# St. Mary's School, Dwarka <br> Holiday Homework <br> Std. XI <br> Week 2 <br> Worksheet 2 

## Subject: English

General Instructions: Attempt questions based on specific instructions for each section.

## SECTION A- Reading

## Q1. Read the following passage carefully.

1. In a country where, as per scriptures, Gods reside in places where a woman is worshipped, female foeticide is an ironic but sad truth. It has become a grave social issue across the country. Female foetuses are killed in their mother's wombs through Medical Termination of Pregnancy (MTP) by a ruthless society that prefers sons over daughters.
2. In many traditional, conservative families, a girl is considered a liability or burden, due to the evil practice of demanding dowry at the time of marriage. Often, she is also subjected to harassment, molestation, and physical abuse, prompting the parents to fear the prospect of rearing, educating, protecting or marrying off their daughters. Daily newspapers are full of the news about murder, acidthrowing incidents, molestation, physical abuse and burning, which accentuate the apprehension of families regarding a girl child. All these things, in turn, encourage the practice of aborting the foetus in case it is a female.
3. There is an increasing trend of the misuse of the pre-natal technologies which are used to determine prebirth deficiencies or infirmities in a child. Aiding the massacre of unborn girls are the mushrooming ultrasound clinics that connive with parents in carrying out gender-determination tests and terminating the child in the womb, it is found out to be a girl. Such unscrupulous people deserve the strictest punishment but they are able to escape the law in most cases due to inadequacies in the law enforcement mechanism.
4. Traditional, conservative families are still unable to shake off their longing for a son as they tend to believe that only sons can carry their family names forward and also look after them in their old age. They also subscribe to the notion that only when funeral rites are performed by a son that the deceased attain salvation.
5. According. to 2011 Census, the girl boy ratio was, 914 girls for every 1.000 boys in the age group $0-6$ years. Contrary to 927 for every 1.000 boys in the 2001 Census. Except for the improvement in the gender ratio in Kerala, Lakshadweep and Pondicherry all other states have reported a decrease in the number of girls, notable among are Maharashtra, Punjab, Haryana, Himachal Pradesh, Delhi, Chandigarh and Gujarat.
6. But gradually, the winds of change have started blowing as girls are doing exceptionally well in various professions, bringing a sense of pride and recognition to their families, cities and nation. They have broken all barriers and excelled in all fields, be it sports, armed forces, business or politics.
7. Consequently, social attitudes towards women are changing, leading to their empowerment, still we cannot say that it has put an end to the practice of female foeticide as it will take time to change the mindsets to percolate down to all towns and cities of the country.

On the basis of your understanding of the passage, answer the following questions. ( $1 \times 5=5$ )
1.In many conservative families, a girl is considered a liability or burden
(i) as they do not earn money.
(ii) due to their inferior strength.
(iii) due to the evil practice of dowry.
(iv) due to their lack of education.
2. The main cause of the low status of women in the society is:
(i) greater economic stability in males
(ii) their inability to earn money
(iii) low strength of women
(iv) poverty and lack of education
3. State any two beliefs that the Indian families hold on to regarding the birth of a male child.
4. To put a stop to female foeticide cases, we need to first educate:
(i) female members
(ii) male members
(iii) parents
(iv) elderly people
5. The passage largely deals with the ugly situation of:
(i) kidnapping
(ii) practice of dowry
(iii) child marriage
(iv) female foeticide

## SECTION B- Literature

Answer the following questions in 20 to 30 words.
( $2 \times 2=4$ )
Q2. Why did the narrator's grandmother give the impression of 'a winter landscape in the mountain?
Q3. Why do you think Mrs. Dorling, knowingly refused to recognize the narrator when she went to meet her after years?

Answer the following questions in 60 to 80 words.
( $3 \times 2=6$ )
Q4 "Every family has a crazy streak in it somewhere, and my cousin Mourad was considered the natural descendant of the crazy streak in our tribe." Bring out some notable traits of Mourad's character with reference to the above statement.

Q5. The narrator had two different experiences when she visited Maroni Street. Explain.

## SECTION C-Grammar

Q6. This dress suits her style. She_--_definitely like it!

1. can
2. could
3. will
4. may

Q7. Report the dialogue between two friends, by completing the sentence.
Mike: What are you doing here Liz? I haven't seen you since June.
Liz: I've just come back from my holiday in Ireland.
Mike asked Liz what she was doing there and he said that he had not seen her since June. Liz explained that $\qquad$ .

## SECTION D- Writing

Q8. You are AP Raman of 22/14 Arabi Tank Lane, Trichy, Tamil Nadu. Your grandmother, Fatima Bano, has been missing from your home for the last 5 days. Draft a suitable advertisement with all details to be published in a local daily in the classified column.

Q9. Sports and games make us fit, active and social. Write a speech on the 'Importance of Sports and Games'. You are Karan/Karuna the Sports Captain of your school.

Q10. The poem 'The Photograph' is a tribute by Shirley Toulson for her mother. She fondly remembers her laugh and misses her deeply. Design a 'Thank you card' with a note for your mother to show your gratitude and love for her.

## 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 can be zero, when the particle is in motion for some time?
(a) Displacement (b) Distance (c) Speed (d) Velocity
2. If the unit of force is 100 N , unit of length is 10 m and unit of time is 100 s , what is the unit of mass in this system of units?
3. The Vander Wall's equation for a gas is

$$
\left(\mathrm{P}+\frac{a}{V^{2}}\right)(V-b)=R T
$$

Determine the dimensions of $a$ and $b$.
4. A ball is dropped from a height. Its displacement v/s time graph is as shown in the fig. The displacement x is from the ground and all quantities are positive upwards.

(i) Plot qualitatively velocity $\mathrm{v} / \mathrm{s}$ time graph.
(ii) Plot qualitatively acceleration $\mathrm{v} / \mathrm{s}$ time graph 2
5. A planet moves around the sun in nearly circular orbit. Its period of revolution ' $T$ ' depends upon: (i) radius 'r' of orbit (ii) mass ' $M$ ' of the sun (iii) the gravitational constant $G$ Show dimensionally that $\mathrm{T} 2 \propto \mathrm{r} 3$.
Taking the proportionality constant as $2 \pi$, write the expression for T .
6. A threaded rod with 12 turns per cm and diameter $1-18 \mathrm{~cm}$ is mounted horizontally. A bar with a threaded hole to match the rod is screwed onto the rod. The bar spins at the rate of 216 rpm . How long will it take for the bar to move 1.50 cm along the rod?
7. A target is fixed on the top of a pole 13 metre high. A person standing at a distance of 50 metre from the pole is capable of projecting a stone with a velocity $10 \sqrt{ } \mathrm{gms}-1$. If he wants to strike the target in shortest possible time, at what angle should he project the stone?
8. Two forces equal to P and 2 P newton act on a particle. If the first be doubled and second be increased by 20 newton, the direction of the resultant is unaltered. Find the value of P .
9. A projectile is fired horizontally with a velocity of $10 \mathrm{~ms}-1$ from the top of a hill 500 m high. Find (i) the time taken to reach the ground (ii) the distance of the target from the hill and (iii) the velocity with which the projectile hits the ground.
10. (i) Show that there are two values of time for which a projectile is at the same height. Also show that the sum of these two times is equal to the time of flight.
(ii) Two projectile are thrown with different velocities and at different angles so as to cover the same maximum height. Show that the sum of the times taken by each to reach the highest point is equal to the total time taken by either of the projectile.

## Subject: Chemistry

Q 1: Define the term "isotopes" and give an example.
Q 2: What are quantum numbers? How many quantum numbers are required to describe an electron in an atom?

Q 3: What is the significance of Aufbau's principle in determining the electronic configuration of an atom?

Q 4: Calculate the maximum number of electrons that can be accommodated in the M shell.
Q 5: What is the difference between an excited state and a ground state of an electron?
Q 6: Define ionization energy. 2

Q 7: State Hund's rule. 3

Q 8: How does the effective nuclear charge change across a period in the periodic table?
Q 9: Calculate the number of neutrons present in an atom with mass number 35 and atomic number 17.

Q10: Explain the concept of the Heisenberg uncertainty principle.

## Subject: Mathematics

Q.1) Let $\mathrm{T}=\left\{\mathrm{x}: \frac{x+5}{x-7}-5=\frac{4 x-40}{13-x}\right\}$. Is T an empty set? Justify your answer.
Q.2) Find the values of all five trigonometric functions if $\operatorname{cosec} \theta=\frac{-2}{\sqrt{3}}$ and $\theta$ lies in fourth quadrant.
Q.3) Evaluate $\sum_{n=1}^{13}\left(i^{n}+i^{n+1}\right)$, where $\mathrm{n} \in \mathrm{N}$.
Q.4) If $\mathrm{x}-\mathrm{iy}=\sqrt{\frac{a-i b}{c+i d}}$, prove that $\left(\mathrm{x}^{2}+\mathrm{y}^{2}\right)^{2}=\frac{a^{2}+b^{2}}{c^{2}+d^{2}}$.
Q.5) Show that if $\mathrm{A} \subset \mathrm{B}$, then $\mathrm{C}-\mathrm{B} \subset \mathrm{C}-\mathrm{A}$.
Q.6) Find the degree measure corresponding to the following radian measures:
(i) $\frac{17 \pi}{6}$
(ii) 2.5 radians
(iii) $\frac{11 \pi}{3}$
Q.7) Prove that $\tan 4 \mathrm{x}=\frac{4 \tan x\left(1-\tan ^{2} x\right)}{1-6 \tan ^{2} x+\tan ^{4} x}$.
Q.8) Write the complex number $\mathrm{z}=\frac{i-1}{\cos \frac{\pi}{3}+i \sin \frac{\pi}{3}}$ in polar form.
Q.9) Express the following numbers in the form of $a+i b:$
(i) $\frac{(\sqrt{2}+i \sqrt{3})+(\sqrt{2}-i \sqrt{3})}{(\sqrt{3}+i \sqrt{2})+(\sqrt{3}-i \sqrt{2})} \quad$ (ii) $\left(2+3\right.$ i) $(2-3$ i $)(1+i)^{2}$.
Q.10) Find the general solution of the trigonometric equation $\tan \mathrm{x}+\tan 2 \mathrm{x}+\tan 3 \mathrm{x}=0$.

## Subject: Computer Science and Informatics Practices

Q1 Which of the following identifier names are invalid and why?
(a) Serial_no.
(b) 1st_Room
(c) Hundred\$
(d) Total Marks
(e) Total_Marks
(f) total-Marks
(g) _Percentage
(h) True

Q2. Write the corresponding Python assignment statements:
(a) Assign 10 to variable length and 20 to variable breadth.
(b) Assign the average of values of variable length and breadth to a variable sum.
(c) Assign a list containing strings 'Paper', 'Gel Pen', and 'Eraser' to a variable stationery.
(d) Assign the strings 'Mohandas', 'Karamchand', and 'Gandhi' to variables first, middle and last.
(e) Assign the concatenated value of string variables first, middle and last to variable fullname. Make sure to incorporate blank spaces appropriately between different parts of names.

Q3 How many ways are there in Python to represent an integer literal? 2
Q4 Write Python programs to do the following:
a) to calculate the area of a triangle
b) to solve the quadratic equation
c) to swap two variables without using the third variable
d) to convert kilometers to miles
e) to convert the temperature in celsius to fahrenheit

Q5 What is an expression in Python and how is it different from a statement? Give an example to elaborate.

Q6 What is the order of precedence in python? Give an example to elaborate. 2

Q7 From the following, find out which assignment statement will produce an error. State reason(s) too.
(a) $y=78$
(b) $y=037$
(c) $\mathrm{z}=0 \mathrm{o} 98$
(d) 56 thnumber $=3300$
(e) length $=450.17$
(f) ! Taylor = 'Instant'
(g) this variable $=87 . \mathrm{E} 02$
(h) float $=.17 \mathrm{E}-03$

Q8 How will Python evaluate the following expression?
(i) $20+30 * 40$
(ii) $20-30+40$
(iii) $(20+30) * 40$
(iv) $15.0 / 4+(8+3.0)$

Q9 Write an algorithm to double a number in two different ways: (i) $n+n$, (ii) 2 x
Q10 Draw a flowchart to calculate the area and the circumference of circles.

## Subject: Biology

Q1. Differentiate between phototrophic and chemotrophic bacteria.
Q2. Mention the criteria used for classifying Kingdom Fungi into classes.
Q3. Write any two differences between Phycomycetes and Ascomycetes.
Q4. Describe the three common steps in the sexual reproduction of fungi.
Q5. Discuss how classification systems have undergone several changes over a period of time?(3)
Q6. Who proposed the five-kingdom classification? Name the five kingdoms.
Q7. Describe the three groups of Archaebacteria.
Q8. Draw a well-labelled diagram of a bacteriophage.
Q9. Make a comparative account of the five kingdoms(in Whittaker's classification) on the following characters:
(a) Cell wall
(b) Body organisation.

Q10. (a) Give a comparative account of the classes of Kingdom Fungi under the following:
(i) Mode of nutrition
(ii) Mode of reproduction.
(b) Give a brief account of viruses with respect to their structure and nature of genetic material.

Also name two viral diseases in plants.
$(2.5+2.5=5)$

## Subject: Economics

Q1. Write a short note on "What to produce".
Q2.Why does law of demand apply?
Q3.Differentiate between change in demand and change in quantity demanded.
Q4. Why is an Indifference curve generally, convex to the origin?
Q5. Explain why an Indifference curve has a negative slope.
Q6. Why do Indifference curves not intersect each other?
Q7. 'Higher indifference curve represents higher level of satisfaction to the consumer'. Explain the statement, also state the underlying assumption related to this property of indifference curve.

Q8. "Law of diminishing marginal utility will operate even if consumption takes place in intervals." Defend or refute.

Q9. How is the law of diminishing marginal utility applied with regard to education/ knowledge?

Q10. Is the demand for the following elastic, moderate elastic, inelastic? Give reason.

1. Demand for petrol
2. Demand for textbooks
3. Demand for cars
4. Demand for milk

## Subject: Psychology

Q1. Huminitic psychology is developed by $\qquad$ .1

Q2. Define hypothesis. 1
Q3. What do you mean by stimulus and response? 2
Q4. Where and how community psychologist work? 2
Q5. What is reliability? 2
Q6. What is quasi experiment? 2
Q7. Differentiate between: 3
i. Psychologist and Psychiatrist
ii. Counsellor and a clinical psychologist

Q8. What is the correlational technique and what does it tell researchers about relationships?

Q9. What are the ethical concerns when conducting research with people and animal?
Q10. What were the contribution of Skinner, Maslow and Rogers?

