



The Times Secondary School

Dillibazar, Kathmandu

First Terminal Examination – 2079

Grade: - XI

Stream: Science

Subject: - Physics

Full Marks:-75

Pass Marks:-30

Time : 3hrs

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate the full marks.

Group A

Circle the best alternative to the following questions. (11×1 = 11)

- The principle of dimensional homogeneity implies that
 - Only the dimensional quantities may be added or subtracted
 - Only the variables with the same dimensions may be multiplied or divided
 - Only the variables with the same dimensions may be added or subtracted
 - Dimensions of the two sides of the equation may not be the same
- The dimensions of kinetic energy is same as that of
 - force
 - pressure
 - work
 - momentum
- Force F is given by $F = at + bt^2$, where t is time. What are the dimensions of a and b ?
 - MLT^{-1} and MLT^0
 - MLT^{-3} and ML^2T^4
 - MLT^{-4} and MLT^1
 - MLT^{-3} and MLT^4
- Out of the following which is not a scalar quantity?
 - Time
 - Volume
 - Density
 - Momentum
- If angle between two equal forces (F) is 90° magnitude of resultant is
 - $2F$
 - $F\sqrt{2}$
 - $2\sqrt{2}F$
 - $\sqrt{2}F$
- The mirror used in head light of vehicles is
 - Plane mirror
 - Concave mirror
 - Convex mirror
 - Parabolic mirror
- A ray of light is incident on a plane mirror at an angle of 30° , angle of deviation is
 - 60°
 - 90°
 - 120°
 - 130°
- A boy walks towards a stationary plane mirror at a speed of 2 ms^{-1} . What is the relative speed of approach of the boy and his image?
 - zero
 - 2 ms^{-1}
 - 4 ms^{-1}
 - 8 ms^{-1}
- Which among the following is wrong statement about concave mirror?
 - Erected images are formed by concave mirror when placed close to it.
 - Real, inverted, same-sized image can be formed using a concave mirror
 - Concave mirror can produce real and inverted image.
 - Concave mirror can produce only real images

- In a conductor, if 6-coulomb charge flows for 2 seconds. The value of electric current will be
 - 3 ampere
 - 3 volts
 - 2 amperes
 - 2 volts
- An atomic nucleus with a given atomic and mass number is written as
 - ${}_Z X^A$
 - ${}_A X^Z$
 - ${}_{A+Z} X^N$
 - ${}_N X^{A+Z}$

GROUP B

Answer the following questions.

(8 × 5 = 40)

- State triangle law of vector addition and write down the formula for the magnitude and direction of resultant of two vectors. (2)
 - A rocket fires two engines simultaneously. One produces a thrust of 735 N directly forward, while the other gives a thrust of 500N at 32.4° above the forward direction. Find the magnitude and direction of the resultant force that these engines exert on the rocket. (3)
- OR**
- What do you mean by resolution of vectors? (1)
 - If \vec{A} makes angle θ with x-axis what are its x and y components. (1)
 - If the sum of two vectors which are equal in magnitude gives a resultant which is equal in magnitude, what is the angle between the given vectors? (2)
 - What is the lowest temperature produced? (1)
 - What is thermal equilibrium? Explain with example. (2)
 - The temperature of two bodies differs by 1°C . How much they differ on Fahrenheit scale? (2)
 - Define linear expansivity of solid. Does its value depend upon the original length of material? (2)
 - A faulty thermometer read the temperature of object 80°F . It has lower point 30°F and upper point 210°F . What is the correct reading of temperature of object? (3)
 - Difference between heat and temperature. (2)
 - At what temperature on Kelvin scale read double of the reading of Fahrenheit scale? (3)
 - Distinguish between real and virtual image. (2)
 - Does a plane mirror form a real image? Explain. (2)
 - Explain why convex mirror is also called diverging mirror. (1)

OR

- a. Define concave mirror. Discuss its one application. (2)
 b. Explain why this mirror is also called converging mirror (1)
 c. Establish the relation between focal length and radius curvature of a concave mirror. (2)
17. a. Define quantization of charge. (1)
 b. Calculate the number of electrons in 5 coulomb charge. (2)
 c. Your body is neutral. Does it mean that there is no charge? Explain. (2)
18. a. What is electric charge? (1)
 b. What do you mean by electrostatic induction? (1)
 c. How can we charge a body with positively by method of induction? (3)
19. Define one ampere current. (1)
 a. What is drift velocity of an electron? (1)
 b. Derive a relation between the current through a metallic conductor and the drift velocity of electrons and also define current density (3)

GROUP C

Give long answer to the following questions. (3×8=24)

20. a. Write about fundamental quantities and derived quantities. (2)
 b. What are the importance of dimensional formula (2)
 c. A body of mass m be moving with constant speed v in circle of Radius r under centripetal force F . Derive formula for centripetal force dimensionally (2)
 d. The distance covered by a particle in time t is given by $x = a + bt + ct^2 + dt^3$ find the dimensions of a, b, c and d (2)

OR

- a. The energy of a photon is given by $E = hf$. Find the dimension and unit of Planck's constant, " h " where f is frequency of radiation. (2)
 b. Convert 10 joules into ergs. (2)
 c. Two vectors \vec{A} and \vec{B} are such that $\vec{A} + \vec{B} = \vec{C}$ and $A+B=C$. Find the angle between them. (2)
 d. Is current a vector quantity? Explain. (2)
21. a. Explain how Rutherford's alpha-scattering experiment suggested that the nucleus of an atom is very small, very dense and positively charged. (3)
 b. Define 'atomic number', 'atomic mass number' and nucleons. (3)
 c. How many protons and how many neutrons are there in a nucleus of Thallium ${}_{81}\text{TI}^{205}$. (2)

22. a. Write the dimensional formula of power and force. (2)
 b. State the parallelogram law of vector addition. (1)
 c. Derive the expression for the magnitude and direction of the resultant of two vectors inclined at an angle θ from each other. (3)
 d. A swimmer wants to reach to a point just opposite on the other bank of the river. How should he swim and why? (2)

The End

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate the full marks.

Use separate answer sheets for Part I and Part II.

Part I (Botany)

Group A

Rewrite the correct options of each question in your answer sheet.

(5×1=5)

1. Founder of binomial nomenclature was:

- a. Carolus Linnaeus b. Logler
c. Darwin d. Robert Hooke

2. Phycology is the study of:

- a. Algae b. Fungi
c. Virus d. None of the above

3. Living cell was firstly observed by:

- a. Robert Hooke. b. Anton Van Leuwenhoek.
c. Robert Brown. d. Rudolf Virchow.

4. Protoplasm is the physical basis of life". This statement is given by:

- a. Mathias Schleiden. b. Purkinje.
c. Huxley. d. Dujardin

5. Who first coined the term 'Ecology'?

- a. Haeckel b. Huxley c. Reiter d. Darwin

Group B

Give short answer to the following questions: (4×4 = 16)

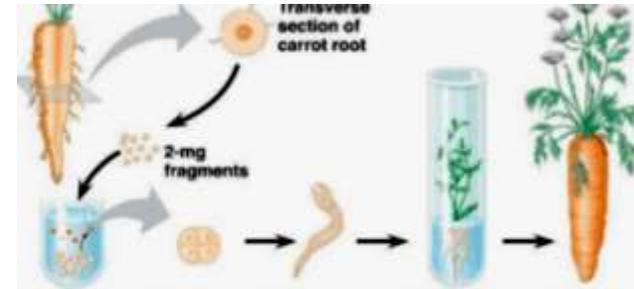
1. Define thallus. Compare red, green and blue algae with examples. (1+2+1)

2. Define cell theory. Describe in detail the cell theory. (1+3)

OR

Identify the diagram given below. Describe the experiment.

(1+3)



3. Name three domains of life. Write down the rules of binomial nomenclature. (1+3)
4. Why are consumers known as heterotrophs? Describe various types of consumers found in ecosystem. (1+3)

Group C

Give long answer to the following questions. (2×8=16)

5. Give the common name of *Spirogyra*. Describe the cell structure, vegetative reproduction and asexual reproduction in *Spirogyra* with diagram. (1+3+2+2)
6. Who developed five kingdom system of classification? Describe five kingdom system of classification with its advantage and disadvantage. (1+3+2+2)

OR

Define autecology. Describe briefly the abiotic components of ecosystem. (1+7)

Part II (Zoology)

Rewrite the correct options of each question in your answer sheet.

(6×1=6)

1. Who is known as father of Zoology?
a. Mendel b. Lamarck c. Aristotle d. Linnaeus

2. The branch of zoology which deals with the study of insects is known as:

- a. Embryology
- b. Entomology
- c. Ecology
- d. Ichthyology

3. The theory of spontaneous generation is also known as:

- a. Abiogenesis
- b. Autogenesis
- c. Biogenesis
- d. Both **a** and **b**

4. When was the life originated?

- a. 3400 million years ago
- b. 3600 million years ago
- c. 3800 million years ago
- d. 4600 million years ago

5. "Fresh water polyp" is the common name given for:

- a. *Paramecium*
- b. *Fasciola*
- c. *Hydra*
- d. *Sycon*

6. *Balanoglossus* belongs to:

- a. Urochordata
- b. Hemichordata
- c. Cephalochordata
- d. Annelida

Group B

Give short answer to the following questions. (4×4=16)

1. Discuss the relationship of biology with physics and chemistry. (2+2)
2. Mention the main distinguishing characters of chordates. Write any two important characters of Cephalochordata with an example. (2+1+1)
3. Describe any six important characteristics of phylum Coelenterata. Write the scientific name of any two animals belonging to this phylum. (3+1)
4. Give any two important characteristics of vertebrates. Differentiate between Agnatha and Gnathostomata (1+3)

OR

Biology is also known as life science, why? Give your opinion why it is essential to study biology. (1+3)

Group C

Give long answer to the following questions. (2×8=16)

5. What was the view of Oparin and Haldane's theory on the origin of life? Explain in detail the chemical evolution. (1+7)
6. Describe the general characteristics of phylum Porifera. On what basis the poriferans are categorized? Classify it up to classes with one example from each class. (5+1+2)

OR

Discuss the distinguishing characters of super class Pisces with examples. Differentiate between cartilaginous and bony fishes. (5+3)

"Best of Luck"



The Times Secondary School

Dillibazar, Kathmandu

First Terminal Examination – 2079

Grade: - XI

Stream: Science

Subject: - Chemistry

Full Marks:-75

Pass Marks:-30

Time : 3hrs

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate the full marks.

Group A

Multiple choice question group

Choose the best alternative to the following multiple choice questions. [1×11=11]

- 28 gm of CO contains
 - 6.023×10^{23} O₂ molecules
 - 6.023×10^{23} total atoms
 - 11.2 litres O₂ at NTP
 - 0.5 mole of CO
- A mole of substance is
 - no. of particles present in 12 gm of C-12 isotope
 - Mass of molecule in gram
 - 6.023×10^{23} particles
 - All of above
- The best ionic bond is formed between
 - Li and F
 - Cs and F
 - Li and I.
 - Cs and I
- Heavy water is used as
 - Drinking water.
 - Blood purifier
 - Washing water
 - Moderator
- Water gas is a mixture of
 - CO + N₂.
 - CO + H₂
 - CO₂ + H₂.
 - CO + NO
- Brass is an alloy of
 - Cu and Sn
 - Zn and Sn
 - Cu and Zn.
 - Cu and Al
- An example of oxide ore is
 - Galena.
 - Cinnabar
 - Calamine.
 - Bauxite
- Vital Force Theory was proposed by
 - Hermann Kolbe
 - Friedrich Wohler
 - J J Berzelius
 - Le Bel
- Among the following, which is not considered a functional group?
 - $\begin{array}{c} | & | \\ -C & -C- \\ | & | \end{array}$
 - $\begin{array}{c} \diagup & \diagdown \\ C & = & C \\ \diagdown & \diagup \end{array}$
 - C ≡ C -
 - CN
- Which one of the following is a heterocyclic compound?
 - Benzene
 - Cyclopropane
 - Anthracene
 - Thiophene
- Each homolog has different physical properties as a result of the difference in
 - Functional group
 - CH₂ unit
 - 14 amu
 - Both b & c

Group B

Short question answer group.

[5×8=40]

Attempt all the questions

- What do you mean by the term 'one mole'? Write your answer with example. A rigid vessel of 5L capacity contains SO₂ gas at NTP. calculate. (1+4)
 - No. Of moles of SO₂ gas
 - Mass in gram of SO₂ gas

- Number of molecules of SO₂ gas
- Pressure exerted by the gas at 0°C

OR

Define one mole molecule with an example. A gas jar contains 0.4 mole of H₂S gas. Calculate in each of the following (1+4)

- Mass in grams of H₂S gas
 - Volume occupied by H₂S gas at NTP.
 - Mass in gram of H atom and S atom
 - No. Of molecules of H₂S and H₂
- Solve the following chemical problems. (1+1+1+2)
 - The cost per mole of sugar (C₁₂H₂₂O₁₁) is Rs 30. How much a packet of sugar containing 2kg would cost?
 - Calculate the no. of atoms of carbon present in 2.5 gm of CaCO₃.
 - Which of these two has higher mass and why? 0.5 mole CO₂ or 16 gm SO₂?
 - How many no. of gold (Au) atoms are present in 0.6 gm of 18 carat gold? The 24 carat gold is taken as 100% pure gold? (atomic mass of gold is 197 amu)
 - Mutual sharing of equal no. of valence electrons between two atoms to attain stable octet or duplet state is called covalent bond whose bond strength is weaker than ionic bond.
 - Distinguish between mechanism of formation of ionic and covalent bond. (1)
 - What do you mean by electrovalency and covalency. Mention an example for each. (1)
 - Compare the properties of CH₄ and MgO on the basis of their nature of bond with appropriate reasonable explanation. (3)
 - The valence electron of three hypothetical elements are shown by the Lewis dot symbols given below.
M: $\cdot \dot{Y} \cdot$ $\cdot \ddot{Z} \cdot$
Answer the following questions
 - What type of bond is formed between M and Z and why? Write steps involved in bond formation. (2)
 - Write the electron dot structure of Y₂ and Z₂ (1)
 - Mention the favourable conditions for formation of compound MZ (1)
 - Chemical reactions of aqueous solution of compound MZ is extremely fast but that of compound YZ is too slow. Why? (1)
 - In 1934, an American scientist Harold C. Urey got Nobel prize for separating deuterium isotope of hydrogen by physical methods.
 - Define isotope and isotopic effect, write isotopes of hydrogen. (2)

- b. How is heavy water physically and chemically different from ordinary water? Explain. (2)
- c. Mention any two application of deuterium and tritium for each. (1)
6. Naturally occurring metals are generally found in combined form except gold which is found in free state. Out of many minerals, only ores are chosen for extraction of metals.
- a. What are minerals and ores. Give examples. (1)
- b. Every ore is mineral but every mineral is not ore. Justify this statement. (1)
- c. Distinguish metals and metalloids with their examples. (1)
- d. Define gangue or matrix. What are amalgams and alloy? Write the purpose of making alloy. (2)
7. How would you describe "Vital Force Theory"? Why has this theory finally been discarded? What is meant by catenation? Explain. (2+2+1)
- OR
- Define the Functional group and alkyl group . Write the importance of functional groups. List the four functional groups that contain oxygen atoms and two functional group that contain nitrogen atom and write an example of organic compound having these functional groups. (1+2+2)
- 8.
- a. What are homocyclic and heterocyclic compounds? Give one example of each. Define derivatives of hydrocarbon with an example. (2+1+1)
- b. Differentiate aliphatic and aromatic compounds with necessary examples (1)

Group C

Long question answer group.

[8× 3 = 24]

1. Organic compounds are characterised by forming a typical homologous series.
- a. What do you mean by homologous series homologue and homology? (2)
- b. Write down its most important charastics (2)
- c. Give examples of homologous series of alcohol and carboxylic acid up to 4 carbon atoms. (2)
- d. Why do you think first member of homologous series is always unique than rest members. (1)
2. Mole calculation, also commonly known as mole concept that involves the calculation in stoichiometric chemical equation using mass- mass, or mass-volume relationships that demands strong essential concepts and good strategy.



- a. Describe significance of mole with reference to: (i). Gram atomic mass. (ii). Gram molecular mass and (iii). Molar volume of gas at NTP with examples. (1+1+2)

- b. What mass of Na will contain the same number of atoms as there are present in 1.2 gm of carbon atom? (2)
- c. Calculate the no. Of covalent bonds present in 18 ml of water. (2)
3. Hydrogen is the most abundant element in the universe and the tenth most abundant element in the earth's crust. Water contains about 11% by weight of hydrogen. Hydrogen is used in fuel cell or in internal combustion engine such that global warming can be controlled by introducing hydrogen as a source of fuel.



- a. Write a short note about molecular hydrogen, nascent hydrogen, and atomic hydrogen for each. (2)
- b. Show that nascent hydrogen is more powerful reducing agent than molecular hydrogen. Explain with three evident appropriate balanced chemical reactions. (3)
- c. Write down the Lewis structures of following chemical species.
- i. H_2SO_4 . ii. N_2O_3 . iii. HCO_3^- iv. H_3PO_4 (3)

The End



The Times Secondary School

Dillibazar, Kathmandu

First Terminal Examination – 2079

Grade: - XI

Stream: Science

Subject: - Computer Science(4271)

Full Marks:-50

Pass Marks:-20

Time : 2 hrs

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate the full marks.

Attempt all the questions

Group A

Multiple Choice Questions

(1×9=9)

- The third generation of computer use-----as major technology.
a. Vacuum tube b. Transistor c. IC d. All of above
- What of the following is the main components of computer system?
a. CPU, Input unit, Output Unit, Memory Unit
b. CPU, Memory, System bus, Input, Output, Pendrive
c. Modem, Keyboard, Word Processor, Printer, Screen
d. Memory, Video Card, Monitor, Software, Hardware.
- Which of the following is NOT a bus type?
a. Control bus b. Memory bus c. Address bus d. Data bus
- Which of the following Gates takes single input and gives single output?
a. OR b. AND c. NOT d. NAND
- 1's Complement of 1101 is
a. 0010 b. 0101 c. 1010 d. 1100
- The pathway through which transmit of data from one memory location to other occurs is called
a. Address bus b. Control bus
c. Data bus d. None of the above
- The number which base or radix 8 is called-----
a. Binary number system
b. Octal number system
c. Decimal number system

- 1 Kilobyte is equal to -----
a. 1000 Byte b. 1 Bit c. 1024 Byte d. All of above
- Which one of the following is an output device ?
a. Speaker b. Keyboard c. Mouse d. Camera

Group B

Short Question Answers

(5×5=25)

- 10 Explain characteristics of the computer.

Or

Define binary and decimal number system. Perform 1101-101 by using 1's and 2's complement method.

11. Define Octal number system and hexadecimal number system. Convert $(7132)_8$ into equivalent hexadecimal and $(32C)_{16}$ into equivalent octal.

OR

What are the advantages and disadvantages of computer. Explain.

12. Explain mobile computing with its advantages and disadvantages.
13. Define the computer on the basis of size.

OR

Write a feature of MS-Word.write a steps of to create macro in MS-word.

14. What is system Bus ? Explain its type.

Group C

Long Question Answers

(8×2=16)

15. Describe the application area of computer any eight of them.
16. Write a feature of 1st, 2nd, 3rd and 4th generation of computer.

OR

What is Computer System? Draw a block diagram of computer system and explain each component in details.

The End



The Times Secondary School

Dillibazar, Kathmandu

First Terminal Examination – 2079

Grade: - XI

Stream: Science

Subject: - English(0031)

Full Marks:-75

Pass Marks:-30

Time : 3hrs

Students are required to answer in their own words as far as practicable. Credit shall be given to clarity and originality, not rote learning.

Attempt all the questions

1. Read the text and do the tasks.

15

Autism spectrum disorders (ASD) are a range of psychological conditions characterized by abnormalities in social interaction, behavior, interests, and communication. The five forms of ASD include Classical Autism, Asperger Syndrome, Pervasive Developmental Disorder, Rett syndrome, and Childhood Disintegrative Disorder. Although the number of reported cases of ASD has experienced a dramatic increase in the past 25 years, the majority of doctors agree that this increase is due to changes in diagnostic practices and advances in the understanding of psychiatric health. While there is no general consensus among medical professionals about the underlying causes of ASD, theories range from genetic inheritance to environmental factors. One of the most controversial theories to have emerged in recent times is the hypothesis that ASD could be caused by the MMR vaccine, which is an immunization against measles, mumps, and rubella that was first developed in the 1960's. The vaccine is a mixture of three live viruses and is administered via injection to children when they are one year old. By the late 1990's, this vaccination had led to the near-eradication of measles in countries that employed widespread inoculation. However, a combination of spurious scientific data and alarmist media attention led to an entirely preventable resurgence in measles cases in the early 21st century.

The first claims of a connection between the MMR vaccine and autism were made in 1998, when an article in *The Lancet*, a respected British medical journal, reported on eight cases of autism that could possibly be traced back to the administration of an MMR vaccine. The parents of the children in this study contended that the symptoms of autism in their children developed within days of vaccination. During a press conference, Andrew Wakefield, one of the authors of the article, called on British doctors to stop giving combined MMR vaccines, instead advocating for individual inoculations against measles, mumps, and rubella.

Following the publication of this article, Wakefield published several follow-up papers that further questioned the safety of the MMR vaccine. An onslaught of media coverage then began. Parents appeared on television sharing anecdotal evidence linking their child's inoculation to the onset of ASD. The popular press quickly seized upon this story; in 2002, over 1200 articles were written about the link between MMR vaccines and ASD. Less than 30% of these articles mentioned that an overwhelming amount of scientific evidence suggested that these vaccinations were completely safe.

Since the initial panic, fears that MMR vaccines cause ASD have generally subsided. A survey completed in 2004 showed that only 2% of people in the United Kingdom thought that there was a legitimate link between MMR vaccines and ASD. Fears were most likely allayed when, in 2004, an investigative reporter discovered that

Andrew Wakefield had received a large sum of money from lawyers seeking evidence to use in cases against vaccine manufacturers. It was then discovered that Wakefield had applied for patents on an alternate MMR vaccine. These severe conflicts of interest damaged the credibility of Wakefield's study beyond repair. In 2010, Wakefield was tried by Britain's General Medical Council under allegations that he had falsified data and manipulated test results. The Council found that Wakefield had acted "dishonestly and irresponsibly," and consequently *The Lancet* officially retracted Wakefield's 1998 article.

The anti-MMR vaccine panic that arose immediately after Wakefield's article was published had a significant negative effect on the health of thousands of children. Once the controversy began, the number of parents in the United Kingdom who inoculated their children with the MMR vaccine experienced a sharp decline. Not surprisingly, the number of reported cases of measles increased; while there were only 56 confirmed cases of measles in the UK in 1998; in 2008 there were over 1300. Between 2002 and 2008, there were outbreaks of measles throughout Europe and North America. These outbreaks cost millions of dollars in health care and resulted in the deaths of dozens of children and adults with compromised immune systems.

Who is to blame for these deaths? It is easy to hold Andrew Wakefield accountable, but the media must also bear some of the responsibility. The media's appetite for a sensational medical story overshadowed the fact that there was very little scientific evidence behind Wakefield's claim. Although Wakefield is certainly not the first person to publish fraudulent scientific findings in a respected medical journal, the magnitude of this event was anomalous, as most medical hoaxes are discredited before they can reach the popular media. While *The Lancet* should not have published Wakefield's article without checking it thoroughly, the popular media should not have blown the study out of proportion without fully considering the consequences.

A. Choose the best answer.

(5×1=5)

- As used in 1st paragraph, which is the best antonym for 'spurious'?
 - fake
 - necessary
 - authentic
- As used in 6th paragraph, which is the best synonym for 'anomalous'?
 - calamitous
 - abnormal
 - unacceptable
- The writer blames.....for the deaths.
 - Andrew Wakefield
 - media
 - both Andrew Wakefield and media
- The word 'conference' in 2nd Paragraph means:
 - formal meeting of people
 - a usually formal interchange of views
 - mass gathering
- The Lancet* is.....
 - a newspaper
 - magazine
 - journal

B. Arrange the following sentences into correct order.

(5×1=5)

- The media must also bear some of the responsibility for the deaths.
- In 2010, Wakefield was tried by Britain's General Medical Council.
- Between 2002 and 2008, there were outbreaks of measles throughout Europe and North America.
- Parents appeared on television sharing anecdotal evidence linking their child's inoculation to the onset of ASD.
- There were only 56 confirmed cases of measles in the UK in 1998.

C. Answer the following questions. (5×1=5)

- What is the recent hypothesis of ASD?
- When were the first claim of a connection between the MMR vaccine and autism made?
- What did Andrew Wakefield say during press conference?
- What did Britain's General Medical Council find against Andrew Wakefield?
- What is the main purpose of writing this article?

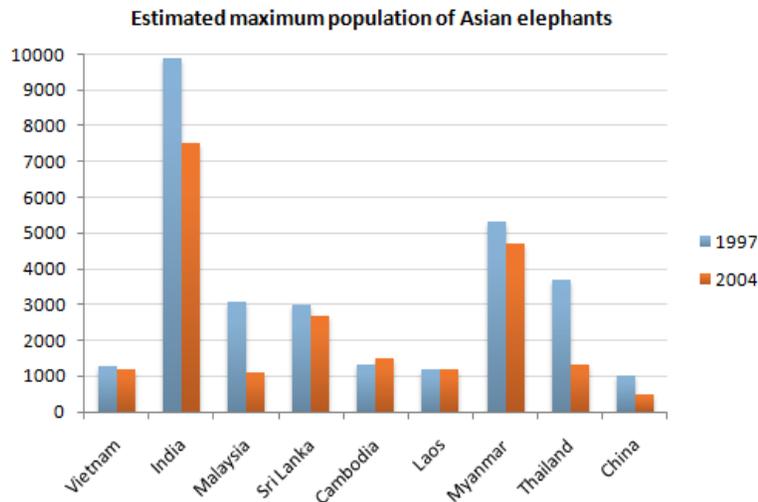
2. Write short answers to the following questions. (5×2=10)

- The story makes use of personification as one of the main figures of speech. Cite three examples of personification from the story. What is the significance of the seasons personified in the story? (**The Selfish Giant**)
- What kind of love is expressed in the poem "A Red, Red Rose"?
- What is hyperbole? Explain its purpose citing examples of hyperbole used in the poem. (**A Red Red Rose**)
- What did the giant hear when he was lying awake in bed? (**The Selfish Giant**)
- What is the main theme of this story? (**The Selfish Giant**)

3. Write long answers to the following questions. (2×5=10)

- Write an interpretation of the poem "A Red Red Rose."
- Write a summary of "The Selfish Giant."

4. The graph below shows the changes in the maximum number of Asian elephants between 1994 and 2007. Write an interpretation of it in about 150 words. 7



5. Write a letter to your younger sister elucidating the significance of celebrating festivals. (8)

6. Write an essay on "Impact of Social Media in Nepali Society" in about 300 words. (10)

7. Do as indicated in brackets and rewrite the sentences. (10×1=10)

- Raman is a (careful/carefully) driver. (**Choose correct word**)
- Neither the people nor the leaders (is/are) worried about the growing population. (**Select an appropriate word**)
- The teacher walked(into/towards/round/through) the class immediately after the bell rang. (**Choose correct preposition**)
- She has terrible headache. She (must/had to) visit the doctor. (**Select suitable modal verb**)
- She rarely (speak/speaks) French. (**Use correct form of verb**)
- Finally, she met the parents.....(to beg/begging)the pardon. (**Correct form of infinitive**)
- Playing cricket is really beneficial. It pays a lot. (**Join the clauses using suitable conjunction**)
- Sharmila works hard. She has won many prizes. (**Join with relative pronoun**)
- Sangina said, "I will meet you tomorrow!" (**Change into indirect speech**)
- Hari married Sarita. (**Change into passive voice**)

8. Do as instructed. (5×1=5)

- Ballot, Balling, Balloon, Ball (**Arrange in an alphabetical order**)
- I have never been to Japan. (**Identify the word class of underlined word**)
- Write the meaning of following word and use it in a meaningful sentence.
 - Compassion
- a messenger or representative, especially one on a diplomatic mission (**Write single word to this meaning**)
- Hari isdriver (**Use an appropriate adjective**)

The End



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Full Marks:-75

Pass Marks:-30

Time : 3hrs

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Group A (1 × 11 = 11)

Choose the correct answer.

- For all rational values of n, $\lim_{x \rightarrow a} \frac{x^n - a^n}{x - a}$ equals to
 - ax^{n-1}
 - x^{n-1}
 - na^{n-1}
 - iii
- The limiting value of $\lim_{x \rightarrow 1} \frac{x^2 + 3x - 4}{x - 1}$ is
 - 1
 - 3
 - 5
 - 7
- If $z_1 = i$, $z_2 = 1 + 2i$ then $|z_1 + z_2|$ equals
 - 4
 - 10
 - $\sqrt{10}$
 - $\sqrt{7}$
- The value of $\sqrt{-1} \times \sqrt{-16} =$
 - 4
 - 4
 - 9
 - 16
- The absolute value of the complex number $x + iy$ is
 - x
 - y
 - $x - iy$
 - $\sqrt{x^2 + y^2}$
- The imaginary part of the complex number $\frac{3+i}{i}$ equals
 - 3
 - 3i
 - 3
 - 3i
- If $y = mx + c$ be the equation of a straight line, the y-intercept of the line is
 - x
 - m
 - y
 - c
- The length of perpendicular from the point (2,3) to the line $8x + 15y + 24 = 0$ is
 - 3
 - 4
 - 5
 - 6
- The domain of the function $y = \sin^{-1} \frac{x}{3}$ is
 - $-1 \leq x \leq 1$
 - $-3 \leq x \leq 3$
 - $-\infty \leq x \leq \infty$
 - $-\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$
- The principal value of $\tan^{-1} \left(\tan \frac{3\pi}{4} \right)$ is
 - $\frac{3\pi}{4}$
 - $-\frac{3\pi}{4}$
 - $\frac{\pi}{4}$
 - $-\frac{\pi}{4}$
- For a numerical value x, $\sin^{-1}x + \cos^{-1}x$ equals
 - $\frac{\pi}{2}$
 - $\frac{\pi}{4}$
 - π
 - 2π

Group B (8 × 5 = 40)

- If $z = a + ib$ and $w = c + id$ be two complex numbers, prove that $|z| + |w| \geq |z + w|$

- If a, b, c are rationals and $a + b + c = 0$, show that the roots of $(b + c - a)x^2 + (c + a - b)x + (a + b - c) = 0$ are rational.
- Find the equations of the bisectors of the angles between $4x - 3y + 1 = 0$ and $12x - 5y + 7 = 0$. Prove that the bisectors are at right angle to each other. [4 + 1]
- If p and p' be the length of the perpendiculars from the origin upon the straight line whose equations are $x \sec\theta + y \operatorname{cosec}\theta = a$ and $x \cos\theta - y \sin\theta = a \cos 2\theta$, prove that $4p^2 + p'^2 = a^2$.
- Prove that $\tan^{-1}\sqrt{x} = \frac{1}{2} \cos^{-1} \left(\frac{1-x}{1+x} \right) = \frac{1}{2} \sin^{-1} \frac{2\sqrt{x}}{1+x}$
- a) Prove that $3 \tan^{-1}x = \tan^{-1} \frac{3x - x^3}{1 - 3x^2}$
b) Express $\cos(2\cot^{-1}x)$ in terms of x. [3 + 2]
- Evaluate $\lim_{x \rightarrow 1} \frac{x - \sqrt{2 - x^2}}{2x - \sqrt{2} + 2x^2}$
- Evaluate a) $\lim_{x \rightarrow 64} \frac{\sqrt[6]{x} - 2}{\sqrt[3]{x} - 4}$ b) $\lim_{x \rightarrow \infty} \frac{5x^2 + 2x - 7}{6x^2 + 4x + 9}$ [3 + 2]

Group C (3 × 8 = 24)

- a) Determine the nature of the roots of the equation $4x^2 + 8x - 5 = 0$. [2]
b) If the equation $x^2 + 2(k + 2)x + 9k = 0$ has equal roots, find k. [3]
- If $x - iy = \sqrt{\frac{1-i}{1+i}}$, prove that $x^2 + y^2 = 1$ [3]
- a) Find the square root of the complex number $12 - 5i$. [4]
b) Express $\frac{3+4i}{4-3i}$ in terms of A + iB. Also, find its conjugate and modulus. [2+1+1]
- a) If p is the length of the perpendicular dropped from the point (a, b) on the line $\frac{x}{a} + \frac{y}{b} = 1$, prove that $\frac{1}{a^2} + \frac{1}{b^2} = \frac{1}{p^2}$ [3]
b) Evaluate $\lim_{x \rightarrow 3} \frac{x-3}{\sqrt{x-2} - \sqrt{4-x}}$ [3]
c) For a numerical value x, prove that $\operatorname{cosec}^{-1}x = \sin^{-1} \frac{1}{x}$ [2]

The End



द टाइम्स माध्यमिक विद्यालय
डिल्लीबजार, काठमाडौं
प्रथम त्रैमासिक परीक्षा: २०७९

कक्षा: ११
सङ्काय: विज्ञान
विषय: नेपाली

पूर्णाङ्क: ७५
उत्तीर्णाङ्क: ३०
समय: ३ घण्टा

(सबै प्रश्नको उत्तर दिनुहोस्। मौलिक उत्तरलाई प्राथमिकता दिइनेछ।)

१. तल दिइएको अनुच्छेदमा रेखाङ्कित गरिएका वर्णहरूलाई उच्चारण स्थान र प्रयत्नका आधारमा छुट्ट्याएर लेख्नुहोस्। (५)

नेपालमा थुप्रै हिमालयहरू छन्। त्यसैले यहाँ पर्यटनको राम्रो सम्भावना छ। तर अहिले आफ्नो देशलाई भुलेर विदेश पलायन हुनेहरू अत्यधिक बढिरहेका छन्। यो देश त वास्तवमा परमेश्वरको सुन्दर वरदान नै हो।

२. शुद्ध गरी पुनर्लेखन गर्नुहोस्: (३)

काठमाडौंमा यसपाली चाडै नै जाडो बढ्यो होइन त! मलाइ त एस्तै लाग्छ। तिमी लाई पनी जाडो त भयकै छ होलानि ?

३. तल दिइएको अनुच्छेदमा रेखाङ्कन गरिएका शब्दको पदवर्ग पहिचान गरी लेख्नुहोस्। (२)

यस वर्ष कक्षा ११ को पढाइ ढिलो सुरु भएको कारण पाठ्यक्रम अनुसार पाठ अगाडि नबढेको हुनाले प्रथम त्रैमासिक परीक्षाको लागि प्रश्न पत्र तयार ज्यादै नै अप्ठ्यारो भयो।

४. तल दिइएको अनुच्छेदमा रेखाङ्कित गरिएका वर्णहरूलाई घोषत्व र प्राणत्वको आधारमा छुट्ट्याएर लेख्नुहोस्। (५)

रवि विज्ञान पढ्ने विद्यार्थी हो। ऊ भविष्यमा डाक्टर बन्छ रे! उसकी आमा उसलाई इन्जिनियर बनाउन चाहनु हुन्छ। दाजु भने वकिल बनाउने भन्छन्। ऊ पढेर जागिर नखाने बरु समाजसेवा गर्ने भन्छ।

५. दिइएको अनुच्छेदबाट एउटा अनुकरणात्मक शब्द, एउटा उखान र एउटा टुक्का पहिचान गरी तिनलाई वाक्यमा प्रयोग गर्नुहोस्। (३)

गाउँका मानिसहरू जिउँदाको जन्ती र मर्दाको मलामी भने भैँ हरेक सुख दुखमा एक अर्कालाई भर्कीभर्की नगरी सहयोग गर्छन्। अरूका कुरा काट्न भन्दा पछिसम्म भलभली याद आउने गरेर सुरु गरिएका कामहरूलाई एकले थुकी सुकी सयले थुकी नदी भन्ने कुरालाई मनन गरेर दिलो ज्यान दिएर गर्छन्।

६. तल दिइएका प्रश्नको उत्तर दिनुहोस्।

(क) तलको अनुच्छेदबाट तीन तीनउपसर्ग र प्रत्यय लागेका शब्दहरू खोजी निर्माण प्रक्रिया पनि देखाउनुहोस्: (३)

योग्यताको कदर नहुने ठाउँमा सुयोग्य व्यक्ति पनि दण्डित हुन्छ। शिक्षित र चेतनशील नागरिकहरू नालायकबाट पीडित छन्। दुर्व्यवहारले सज्जनलाई पनि दुर्जन बनाउँछ।

(ख) तल दिइएको अनुच्छेदबाट चारवटासमस्त शब्द पहिचान गरी विग्रह गर्नुहोस्: (२)

लोकहितमा काम गर्नु नै समाजसेवा हो। आआफ्नो स्वार्थका लागि काम गर्नेलाई कसरी समाजसेवी भन्न सकिनेला? समाजका अलिकति जान्नेसुन्नेले मात्र पनि सरसहयोगको भावना राख्ने हो भने हातमुख जोर्न

धौ धौ परेकालाई केही सजिलो हुन्थ्यो। हुन त आजभोलि मानिसहरूको आनीवानी बढिएको छ र केही मात्रामा भए पनि सामाजिक भावको सन्देश फैलिएको छ।

७. तल दिइएको प्रश्नको उत्तर दिनुहोस्। (४)

(क) तल दिइएको अनुच्छेदका वाक्यलाई एकवचनमा परिवर्तन गरी पुनर्लेखन गर्नुहोस्:

पोखरा आएका ती पर्यटकहरू नेपाली नै थिए। तिनीहरू हातमा क्यामेरा र नक्सा बोकेर हिँड्दै थिए। तिनीहरू अग्ला हिमालहरू देखा साथ रमाएर उफ्रिए। तिनीहरूले हिमालको दृश्यलाई क्यामेरामा कैद गरे।

८. तल दिइएका प्रश्नको उत्तर दिनुहोस्। (४)

(क) तल दिइएको अनुच्छेदका वाक्यलाई अकरणमा परिवर्तन गरी पुनर्लेखन गर्नुहोस्:

विद्यार्थीहरू सधैं विद्यालय आउँछन्। पुस्तकहरू पनि ल्याउँछन्। शिक्षकलाई सम्मान गर्छन्। प्रत्येक कक्षा कोठाहरूमा प्रोजेक्टरहरू पनि छन्।

९. दुवै प्रश्नको उत्तर दिनुहोस्। (४+४ = ८)

(क) दिइएको अनुच्छेद पढी सोधिएका प्रश्नको छोटो उत्तर लेख्नुहोस्:

भाषा यादृच्छिक वाक्प्रतीकहरूको त्यस्तो व्यवस्था हो, जसका सहायताले समाजका व्यक्तिहरू आफ्नो विचार विनिमय गर्दछन्। भाषालाई स्पष्ट रूपमा चिन्न यसका प्रकृति र विशेषताहरूको उल्लेख गर्नु अझ सान्दर्भिक ठहरिन्छ। भाषा पूर्णतः पैतृक सम्पत्ति नभई मानिसको आर्जित सम्पत्ति हो। भाषा सामाजिक वस्तु हो र यो एकप्रकारको परम्परा पनि हो। कुनै पनि व्यक्ति भाषाको आर्जन गर्न सक्दछ तर पूर्णरूपले उत्पादन गर्न सक्दैन। वास्तवमा भाषा अनुकरणद्वारा आर्जन गर्ने गरिन्छ। भाषा परिवर्तनशील हुने भएकालयसको कुनै अन्तिम स्वरूप हुँदैन। भाषाको भौगोलिक र ऐतिहासिक सीमा हुन्छ। प्रत्येक भाषाको आफ्नै प्रकारको संरचना हुन्छ। स्वाभाविक रूपमा हरेक भाषा जटिलताबाट सरलतातर्फ यात्राशील रहन्छ। त्यस्तै हरेक भाषा आफ्नो विकासको क्रममा स्थूलबाट सूक्ष्मतिर र अपरिपक्वको स्थितिबाट परिपक्वको स्थिति तिर यात्रारत रहन्छ। सबै भाषाको आफ्नो मानक रूप हुन्छ। यादृच्छिकता, सिर्जनात्मकता, द्वैधता, सान्दर्भिकता, मौखिकता, श्रावणिकता भाषाका विशेषता हुन्।

प्रश्नहरू

(अ) भाषा भनेको के हो ?

(आ) भाषाका विशेषताहरू बताउनुहोस्।

(इ) 'वाक्प्रतीक' र 'यादृच्छिक' शब्दको अर्थ के हो ?

(ई) यस अनुच्छेदको पहिलो वाक्यलाई संयुक्त वाक्यमा बदल्नुहोस्।

(ख) दिइएको अनुच्छेद पढी सोधिएका प्रश्नको उत्तर लेख्नुहोस्:

विश्व स्वास्थ्य सङ्गठनको परिभाषा अनुसार राम्रो स्वास्थ्य भनेको रोग वा दुर्बलताको अभाव मात्र नभएर शारीरिक, मानसिक र सामाजिक रूपले पूर्ण तन्दुरुस्तीको अवस्था हो। जुन देशका नागरिकहरू स्वस्थ हुन्छन्, त्यस्तो देशको प्रगति द्रुततर हुन्छ। कुनै पनि देशको स्वास्थ्य स्थिति कति सबल छ, भन्ने कुरा त्यहाँका नागरिकहरूमा सुर्तीजन्य पदार्थको प्रयोगको स्थिति, उच्च रक्तचाप तथा मोटोपनको स्थिति (

'युवावर्गमा दुर्व्यसनको समस्या' शीर्षकमा १२५ शब्दसम्मका टिप्पणी लेख्नुहोस् ।

१३. युवावर्गको विदेश जाने क्रमलाई रोकेर स्वदेशमा नै राख्नको लागि के गर्नुपर्ला ? १२५ शब्दसम्मको आफ्नो प्रतिक्रिया लेख्नुहोस् । (४)

१४. तल दिइएको प्रश्नको उत्तर लेख्नुहोस् । (४)

(क) दिइएको कवितांश पढी सोधिएका प्रश्नको उत्तर दिनुहोस् :

डिगर्चामा डोब तिम्रो चिसो हिउँभित्र होला
वेत्रावती किनारभरि पौरखको चिनो होला
वीर पुर्खा ! तिमीलाई मितेरीले मात्रै बाँध्यो
सागर तरी संसारभरि वीर गोर्खा रगत बग्यो ।

प्रश्नहरू

(क) कवितांशमा हाम्रा पुर्खाहरूका बारेमा के भनिएको छ ?

(ख) हामीले हाम्रा पुर्खाको गौरव कसरी जोगाउन सक्छौं ?

१५. 'वीर पुर्खा' कवितामा नेपाली वीर पुर्खाको कस्तो वीरता एवम् योगदानलाई उल्लेख गरिएको छ ? कविताका आधारमा समीक्षात्मक उत्तर लेख्नुहोस् । (८)

१६. तल दिइएका मध्ये कुनै एक शीर्षकमा २५० शब्दसम्ममा नघटाई निबन्ध लेख्नुहोस् । (८)

(क) नेपाली जनताले चाहेको नेतृत्व

(ख) देश विकासमा पर्यटन उद्योगको भूमिका

(ग) युवावर्गमा बढ्दो मोबाइल फोनप्रतिको मोह,

(समाप्त)

स्वास्थ्यमा जोखिम), शुद्ध पानीको उपलब्धता, औसत आयु, कुपोषणग्रस्त जनसङ्ख्याको प्रतिशतका साथै दुर्घटना, द्वन्द्व वा प्राकृतिक विपत्ति जस्ता अन्य कारणबाट हुने मृत्युको अवस्था आदिमा निर्भर हुन्छ । यस्ता सूचकका आधारमा संसारकै सबैभन्दा राम्रो स्वास्थ्य स्थिति भएको देशको रूपमा स्पेनलाई लिइन्छ । लगभग १००० वर्षको इतिहास भएको चिकित्सा विज्ञान मानव सभ्यताको महत्त्वपूर्ण कान्छो उपलब्धि हो र यसको मुख्य उद्देश्य व्यक्तिको शारीरिक तथा मानसिक स्वास्थ्यलाई उच्चतम बिन्दुमा पुऱ्याउनु हो । स्वास्थ्य विज्ञानमा रोकथाम, निदान र निवारणको तीनओटा विधिमा ध्यान दिइन्छ । यी विधिमध्ये चिकित्सा विज्ञान मुख्यतया निदान र निवारणमै अल्भिएको छ । रोग लागेपछि उपचार गर्नुभन्दा रोग लाग्न नदिनु नै उत्तम हो भन्ने उक्तिलाई कम महत्त्व दिइएको छ । अर्थात् चिकित्सा विज्ञानमा रोकथामलाई भन्दा रोग लागिसकेपछि उपचार गर्ने परिपाटीले बढी महत्त्व पाएको छ, यद्यपि पछिल्लो समयमा विभिन्न किसिमको खोप, जनहितमा जारी हुने विभिन्न जनस्वास्थ्यसम्बन्धी सूचना, जानकारी, तालिम आदिको व्यवस्थाले चिकित्सा विज्ञान रोकथामको गतिविधिमा पनि तानिन थालेको छ ।

प्रश्नहरू :

(क) स्वस्थ हुनु भनेको के हो ?

(अ) रोगी हुनु (आ) निरोगी नहुनु (इ) तन्दुरुस्ती नहुनु

(ई) शारीरिक, मानसिक र सामाजिक रूपले पूर्ण हुनु

(ख) देशका नागरिकको स्वास्थ्य स्थिति कुन कुन कुरामा निर्भर हुन्छ ?

(अ) आम्दानी (आ) तलब (इ) रोजगारी (ई) औसत आयु

(ग) पछिल्लो समय चिकित्सा विज्ञान कसरी रोकथामतिर पनि केन्द्रित हुन थालेको छ ?

(अ) निदान र निवारणमा लागेर (आ) उपचार पद्धतिमा लागेर

(इ) खोप,सूचना,तालिम आदि कार्य गरेर (ई)सुर्तीजन्य पदार्थको प्रयोग गरेर

(घ) चिकित्सा विज्ञान मुख्यतया निदान र निवारणमै अल्भिएको छ । भन्ने वाक्यमा 'विज्ञान' कस्तो शब्द हो ?

(अ) उपसर्ग व्युत्पन्न (आ) प्रत्यय व्युत्पन्न (इ) समस्त शब्द (ई) द्वित्व शब्द

१०. तलको अनुच्छेदबाट मुख्य मुख्य चार बुँदा टिपी एक तृतीयाशमा सारांश लेख्नुहोस् । (२+२=४)

विकास निर्माणका नाममा वातावरणीय प्रभावको अध्ययन नगरी गरिने गतिविधि नै जलवायु परिवर्तनको मुख्य कारण हो । यस क्रममा मानिसद्वारा खोलिएको ठुला ठुला कारखानाहरू, वनविनाश गर्दै बसाइएका मानवबस्तीहरू, प्राकृतिक संरचनालाई भत्काउँदै बनाइएका बाटाहरू, सुरुङहरू, यातायातका साधनहरू, आणविक भट्टीहरू आदिको सङ्ख्या वृद्धिसँगै वातावरणीय प्रदूषण बढेको छ र वायुमण्डलमा रहेका कार्बनडाइअक्साइडलगायतका अन्य हरितगृह प्रभावअनुरूप ग्यासहरूको मात्रामा वृद्धि भएको छ । वायुमण्डलको संरचनामा भूमिका निर्वाह गर्ने ग्यासहरूको अनुपातमा फेरबदलले र मूलतः कार्बनडाइअक्साइडको मात्रा बढनाले पृथ्वीको तापक्रम बढ्न थालेको छ । पृथ्वीको तापक्रममा आएको यस्तो अस्वाभाविक वृद्धि नै जलवायु परिवर्तनको प्रमुख कारण बनेको छ । पृथ्वीको तापक्रममा आएको अस्वाभाविक वृद्धिले हिउँ पग्लिने क्रम बढेको छ । हिमालहरू काला पत्थरमा रूपान्तरण हुँदै छन् । यसले गर्दा निश्चित हावापानीमा रम्ने जीवजन्तु र वनस्पतिको जीवन सङ्कटग्रस्त भएको छ । बाढीपहिरो, अनावृष्टि, अतिवृष्टि, खण्डवृष्टिलगायतका प्राकृतिक प्रकोप बढेको छ । समुद्रको सतह बढ्दै गएको छ र समुद्री तटका बस्तीहरूलगायत मालदिभ्स जस्ता टापुहरू डुबानमा पर्दै छन् । केही नयाँ जीवहरूको जन्म हुँदै छन् र धेरै पुराना जीवहरू लोप हुँदै छन् । यसले गर्दा जैविक विविधताले कायम गराउने वातावरणीय सन्तुलन धरापमा परेको छ ।

११. विद्यालयबाट प्रदान गरिने छात्रवृत्ति प्राप्त गर्न आफू उपयुक्त रहेको जानकारी गराउँदै विद्यालयका प्राचार्यलाई पेश गरिने निवेदन तयार पार्नुहोस् । (४)

१२. 'कम्प्युटर शिक्षाको आवश्यकता' शीर्षकमा एक अनुच्छेद लेख्नुहोस् । (४)

