St. Mary's School, Dwarka
Holiday Homework
Std. XI
Week 4
Worksheet 4

Subject: English

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

SECTION A- Reading

Q1. Read the following passage carefully.

1. E-learning is the process of acquiring knowledge through electronic technologies and resources. A rise in the number of internet users has increased the market demand for sophisticated online learning courses. According to the Office for National Statistics, nearly all adults in the age group of 10 to 44 years in the UK were recent internet users (99%) in 2019. The availability of enhanced network connectivity coupled with the convenience offered by on-demand courses, will drive the market size.

2. According to the World Economic Forum, around 1.2 billion children are out of classrooms with schools shut down globally due to the Covid-19 pandemic. Electronic Learning Management Systems such as Google Classrooms are helping classes to connect distantly, communicate efficiently and stay organized. Large-scale national efforts to leverage technology to the market players in support of distance education, remote, and online learning during the Covid-19 pandemic are emerging and evolving rapidly.

The virtual classroom technology in the e-learning market is expected to grow at a CAGR (Compound Annual Growth Rate) of 11% during the forecast timespan. A virtual classroom is a digital environment that enables live interaction between a tutor and a learner. Video conferencing and online whiteboards for real-time collaboration are the most common tools used in a digital teaching space. Collaborative virtual classes allow the active participation of students, creating an environment similar to a physical classroom. The technique is gaining traction with an increasing number of corporate and academic

sectors deploying it for enhanced training sessions. Multilateral organizations and world bodies, such as WHO and G20, are also deploying e-learning modes to teach healthcare professionals.

The content providers segment accounted for around 60% e-learning market share in 2019. E-learning providers share content on a varied range of topics by collaborating with domain experts that help them to develop the learning content. They focus on offering specific and customized content as per the end-user requirements.

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

i)   Infer one reason for the increase in the market demand for online learning resources.

ii)   Pick the CORRECT option that shows the new technologies that will drive the market growth.

(1)   Video conferencing

(2)   Cloud computing

(3)   Online whiteboard

(4)   AI coupled with internet

(A)   2 and 3

(B)   1 and 4

(C)   2 and 4

(D)   1 and 4

iii)   Complete the following analogy correctly with a word/phrase from paragraph 3.
        God: disciple: : learner

iv)   Select the option that lists the INCORRECT statement from the ones given below:

(1)   E-learning is the process of acquiring knowledge through electronic technologies and resources.

(2)   All adults in the age group of 16 to 14 years in the UK were recent internet users (99%) in 2019.

(3)   A rise in the number of internet users has increased the market share for physical classrooms.

(4)   Content providers segment accounted for around 60% e-learning share in 2019.

(A) 3

(B) 4 and 2

(C) 2 and 1

(D) 1

v)   The study of virtual classroom technology in the e-learning market showed 11% (CAGR) …………growth during the forecast timespan.

A. expected

B. consistent

C. inconsistent

D. questionable

SECTION B--Literature

Q2. Read the extract given below and answer the questions that follow:-   (2)

All three stood still to smile through their hair

At the uncle with the camera. A sweet face,

My mother's, that was before I was born.

And the sea, which appears to have changed less,

Washed their terribly transient feet.

  (i) What/Who does 'three' refer to?

  (ii)   Bring out the comparison between the sea and the 'feet'.

Answer the following question in 20 to 30 words.   **(2)**

Q3. How did the birds mourn the grandmother's death?

Answer the following questions in 60 to 80 words.   **(3x2=6)**

Q4 Why did the narrator wait for so long to visit Mrs. Dorling? Why did she become curious about the possessions of her mother?

Q5. Compare and contrast the characters of Mourad and Aram.

SECTION C--Grammar

Q6. Fill in the blank by choosing the correct option to complete it.   **(1)**

Mathematics …… my favourite subject.

  A. is

  B. are

  C. was

  D. had

  Q7. Select the correct option to fill in the blank for the given line.   Ram …… keep his word.

  A. might

  B. should

  C. will

  D. ought to

SECTION D--Writing

Q8. National Book Trust of India is organizing a Summer Camp 'Fiesta 2023' for students aged 5 to 16 years from 17th June to 22nd June 2023 in Jawahar Lal Nehru Stadium. Design an attractive poster with catchy slogans highlighting the special attractions**.**   **(2)**

Q9. Advertisements play a pivotal role in shaping the ideas of the youth. Write an article in about 150 words about the impact advertisements have on young children in schools and colleges.   **(4)**

Q10. Watch the movies listed below:-
- **Schindler's List**
- **Life of Pi**
- **Everything Everywhere All at Once**
- **Gravity**
- **Interstellar**

Write the synopsis of any one of them in about 120 to 150 words. **(2)**

Subject: Mathematics

Q.1) Find the number of non-zero integral solutions of the equation $|1 - i|^x = 2^x$ (2)

Q.2) Prove that $\sin x + \sin 3x + \sin 5x + \sin 7x = 4 \cos x \cos 2x \sin 4x$. (2)

Q.3) Find $\sin \frac{x}{2}$, $\cos \frac{x}{2}$ and $\tan \frac{x}{2}$ if $\sin x = \frac{1}{4}$ and x lies in quadrant II. (2)

Q.4) Draw appropriate venn diagram for each of the following: (2)

(i) $A^c \cup B^c$ (ii) $(A \cup B)^c$

Q.5) Find sets A, B and C such that $A \cap B$, $B \cap C$ and $A \cap C$ are non-empty and $A \cap B \cap C = \varphi$.

(2)

Q.6) Prove that: $\cos 2x \cos \frac{x}{2} - \cos 3x \cos \frac{9x}{2} = \sin 5x \sin \frac{5x}{2}$. (3)

Q.7) Show that $\tan 3x \tan 2x \tan x = \tan 3x - \tan 2x - \tan x$ (3)

Q.8) Find the value of : (i) $\tan 15°$ (ii) $\tan \frac{13\pi}{12}$. (3)

Q.9) If $\cos(\alpha + \beta) = 4/5$ and $\sin(\alpha - \beta) = 5/13$ where α lies between 0 and $\pi/4$, find the value of tan 2α. (3)

[Hint : Write tan 2α *as* tan $(\alpha + \beta + \alpha - \beta)$

Q.10) Find the general solution of the trigonometric equation:

$\tan x + \tan 2x + \sqrt{3} \tan x \tan 2x = \sqrt{3}$. (3)

Subject: Informatics Practices

Q1. The variable definition of X is creating problem X = 0281.Why.   2

Q2. Two objects (say a and b) when compared using ==, return True. But Python gives False when compared using is operator. Why (i.e, a == b is True but why is a is b False?)   2

Q3. Write the expression in Python for the following: 2+2

   a) $a^2 + b^2 = c^2$ b) $x = \frac{-b+\sqrt{b^2-4ac}}{2a}$

Q4 Explain the following Python software libraries: 2x3=6

a) NumPy b) SciPy c) Panda Library

Q5 What are core data types in Python? Explain.   3

Q6 What are the ways to write comments in Python?   2

Q7 Predict the output: 3

        a,b,c=2,3,4

a,b,c=a*a,b*b,c*c

a,b,c=a//2,b//3,c//4

a,b,c=a%2,b%2,c%2

print(a,b,c)

print(a,b,c)

print(a,b,c)

Q8 Given three Boolean variables a, b, c as : a= False , b = True , c = False. Evaluate the

following Boolean expressions: 3

(a) b and c   (b) b or c   (c) not a and b   (d) (a and b)or not c   (e) not b and not (a or c)

(f) not ((not b or not a)and c)or a

Q9 Write Python programs to do the following: 2x3=6

   a) to do arithmetical operations
   b) to find area of a circle
   c) to display your name a number of times.

Q10 Draw a flowchart to check if a number is a positive or negative number.   2

Subject: Economics

Q1. What does the problem for whom to produce refer to?   2

Q2. What is the opportunity cost? Explain with the help of a numerical example.   2

Q3. Why is a Production Possibility Curve (PPC) concave? Explain.   2

Q4. What is the production possibility frontier?   2

Q5. Draw a production possibility curve and mark the following situations.   2

a. Underutilization of resources

b. Full employment of resources

c. Growth of resources

Q6. Explain the central problem of the choice of products to be produced.   3

Q7. What is the difference between the planned economy and market economy?   3

Q8. Does massive unemployment shift the PPC to the left?   3

Q9. Define Normative Economics with a suitable example.   3

Q10. Write a short note on marginal rate of transformation.   3

Subject: Accountancy

Q.1 Which group of interested party is most interested in judging the credit worthiness of the organisation?   1

Q.2 A customer paid Rs.2,500 in cash for services provided by DEF Company. How would this transaction be recorded in the accounting books?   1

Q.3 This principle states that accounting should only record information that is significant or important to the users of financial statements.   1

Q.4 JKL Company paid Rs.2,000 in rent for the month. How would this transaction be recorded in the accounting books?   1

Q.5 A company issues shares worth Rs.50,000 in exchange for cash. How does this transaction affect the accounting equation?   1

Q.6 What are the two accounting systems to record financial transactions in the books of account?

3

Q.7 "Only financial transactions are recorded in Accounting." Explain.   3

Q.8 Explain the different branches of accounting.   4

Q.9 i) Why cash discount is given?

ii) Identify the value involved in classifying the assets into current and non - current?   4

Q.10 Differentiate between cash basis and accrual basis of accounting.   6

Subject: Business Studies

Q.1   Name the industries which provide support services to other industries.   1

Q.2   ''Fishing' is what type of Industry?   1

Q.3   Name the category of industry which involves breeding or reproduction of plants and animals.

    1

Q.4   Name the manufacturing industry in which TV sets or computers are produced.   1

Q.5   Name the business activity which is concerned with conversion of resources into useful products.   1

Q.6   Ganga Ltd. is a popular company manufacturing water coolers. Its product is very much liked by people in the market. The traders are in a race to become the company's distributors. The company had been earning huge profits for many years. However, in the year 2020, the company's half yearly report shows a great decline in the company's profit. The top management is worried about this. A team of specialists from outside is appointed to solve this serious problem. After a thorough examination, the specialists presented the following reasons for the decline in the profits of the company. (I) Increase in competition and change in taste of the consumers. (II) Theft of cash and goods by the employees. Identify and explain the two causes of decline in profits.   3

Q.7   Organic Tea Ltd. is a Singapore based company dealing in import of tea from India and re-exporting it to many South East Asian countries. It has a huge godown near the sea port where it has made scientific arrangements for storing tea till it is re-exported.

    (a) Name the type of trade in the above case.

    (b) Name the aids to trade being utilised by Organic Tea Ltd. and which utility does it create.

    3

Q.8   Gurleen has just completed her M.Sc in agricultural science and have started applying for jobs in her field. She came to know about an organisation in Banaras where they rear silkworms for manufacturing the famous Banarasi Silk sarees and decided to join the same. What is the process of rearing silkworms for silk called and name and state the type of industry which she has joined.   4

Q.9   Manjeet Pyt. Ltd. is a reputed company manufacturing computers. The company is earning a considerable profit. Both the proprietors and the employees are putting their best efforts to make good quality products available to the customers at a low price, paying its shareholders a good amount of dividends and the employees a reasonable remuneration. This contributes to the successful operations of the business. With increased profits over time, the company's foundation

becomes strong, and it earns a good reputation in the society. It utilises its profits to finance its growth and expansion requirements.

Explain the role of profit in business of Manjeet Pvt. Ltd. . 4

Q.10 What are the factors to be considered while starting a business? Discuss. 6