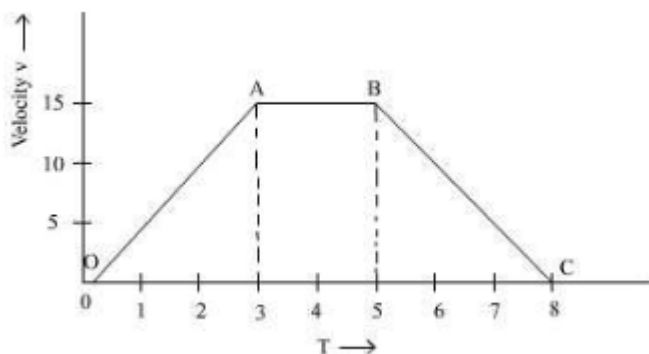2. What are the units of magnetic permeability?   1
(a) $WbA^{-1}m^{-1}$ (b) $Wb^{-1} Am$ (c) $Wb\ A\ m^{-1}$ (d) $Wb\ A^{-1}m$

3. The volume of a liquid flowing out per second of a pipe of length l and radius r is written by a student as

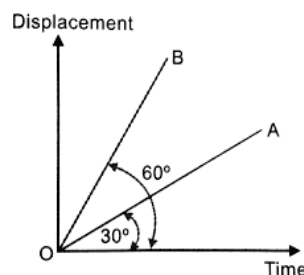$$v = \frac{\pi}{8} \frac{Pr^4}{\eta l}$$

where P is the pressure difference between the two ends of the pipe and η is coefficient of viscosity of the liquid having dimensional formula $ML^{-1} T^{-1}$. Check whether the equation is dimensionally correct.   2

4. A ball is thrown vertically upwards with a velocity of $20ms^{-1}$ from the top of a multi storey building. The height of the point where the ball is thrown is 25 m from the ground. How long will it be before the ball hits the ground? Take $g=10ms^{-2}$.   2

5. The velocity – time graph for a vehicle is as shown. Draw acceleration – time graph from it.   2

6.   Two straight lines drawn on the same displacement-time graph makes angle 30° and 60° with time- axis respectively. Which lines represents greater velocity? What is the ratio of the two velocities?

3

7.   Give an example of   3

(a) a physical quantity which has a unit but no dimensions.

(b) a physical quantity which has neither unit nor dimensions. (c) a constant which has a unit.

(d) a constant which has no unit.

8.   A driver takes 0.20s to apply the brakes after he sees a need for it. This is called the reaction time of the driver. If he is driving a car at a speed of 54km/h and the brakes causes a deceleration of 6.0 m/s^2, find the distance travelled by the car after he sees the need to put the brakes on.   3

9.   Starting from rest a particle moves in a straight line with acceleration:

a=$(25-t^2)$ m/s^2 for $0 \leq t \leq 5$s

a=83π m/s^2 for $t \geq 5$s

What will be the velocity of particle at t = 7s?   3

10.   (a) What is a projectile? A projectile is fired with a velocity u making an angle with θ the horizontal. Show that its trajectory is a parabola.

(b) Derive expressions for (i) time of flight (ii) Horizontal range (iii) maximum height attained by the projectile.

(c) The maximum range of a projectile is 2 / √3 times its actual range. What is the angle of projection for actual range?

Subject: Chemistry

General Instructions:

- Neatly write all the answers in your notebook.
- Attempt the questions keeping in mind the weightage of each question

Q 1: What is the electronic configuration of nitrogen (N)?   1

Q 2: What is the relationship between the energy of a photon and its frequency?   2

Q 3: Define the term "valency."   2

Q 4: How many protons, neutrons, and electrons are present in a carbon-12 atom?   2

Q 5: State the Pauli exclusion principle.   2

Q 6: Calculate the wavelength of a photon emitted when an electron undergoes a transition

   from n = 3 to n = 1 energy level in a hydrogen atom.   2

Q 7: How many orbitals are there in the third energy level of an atom?   2

Q 8: What is the difference between an atomic number and a mass number?   2

Q 9: How many electrons can be accommodated in the d sublevel of a shell?   2

Q10: State the postulates of Bohr's atomic model.   3

Subject: Mathematics

General Instructions:

- Neatly write all the answers in your notebook.
- Attempt the questions keeping in mind the weightage of each question

Q.1) If z is a complex number such that $|z| = 1$ then prove that $\frac{z-1}{z+1}$ is purely imaginary. (2)

Q.2) Find the modulus and the argument of $\frac{(1+i)^2}{1-i}$. (2)

Q.3) Show that $\cos^2\frac{\pi}{8} + \cos^2\frac{3\pi}{8} + \cos^2\frac{5\pi}{8} + \cos^2\frac{7\pi}{8} = 2$ (2)

Q.4) If $\cot\theta + \tan\theta = 2\,\text{cosec}\,\theta$, then find the general solution of θ. (2)

Q.5) Let A = {3, 6, 9, 12, 15, 18, 21}, B = {4, 8, 12, 16, 20}, C = {2,4,6,8,10,12,14,16} and D = {5, 10, 15, 20}. Find:

(i) D – B   (ii) A ∩ (B∪ C)   (iii) C – A   (iv) D ∪ (B – C)   (2)

Q.6) Show that for any sets A and B: A = (A ∩ B) ∪ (A – B) and A ∪ (B – A) = A ∪ B. (3)

Q.7) In a survey of 200 students of a school, it was found that 120 study Mathematics, 90 study Physics, 70 study Chemistry, 40 study Mathematics and Physics, 30 study Physics and Chemistry, 50 study Chemistry and Mathematics and 20 none of the subjects. Find the number of students who study all three subjects. (3)

Q.8) Find the value of tan 22.5° . (3)

Q.9) If a cos 2 θ + b sin 2 θ = c has α and β as its roots, then prove that $\tan\alpha + \tan\beta = \frac{2b}{1+c}$.

(Hint: Use identities for cos 2θ and sin 2θ in terms of tan θ . (3)

Q.10) Find the square root of -15 – 8i. (3)

Subject: Computer Science and Informatics Practices

General Instructions:

- Neatly write all the answers in your notebook.
- Attempt the questions keeping in mind the weightage of each question.

Q1 Explain the types of operating systems with examples.   2

Q2 Specify the measuring units of memory.   2

Q3 Explain in brief the working of a touch screen.   2

Q4 How does an ALU work?   2

Q5 What is the significance of address and data buses?   2

Q6 Why is the execution time of the machine code less than that of source code?   2

Q7 Write the main difference between microcontroller and microprocessor. Why do smart home appliances have a micro-controller instead of a microprocessor embedded in them?   2

Q8. Identify the category (system, application, programming tool) of the following software: 2

(a) Compiler

(b) Assembler

(c) Ubuntu

(d) Text editor

Q9. Name the input/output device used to do the following: 3

(a) To output audio

(b) To enter textual data

(c) To make hard copy of a text file

(d) To display the data/information

(e) To enter audio-based command

(f) To build 3D models

Q10 Explain various components of a computer system and show the relationship between them with the help of a diagram.   4+2=6

Subject: Biology

General Instructions:

- Neatly write all the answers in your notebook.
- Attempt the questions keeping in mind the weightage of each question.

Q1.   A plant may have different names in different regions of the country or world. How do botanists solve this problem? (2)

Q2.   Describe binomial nomenclature with an example. (2)

Q3.   Explain the guidelines/principles for nomenclature. (2)

Q4.   Define and understand the following terms:

(i)   Phylum   (ii) Class (2)

Q5.   Can you identify the correct sequence of taxonomical categories?

(i)   Order -$\rightarrow$ Species -$\rightarrow$ Phylum -$\rightarrow$ Kingdom
(ii)   Genus -$\rightarrow$ Species -$\rightarrow$ Order -$\rightarrow$ Kingdom
(iii)   Species -$\rightarrow$ Genus -$\rightarrow$ Order -$\rightarrow$ Phylum (3)

Q6.   What do we learn from identification of individuals and populations? (3)

Q7.   Museums and Zoological parks (Zoos) are both taxonomical aids; yet, how do they differ form each other? (3)

Q8.   Write a short account on herbarium as a taxonomic aid. (3)

Q9.   Illustrate the taxonomical hierarchy with suitable examples of a plant and an animal. (5)

Q10. List the information that should be shown on the label of a herbarium sheet. (5)

Subject: Economics

General Instructions:

- Neatly write all the answers in your notebook.
- Attempt the questions keeping in mind the weightage of each question.

Q1. Is the demand for the following elastic, moderate elastic, inelastic? Give reason.

   a) Demand for petrol
   b) Demand for textbooks
   c) Demand for cars
   d) Demand for milk   (2)

Q2. Describe the assumption which is made to determine the consumer's equilibrium
    position.   (2)

Q3. Write two features of PPC.   (2)

Q4. Price elasticity of demand for flour is equal to unity and a household demands 40 kg
    of flour when the price is Rs. 1 per kg. At what price will the household demand 36 kg
    of flour?   (2)

Q5. The quantity demanded of a good at a price of Rs. 10 per unit is 40 units. Its price
    elasticity of demand is -2. Its price falls by Rs, 2/- per unit. Calculate its quantity
    demanded at the new price.   (2)

Q6. What happens to the budget set if both the prices as well as the income double? (3)

Q7. Suppose a consumer can afford to buy 6 units of good 1 and 8 units of good 2 if
     she spends her entire income. The prices of the two goods are Rs 6 and Rs 8
     respectively. How much is the consumer's income?   (3)

Q8. How many chocolates will a consumer have, if they are available free of cost?   (3)

Q9. State with reasons if the following statements are true or false: (3)

   1) At a grand family get-together party you go on eating and eating since you have not to
       pay.
   2) As we consume more units of a commodity, our total utility from its consumption
       Keeps falling.

Q10. Explain three determinants of demand for a commodity.   (3)

Subject: Psychology

General Instructions:

- Neatly write all the answers in your notebook.
- Attempt the questions keeping in mind the weightage of each question.

Q1. Psychology is derived from two Greek words _____ & _____.   1

Q2. First laboratory was set up by _____&_____.   1

Q3. What is organizational psychology?   2

Q4. Define introspective method.   2

Q5. What do you mean by cognitive perspective?   2

Q6. How did modern psychology begin?   2

Q7. Vrisha studies in senior secondary and wants to be a journalist? How the knowledge of

psychology would help her to become a professional journalist?   3

Q8. Read the case and answer the questions that follow: 4

Arun is a student of psychology who is doing research work on human behaviour. He finds out that are man belief and understanding of human behaviour, which are not true. He also comes on that point that scientific knowledge generated by psychology often runs against common sense. To make it clearer he conducts a study on some children. He was concerned with children who gave up too easily when faced with a difficult problem.

In general way our common sense tells us to give them easy problems in order to increase their success rate so that their confidence goes up. only latter should we give them difficult problems which they will be able to solve. whereas the second group had a mix of easy and difficult problems. When children faced difficult problems, they failed. Whenever this happened Arun told them that their failure was because they had not tried hard enough and persuaded them not to give up and keep trying. After the study was over, a new set of math problem were given to the groups. What Arun found goes against common belief. Those who had always succeeded because they were given easy problems, gave up much faster then they faced failure then those who had experience of both success and failure and were taught to attributes failure to their lack of efforts.

i. Which of the following best describes children's hardiness in the study conducted by Arun?

a. Commitment, control, challenge

b. challenge, control, calmness

c. commitment, confidence, control

d. control, commitment, conviction

ii. Which of the following is associated with the study conducted by Arun?

a. past experience

b. common sense

c. future perspectives

d. None of the above

iii. After conducting the study Arun found out which of the following points?

a. The scientific knowledge generated by psychology often runs against common sense.

b. common sense is always true.

c. Psychology and common sense have same notion.

d. All of the above

iv. Which of the following is true about the study conducted by Arun?

a. Arun took three groups of children for study.

b. All the groups were equal in intelligence.

c. The first group was much smarter that the rest.

d. The first group was given easy problems which they were always able to solve.

Q9. Praveen is a student of class 11 and he thinks that he is weak in studies as compared to others. He cannot perform good in any field. How psychologist can help Praveen in solving this problem?
4

Q10. Varuna thinks that there are many beliefs and understanding of human behaviour which are not true. Give an example which justifies this statement.   4