

## Summer Vacations Homework 2020

Class: 8<sup>th</sup> (Pre 9<sup>th</sup>)

**Cantt Public Education System****A NEW FRONTIER IN LEARNING**

Dear Students,

We hope that you and your families are keeping well during ongoing health crises. It is more and more likely that schools may not open till July 2020. Therefore, we are pleased to share our plans for online instructions and homework activities.

As of 1<sup>st</sup> June 20, we will be starting a robust, interactive teaching programme. The curriculum will be taught through various online platforms, video lectures and live interaction with teachers as well as carefully designed homework, which all students will complete at their own time. We shall pursue following time table:-

Group	DAYs	Timings	Subjects	Remarks
I	Monday – Day 1 Tuesday – Day 2 Wednesday – Day 3	0900 - 0940	Physics	Principals shall ensure availability of subject teachers to students for coaching/clarification of doubts etc
		1000 - 1040	English	
		1100 - 1140	Urdu	
		1200 -1240	Chemistry	
II	Thursday - Day 4 Friday – Day 5 Saturday – Day 6	0900 - 0940	Computer/ Biology	
		1000 - 1040	Maths	
		1100 - 1140	Islamiat/Naazra	
		1200 -1240	S.Studies/GK	

Beloved scholars, home work for following subjects has been included in this booklet:-

Sr #	Subject	Pages	
		From	To
1	Physics	2	12
2	Chemistry	13	23
3	Biology	24	29
4	Computer	30	42
5	Social –Studies	43	49
6	General Knowledge	50	68
7	Urdu	69	75
8	Islamiat	76	83
9	Mathematics	84	98
10	English	99	111

Our main objective is to keep you in touch with your studies rather than to put you under unjustified burden. Therefore, a pragmatic program has been planned for your educational progression. Stay home, stay safe and stay connected with your studies.

**Regards**

**CANTT PUBLIC EDUCATION SYSTEM**

## PHYSICS

### Week 1 Day-1

**Topic:** Physics and Branches of Physics.

**Video Link:** Dear Students, watch the video below and answer the questions given in the Worksheet.

<https://www.youtube.com/watch?v=-8TD1Uud2oA>

**Activity:** Answer these questions.

1-Choose the correct option.

- i. The study of matter, energy and their relationship is called:  
 a. physics      b. bio-physics      c. mechanics      d. plasma
- ii. Study of structure and properties of atoms is called:  
 a. nuclear physics      b. atomic physics      c. Heat      d. thermodynamics

2-Give short answers to the following questions.

- i. What is Science?

Ans: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- ii. Define Physics.

Ans \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- iii. Name the five branches of physics.

Ans: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### Week 1 Day-2

**Topic:** 1- Physical Quantities

**Video Link:** 1- Dear Students, watch the video below and answer the questions given in the Worksheet.

<https://www.youtube.com/watch?v=ypRQp1-HxlQ&t=10s>

<https://youtu.be/yldFcm5oVmA>

### Worksheet:

1-Choose the correct option.

- i. Which one of the following is not a base quantity?  
 a. Length      b. temperature      c. time      d. force
- ii. Which one of the following is base quantity?  
 a. Force      b. momentum      c. acceleration      d. intensity of light

2- Give short answers to the following questions.

- i. What is the difference between base quantities and derived quantities?

Ans  
 : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- ii. Draw the table of base quantities with unit symbols.

---



---



---



---

### **Week 1 Day-3**

**Topic:** Prefixes

**Video Link:** [https://www.youtube.com/watch?v=RfShF6M\\_fEo](https://www.youtube.com/watch?v=RfShF6M_fEo)

<https://www.youtube.com/watch?v=jfFPcfuRDqo>

#### **Worksheet:**

##### **1-Choose the correct option.**

- i. 1 giga is equal to:  
 a.  $10^6$                       b.  $10^9$                       c.  $10^5$                       d.  $10^{12}$
- ii. 1 femto is equal to:  
 a.  $10^{15}$                       b.  $10^{-15}$                       c.  $10^{-5}$                       d.  $10^{-6}$

##### **2- Give short answers to the following questions.**

- i. Define Prefixes.

Ans

:

---



---



---

##### **3- Express the following quantities using prefixes.**

- a- 2000000 W  
 b- 500g

---



---



---

### **Week 2 Day 1**

**Topic:** Measuring Instruments

**Video Link:** (Mass Measuring) <https://www.youtube.com/watch?v=WiyZQ7VeV3U>

**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.

#### **Worksheet:**

##### **1-Choose the correct option:**

- i. The most accurate balance to measure the mass of an object is:  
 a. Electronic balance    b. spring balance                      c. physical balance    d. none of these

##### **2- Give short answers to the following questions.**

- i. Which one instrument is best to measure the mass?

Ans

:

---

**Week 2 Day- 2****Chapter #1** Physical Quantities and Measurements**Topic:** Measuring Instruments**Video Link:** (Stopwatch) <https://www.youtube.com/watch?v=5nGm7pPf3Hw>**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.**Worksheet:****1-Choose the correct option:**

- i. Digital stop watch can measure the time interval.  
 a. 1 sec      b. 1/10 sec      c. 1/100 sec      d. 1/1000 se

**2- Give short answers to the following questions.**

- i. What is stopwatc?

Ans: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- ii. How to use a digital stopwatch?

Ans: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_**Week 2 Day- 3****Topic:** Significant Figures**Video Link:** [https://www.youtube.com/watch?v=-Nvx6\\_yQwls](https://www.youtube.com/watch?v=-Nvx6_yQwls)**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.**Worksheet:****1-Choose the correct option.**

- i. The number of significant figures in 0.002070 are:  
 a. 6      b. 7      c. 4      d. 2
- ii. Number of significant figures in 275.00 are:  
 a. Three      b. two      c. six      d. five

**2- Give short answers to the following questions.**

- i. What is meant by significant figure of measurement?

Ans: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- ii. Write any one rule to find the significant figure in measurement.

Ans: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Week 3 Day 1****Topic:** Exercise Numerical Problems**Video Link:** <https://www.youtube.com/watch?v=8rI24AaLvzQ> (1.1-1.3)**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.**Worksheet:** Solve this :-

- i. How do the prefixes micro,nano,pico relate to each other?

Ans: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- ii. Your hair grow at the rate of 1mm per day . find their growth rate in
- $\text{nms}^{-1}$
- .

Ans: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Week 3 Day- 2****Topic:** Numerical Problems**Video Link:** <https://www.youtube.com/watch?v=PCAok4cJF6I><https://www.youtube.com/watch?v=VMkKpAU4eHw>**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.**Worksheet:****Solve these questions.**

- i. Write the following quantities in standard form.

- a) 38000 km
- b) Second in a day

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- ii. A chocolate wrapper is 6.7 cm long and 5.4 cm wide. Calculate its area up to reasonable number of significant figures.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Week 3 Day- 3****Topic:** Introduction to Rest and Motion**Video Link:** <https://www.youtube.com/watch?v=1fN9KmjDvCc>**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.**Worksheet:****1-Choose the correct option.**

- i. Study of motion without discussing the cause of motion is called:  
 a. Kinematics                      b.mechanics                      c.rest                      d.motion
- ii. Types of motion are:  
 a. One                      two                      three                      four

**2- Give short answers to the following questions.**

- i. Define kinematics.

Ans: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- ii. Differentiate rest and motion.

Ans: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Week 4 Day 1****Topic:** Term Associated with Motion**Video Link:** [https://www.youtube.com/watch?v=O\\_LB1wWLdiE](https://www.youtube.com/watch?v=O_LB1wWLdiE)**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.**Worksheet:****1-Choose the correct option.**

- i. Length of path between two points is called:  
 a. Velocity                      b. length                      c. displacement                      d. distance
- ii. Displacement means the distance between two points is:  
 a. Maximum                      b. shortest                      c. medium                      d. longest

**2- Give short answers to the following questions.**

- i. Define the term Velocity.

Ans: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- ii. Differentiate distance and displacement.

Ans \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

---

---

### **Week 4 Day- 2**

**Topic:** Graphical Analysis

**Video Link:** <https://www.youtube.com/watch?v=MaL58bmav28>

**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.

### **Worksheet:**

**1-Give short answers to the following questions.**

- i. What is graph?

Ans

---

---

---

- ii. Sketch a distance time graph for a body at rest.

Ans :

---

---

---

---

---

---

### **Week 4 Day- 3**

**Topic:** Equations of Motion (only 1<sup>st</sup> equation)

**Video Link:** <https://www.youtube.com/watch?v=CvFXrZxxFE8>

(Note: This the sam video link for all equations.)

**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.

### **Worksheet:**

- i. Derive the First equation of motion.

Ans :

---

---

---

---

---

---

---

---

---

---



---

---

---

---

---

**Week 5 Day- 1**  
**Chapter #2 Kinematics**

**Topic:** Exercise question

**Video Link:** <https://www.youtube.com/watch?v=aaX0Jf26xpw>

**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.

**Worksheet:**

Give short answers.

- i. How do riders in a ferris wheel possess translatory motion but not circular motion?

Ans: \_\_\_\_\_

---

---

---

- ii. How can vector quantities be represented by graphically?

Ans: \_\_\_\_\_

---

---

---

---

**Week 5 Day-2**

**Topic:** Exercise Numerical

**Video Link:** <https://www.youtube.com/watch?v=wWIGT8NhoXU> (2.1-2.3)

**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.

**Worksheet:**

**Solve this problem.**

- i. A train starts from rest. It move through 1 km in 100s with uniform acceleration. What will be its speed at the end of 100s?

---

---

---

---

---

---

**Week 5 Day-3**

**Topic:** Exercise Numerical

**Video Link:** <https://www.youtube.com/watch?v= HT2yRliDkE&t=65s> (2.4-2.6)

**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.

**Worksheet:****Solve this problem.**

A train starts from rest with an acceleration of  $0.5\text{ms}^{-2}$ . Find its speed in  $\text{kmh}^{-1}$  when it has moved through 100m.

---



---



---



---



---



---

**Week 6Day-1**

**Topic:** Newton's LAW (1<sup>st</sup> & 2<sup>nd</sup>)

**Video Link:** <https://www.youtube.com/watch?v=BKkgMSBHrsQ>

**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.

**Worksheet:****1-Choose the correct option.**

- i. In Newton's 2<sup>nd</sup> law acceleration is directly proportional to the:
- a. Mass of body      b. applied force      c. velocity      d. distance
- ii. In Newton's second law the value of constant of proportional K is:
- a. 0      b. 1      c. 10      d. 0.1

Solve this:

- iii. State and prove Newton's second law of motion.

---



---



---



---



---



---



---



---

**Week 6Day-2**

**Topic:** 1-Newton's LAW (3<sup>rd</sup>)

2- Force and Momentum

**Video Link:** <https://www.youtube.com/watch?v=BKkgMSBHrsQ>

<https://www.youtube.com/watch?v=WYQproCgepw>

**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.

**Worksheet:****1-Choose the correct option.**

- i. Action and reaction always act on:
- a. Same body      b. one body      c. two different bodies      d. three bodies

- ii. Movement of the rocket is an example of Newton's  
 a. Gravitational law      b. 2<sup>nd</sup> law      c. first law      d. third law

**2-Give short answers to the following questions.**

- i. Which is action?

Ans :

---



---



---

- ii. Is there any reaction?

Ans

:

---



---



---

**Week 6Day-3**

**Topic:** Law of conservation of momentum

**Video Link:** <https://www.youtube.com/watch?v=lwNpL8lofj4>

**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.

**Worksheet:**

**1-Choose the correct option.**

- i. Product of mass and velocity is equal to:  
 a. momentum      b. force      c. work      d. tension
- ii. the momentum of an isolated system is:  
 a. zero      b. maximum      c. remain constant      d. minimum
- iii. the force that oppose the motion of an object is called:  
 a. momentum      b. torque      c. tension      d. friction

**2-Give short answers to the following questions.**

- i. What is system?

Ans :

---



---



---

- ii. State the law of conservation of momentum.

Ans :

---



---



---



---

**Week 7Day-1****Topic:** Uniform Circular motion**Video Link:**<https://www.youtube.com/watch?v=u8cW9MWMv0M>**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.**Worksheet:**

Give short answers to the following questions.

Q1-Define Uniform Circular Motion.

ANS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_.

Q2- Define Centripetal Force.

ANS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_.

Q3. What is centrifugal force?

ANS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_.

**Week 7 Day-2****Chapter# 3 Dynamics****Topic:** Exercise Question Answer (3.2-3.5)**Video Link:**<https://www.youtube.com/watch?v=cEamSq1D09I>**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.**Worksheet:**

Give short answers to the following questions.

Q1-Define the term force of friction.

ANS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_.

Q2- what is difference between mass and weight?.

ANS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_.

Q3 What is law of inertia?

Ans: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_.

**Week 7 Day-3**

**Topic:** Exercise Question Answer (3.6-3.10)

**Video Link:** <https://www.youtube.com/watch?v=YhKZFIMRVAE&t=18s>

**Activity:** Dear Students, go through the video lecture carefully and answer the questions given in the worksheet.

**Worksheet:**

Give short answers to the following questions.

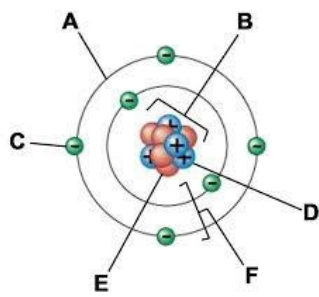
Q1-Why does a passenger move outward when a bus takes a turn?

ANS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

Q2- Action and reaction are always equal and opposite. Then how does a body moves?.

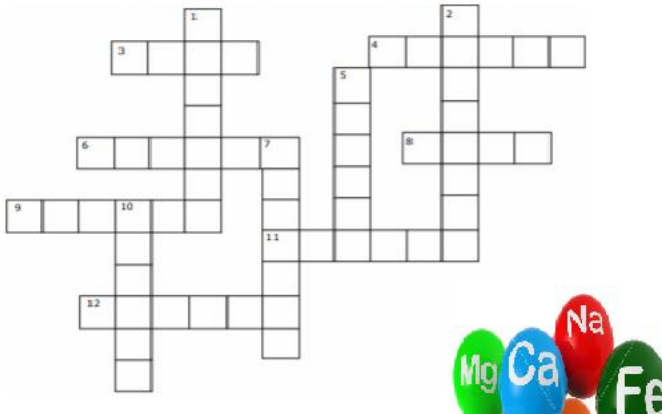
ANS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

**CHEMISTRY****Week-1:**

Day	Topic	Video Lecture Links	Task
Day 1	Particles	<a href="https://www.youtube.com/watch?v=xUu8FhJMETo&amp;feature=emb_errwoyt">https://www.youtube.com/watch?v=xUu8FhJMETo&amp;feature=emb_errwoyt</a>	<p><b>Q. Label the parts of an atom on the diagram below.</b></p>  <ol style="list-style-type: none"> <li>1. What type of charge a proton has?</li> <li>2. What type of charge does a neutron have?</li> <li>3. What type of charge an electron has?</li> <li>4. Which two subatomic particles are located in the nucleus of an atom?</li> <li>5. If an atom has 35 protons in the nucleus how many electrons will it have orbiting the nucleus?</li> <li>6. What is the atomic number of the atom in the diagram above?</li> <li>7. What is the atomic mass/mass number of the atom in the diagram above?</li> <li>8. How many protons are in the nucleus of an atom with an atomic number of 15?</li> <li>9. How many electrons are in the nucleus of an atom with an atomic number of 20?</li> <li>10. How many neutrons are in the nucleus of an atom with an atomic number of 25? (Use Periodic table for mass)</li> <li>11. What is the mass number of an atom with 3 protons, 4 neutrons and 3 electrons?</li> <li>12. How many neutrons are in the nucleus of an atom that has an atomic mass of 36 and an atomic number of 25?</li> </ol>
Day 2	Elements, Compounds & Mixtures	<a href="https://www.youtube.com/watch?v=Cf0iWPCuz-U">https://www.youtube.com/watch?v=Cf0iWPCuz-U</a> <a href="https://www.youtube.com/watch?v=iXWbL_EAvjQ">https://www.youtube.com/watch?v=iXWbL_EAvjQ</a> <a href="https://www.youtube.com/watch?v=kKxhCtpbBDM">https://www.youtube.com/watch?v=kKxhCtpbBDM</a>	<ol style="list-style-type: none"> <li>Q1. What is an element? Why carbon is called an element?</li> <li>Q2. Name an element used for making a) jewelry b) water pipes c) thermometers?</li> <li>Q3. What is the simplest way of classifying elements?</li> <li>Q4. Explain why it is easier to separate the elements from a mixture than from a compound?</li> <li>Q5. Which of these is an element, compound or mixture? i) Air ii) carbon dioxide iii) common salt iv) copper v) hydrogen vi) sugar vii) tin</li> </ol>

Day 3	<b>Branches of Chemistry</b>	<a href="https://www.youtube.com/watch?v=Vv3OrnlocA">https://www.youtube.com/watch?v=Vv3OrnlocA</a>	<b>Identify the branches of Chemistry:</b> i) What branch of chemistry would study the amount of mercury present in a soil sample? ii) What branch of chemistry would develop a better insulin-delivery system for diabetics? iii) What branch of chemistry would develop a new carbon-based fiber for clothing? iv) What branch of chemistry would study all other elements except carbon based materials? v) Ice floats on water? vi) Sulphur dioxide is the major source of acid rain?
----------	------------------------------	---	---

**Week-2:**

Day	Topic	Video Lecture Links	Task
Day 1	<b>Chemical Symbols</b>	<a href="https://www.youtube.com/watch?v=2ieYInaA5Gk">https://www.youtube.com/watch?v=2ieYInaA5Gk</a>  <a href="https://www.youtube.com/watch?v=y6p9FWIG7-">https://www.youtube.com/watch?v=y6p9FWIG7-</a> <a href="#">!</a>	<p><b>CROSSWORD PUZZLE: CHEMICAL SYMBOLS</b></p> <p>Q. Complete the crossword below by providing the names of elements represented by the chemical symbols listed. Use the symbols to find the names of elements needed to complete the puzzle.</p>  <p><b>Down</b></p> <p><b>Across</b></p> <p>1. Ca      3. Pb          2. H                      4. O          5. S                      6. He          7. Hg      8. Au          10. I                      9. Na          11. Cl    12. Ag</p>

Day  
2*Ions*

[https://www.youtube.com/watch?time\\_continue=4&v=MIOG5YKk\\_Gs&feature=emb\\_title](https://www.youtube.com/watch?time_continue=4&v=MIOG5YKk_Gs&feature=emb_title)

**Q. Using the given information and a periodic table.** Complete the following.

${}_{17}^{36}\text{Cl}^{1-}$                        ${}_{31}^{70}\text{Ga}$                        ${}_{11}^{24}\text{Na}^{1+}$   
 element: \_\_\_\_\_                      element: \_\_\_\_\_                      mass #: \_\_\_\_\_  
 # protons: \_\_\_\_\_                      atomic #: \_\_\_\_\_                      # protons: \_\_\_\_\_  
 # neutrons: \_\_\_\_\_                      # neutrons: \_\_\_\_\_                      # electrons: \_\_\_\_\_  
 # electrons: \_\_\_\_\_                      # electrons: \_\_\_\_\_                      atomic #: \_\_\_\_\_

${}_{4}^{9}\text{Be}^{2+}$                        ${}_{15}^{31}\text{P}^{3-}$                        ${}_{16}^{36}\text{S}^{2-}$   
 element: \_\_\_\_\_                      element: \_\_\_\_\_                      element: \_\_\_\_\_  
 # protons: \_\_\_\_\_                      atomic #: \_\_\_\_\_                      # protons: \_\_\_\_\_  
 # neutrons: \_\_\_\_\_                      # electrons: \_\_\_\_\_                      # electrons: \_\_\_\_\_  
 # electrons: \_\_\_\_\_                      atomic mass: \_\_\_\_\_                      # neutrons: \_\_\_\_\_

${}_{19}^{41}\text{K}^{1+}$                        ${}_{10}^{21}\text{Ne}$                        ${}_{55}^{133}\text{Cs}^{1+}$   
 element: \_\_\_\_\_                      element: \_\_\_\_\_                      element: \_\_\_\_\_  
 atomic #: \_\_\_\_\_                      atomic #: \_\_\_\_\_                      # protons: \_\_\_\_\_  
 mass #: \_\_\_\_\_                      # electrons: \_\_\_\_\_                      # electrons: \_\_\_\_\_  
 # electrons: \_\_\_\_\_                      # neutrons: \_\_\_\_\_                      # neutrons: \_\_\_\_\_

**Q. Use a periodic table to complete the table below.**

Element Name	Element Symbol	Ion Name	Ion Formula
1. sodium	Na	Sodium ion	$\text{Na}^{+1}$
2. bromine			
3. magnesium			
4. chlorine			
5. oxygen			
6. boron			
7. lithium			
8. neon			
9. phosphorus			

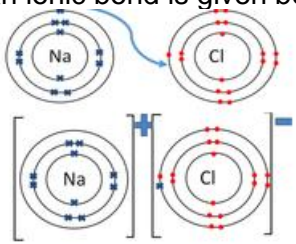
Day  
3**Chemical Symbols & Ions**

<https://www.youtube.com/watch?v=2ieYInaA5Gk>  
<https://www.youtube.com/watch?v=y6p9FWIG7->  
 ↓

**Revision**



## Week-3:

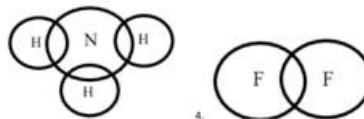
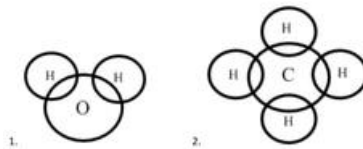
Day	Topic	Video Lecture Links	Task
Day 1	<b>States of Matter</b>	<a href="https://www.youtube.com/watch?v=O1dG5UiAjm0">https://www.youtube.com/watch?v=O1dG5UiAjm0</a>	<p>Q. Answer the following questions by filling in the blanks</p> <p>1. <b>What is matter made up of?</b> Matter is made up of _____.</p> <p>2. <b>How are the particles arranged in a gas, a liquid and a solid?</b> The particles of a solid _____ (are/ are not) in a regular pattern, but the particles of a liquid and a gas _____ (are/ are not) in a regular pattern. The particles of a solid and a liquid are _____ (close together/ far apart), but the particles of a gas are _____ (close together/ far apart).</p> <p>3. <b>How do the particles move in a gas, a liquid and a solid?</b> The particles of a gas _____ (vibrate/ slide/ move freely) in all directions. The particles of a liquid _____ (vibrate/ slide/ move freely) over each other. The particles of a solid _____ (vibrate/ slide/ move freely) at a fixed position.</p>
Day 2	<b>Ionic Bond</b>	<a href="https://www.youtube.com/watch?v=65H15VgLIwc">https://www.youtube.com/watch?v=65H15VgLIwc</a>	<p>Q. <b>What are ionic bonds and how they are formed?</b> Provide as much detail about ionic bonding by labeling and adding notes in the table given below. Example of an ionic bond is given below.</p>  <p style="text-align: center;"><b>Notes</b></p> <ol style="list-style-type: none"> <li>1. <b>State,</b> The formula of the compound formed</li> <li>2. Give a <b>definition</b> of an ion</li> <li>3. <b>Describe</b> What has happened to the electrons in both atoms</li> <li>4. <b>Explain</b> why the ionic bond forms between sodium and chlorine</li> <li>5. <b>Describe an explain</b> how to work out the formula of an ionic compound</li> </ol> <p><b>Key words:</b> Bond, ion, positive, negative, charged particle, electron, transfer, shell, negatively charged, attraction, gained, lost, donated, accepted, and electrostatic.</p>

Day  
3Covalent  
Bonds

[https://www.youtube.com/watch?v=l309k\\_ahL3U](https://www.youtube.com/watch?v=l309k_ahL3U)

**Covalent Bonding**

Q. Complete the following Dot and Cross Diagrams using your periodic table for information.



Q. Determine if the elements in the following compounds are metals or non-metals. Describe the type of bonding that occur in the compound.

**Remember:**

**Ionic Bond** between a Metal and Non Metal.

**Covalent Bond** between a Non Metal and Non Metal.

Compound	Element 1 (metal or non-metal?)	Element 2 (metal or non-metal?)	Bond Type
NO <sub>2</sub>	N = non-metal	O = non-metal	covalent
NaCl			
SO <sub>2</sub>			
PI <sub>3</sub>			
MgBr <sub>2</sub>			
CaO			
H <sub>2</sub> O			
K <sub>2</sub> O			
AlF <sub>3</sub>			
O <sub>2</sub>			
CuCl <sub>2</sub>			

**Week-4:**

Day	Topic	Video Lecture Links	Task
Day 1	<b>Ionic &amp; covalent Bonding (types)</b>	<a href="https://www.youtube.com/watch?v=etdr2Ha9G58">https://www.youtube.com/watch?v=etdr2Ha9G58</a> <a href="https://www.youtube.com/watch?v=ZZVil3ldAiw">https://www.youtube.com/watch?v=ZZVil3ldAiw</a> <a href="https://www.youtube.com/watch?v=OP5_8oq4jiiY">https://www.youtube.com/watch?v=OP5_8oq4jiiY</a>	<b>Q1:</b> How many electrons are shared in a triple bond between two nitrogen atoms? <b>Q2:</b> How many electrons are shared in a double bond between two oxygen atoms? <b>Q3:</b> How many electrons are shared in a single bond between two hydrogen atoms? <b>Q4:</b> Fluorine forms a diatomic molecule with a single covalent bond. How?
Day 2	<b>Avogadro's No. &amp; Mole</b>	<a href="https://www.youtube.com/watch?time_continue=74&amp;v=Mf94hXQSSAA&amp;feature=emb_title">https://www.youtube.com/watch?time_continue=74&amp;v=Mf94hXQSSAA&amp;feature=emb_title</a> <a href="https://www.youtube.com/watch?v=jfrqhXeo7yo">https://www.youtube.com/watch?v=jfrqhXeo7yo</a>	1. Calculate the molar mass of each of the following compounds: i) AgCl ii) CaBr <sub>2</sub> iii) Li <sub>2</sub> O iv) C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> v) Fe(NO <sub>3</sub> ) <sub>3</sub> vi) Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> 2. Using Avogadro's number, convert from molecules or atoms to moles. a) $2.57 \times 10^{11}$ atoms of silver equals how many moles of silver? [What is the chemical symbol of silver?] b) $2.845 \times 10^{12}$ potassium ions [What is the chemical symbol of the potassium ion?] equals how many moles of potassium ions? c) 0.0524 moles of H <sub>2</sub> O equals how many molecules of water? d) 347865 atoms of xenon are equal to how many moles of Xe? e) $3.25 \times 10^{25}$ atoms of neon gas equals how many moles of neon gas? f) How many moles of H <sub>2</sub> SO <sub>4</sub> do you have if there are $1.64 \times 10^{12}$ molecules of H <sub>2</sub> SO <sub>4</sub> ?
Day 3	<b>Ionic Bond &amp; Covalent Bonds</b>	<a href="https://www.youtube.com/watch?v=65H15VgLIwc">https://www.youtube.com/watch?v=65H15VgLIwc</a>	Revision

**Week-5:**

Day	Topic	Video Lecture Links	Task
Day 1	<b>Empirical &amp; Molecular formula</b>	<a href="https://www.youtube.com/watch?time_continue=1&amp;v=CW_Wa1Z-PG0&amp;feature=emb_title">https://www.youtube.com/watch?time_continue=1&amp;v=CW_Wa1Z-PG0&amp;feature=emb_title</a> <a href="https://www.youtube.com/watch?v=tPhdNywH35o">https://www.youtube.com/watch?v=tPhdNywH35o</a>	<b>Q1.</b> Write the empirical formula for the following compounds. i) C <sub>6</sub> H <sub>6</sub> ii) C <sub>8</sub> H <sub>18</sub> iii) C <sub>4</sub> H <sub>9</sub> iv) CO <sub>2</sub> v) C <sub>2</sub> H <sub>6</sub> O <sub>2</sub> vi) CH <sub>3</sub> O <b>Q2.</b> A compound with an empirical formula of C <sub>4</sub> H <sub>4</sub> O and a molar mass of 136 grams per mole. What is the molecular formula of this compound? <b>Q3.</b> A compound with an empirical formula of CBrO

and a molar mass of 253.8 grams per mole. What is the molecular formula of this compound?

Day  
2

**Hydrogen  
Bonding**

[https://www.youtube.com  
/watch?v=n6N2FjKxXEU](https://www.youtube.com/watch?v=n6N2FjKxXEU)

**Vocabulary Review:**

**Define the following Terms:**

- i) polar compound
- ii) non polar compound
- iii) hydrogen bonding
- iv) cohesion
- v) adhesion

**Q. Multiple Choice Question.**

1. What type of intermolecular forces are due to the attraction between temporary dipoles and their induced temporary dipoles?

- (a) metallic bond
- (b) London dispersion
- (c) hydrogen bond
- (d) ionic bond
- (e) covalent bond

2. What type of interparticle forces hold liquid N<sub>2</sub> together?

- (a) ionic bonding
- (b) London forces
- (c) hydrogen bonding
- (d) dipole-dipole interaction
- (e) covalent bonding

3. Which response includes only those compounds that can exhibit hydrogen bonding?

CH<sub>4</sub>, AsH<sub>3</sub>, CH<sub>3</sub>NH<sub>2</sub>, H<sub>2</sub>Te, HF

- (a) AsH<sub>3</sub>, H<sub>2</sub>Te
- (b) AsH<sub>3</sub>, CH<sub>3</sub>NH<sub>2</sub>
- (c) CH<sub>4</sub>, AsH<sub>3</sub>, H<sub>2</sub>Te
- (d) CH<sub>3</sub>NH<sub>2</sub>, HF
- (e) HF, H<sub>2</sub>Te

4. Which of the following boils at the **highest** temperature?

- (a) CH<sub>4</sub>
- (b) C<sub>2</sub>H<sub>6</sub>
- (c) C<sub>3</sub>H<sub>8</sub>
- (d) C<sub>4</sub>H<sub>10</sub>
- (e) C<sub>5</sub>H<sub>12</sub>

5. Which probably has the **lowest** boiling point at 1.00 atm?

- (a) HF
- (b) HCl
- (c) HBr
- (d) HI
- (e) H<sub>2</sub>SO<sub>4</sub>

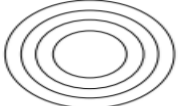
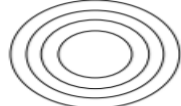

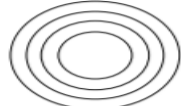


6. The normal boiling point of a liquid is
- (a) the temperature at which the vapor pressure equals 760 torr.
  - (b) the temperature above which the substance cannot exist as a liquid regardless of the pressure.
  - (c) the temperature at which the gas molecules have more kinetic energy than the molecules in the liquid.
  - (d) the only temperature at which there can be equilibrium between liquid and gas.
  - (e) the temperature at which the liquid will usually boil.
7. Which of the following changes would increase the vapor pressure of a liquid?
1. an increase in temperature
  2. an increase in the intermolecular forces in the liquid
  3. an increase in the size of the open vessel containing the liquid
- (a) 1 and 2 only
  - (b) 1 and 3 only
  - (c) 1 only
  - (d) 2 only
  - (e) 3 only
8. Which of the following phase changes is(are) endothermic?
- |                 |                 |               |
|-----------------|-----------------|---------------|
| 1. melting      | 3. sublimation  | 5. deposition |
| 2. vaporization | 4. condensation | 6. freezing   |
- (a) 1, 2, and 3
  - (b) 4, 5, and 6
  - (c) 1 and 2 only
  - (d) 4 and 6 only
  - (e) some other combination

Day 3	<b>Hydrogen Bonding in water</b>	<a href="https://www.youtube.com/watch?v=n6N2FjKxXEU">https://www.youtube.com/watch?v=n6N2FjKxXEU</a>  <a href="https://youtu.be/6G1evL7ELwE">https://youtu.be/6G1evL7ELwE</a>	<p align="center"><b>Critical thinking:</b></p> <p><b>Q1.</b> Why water is called a good solvent?</p> <p><b>Q2.</b> Water is often called universal solvent because it dissolves more substances that are important to living things. What does this suggest about the nature of those substances?</p> <p><b>Q3.</b> What property of water allows it to stick on a dry surface such as the wooden base?</p>
----------	----------------------------------	--	--

**Week-6:**

Day	Topic	Video Lecture Links	Task
Day 1	<b>Chemical Reactions</b>	<a href="https://www.youtube.com/watch?v=Gtpkk_pWZzU">https://www.youtube.com/watch?v=Gtpkk_pWZzU</a>	<p><b>Match each definition with the correct term.</b></p> <p><b>Definitions</b></p> <p>_____ 1. substance produced in a chemical reaction</p> <p>_____ 2. force of attraction that breaks and reforms in a chemical reaction</p>


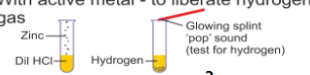
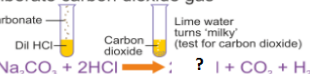

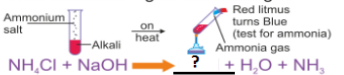

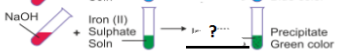
		<a href="https://youtu.be/gxyn6GUc7HQ">https://youtu.be/gxyn6GUc7HQ</a>	<p>_____ 3. substance that starts a chemical reaction</p> <p>_____ 4. example of chemical change</p> <p>_____ 5. balance between opposing changes</p> <p>_____ 6. process in which some substances become different substances</p> <p>_____ 7. example of a physical change</p> <p><b>Terms</b></p> <p>a. chemical reaction</p> <p>b. melting</p> <p>c. equilibrium</p> <p>d. chemical bond</p> <p>e. product</p> <p>f. rusting</p> <p>g. reactant</p>																																										
Day 2	<i>Isotopes</i>	<a href="https://www.youtube.com/watch?v=AqYm6ft-ULY">https://www.youtube.com/watch?v=AqYm6ft-ULY</a>	<p><b>Isotopes Practice</b></p> <p>1. Here are three isotopes of an element: <math>{}^{12}_6\text{C}</math>      <math>{}^{13}_6\text{C}</math>      <math>{}^{14}_6\text{C}</math></p> <p>a. The element is: _____</p> <p>b. The number 6 refers to the _____</p> <p>c. The numbers 12, 13, and 14 refer to the _____</p> <p>d. How many protons and neutrons are in the first isotope? _____</p> <p>e. How many protons and neutrons are in the second isotope? _____</p> <p>f. How many protons and neutrons are in the third isotope? _____</p> <p>Q2. Complete the following chart.</p> <table border="1"> <thead> <tr> <th>Isotope name</th> <th>atomic #</th> <th>mass #</th> <th># of protons</th> <th># of neutrons</th> <th># of electrons</th> </tr> </thead> <tbody> <tr> <td>Potassium-37</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Oxygen-17</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>uranium-235</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>uranium-238</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>boron-10</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>boron-11</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Isotope name	atomic #	mass #	# of protons	# of neutrons	# of electrons	Potassium-37						Oxygen-17						uranium-235						uranium-238						boron-10						boron-11					
Isotope name	atomic #	mass #	# of protons	# of neutrons	# of electrons																																								
Potassium-37																																													
Oxygen-17																																													
uranium-235																																													
uranium-238																																													
boron-10																																													
boron-11																																													
Day 3	<i>Bohr's Atomic Model</i>	<a href="https://www.youtube.com/watch?v=yIgNKLizSAg">https://www.youtube.com/watch?v=yIgNKLizSAg</a>	<p><b>Bohr's Model Practice</b></p> <p>Use the information provided for each element to draw Bohr Model diagrams. Mention individual protons and neutrons in the nucleus and also draw electrons on the appropriate energy levels.</p>																																										













<p>1. <b>Beryllium</b>: atomic # 4, mass 9</p> 	<p>2. <b>Sodium</b>: atomic # 11, mass 23</p> 
<p>3. <b>Sulfur</b> – atomic #: 16, mass 32</p> 	<p>4. <b>Fluorine</b> – atomic #: 9, mass 19</p> 
<p>5. <b>Calcium</b> – atomic #: 20, mass 40</p> 	<p>6. <b>Argon</b> – Atomic #: 18, mass 42</p> 

Q. Complete the table, the first two rows have been done for you. Use your periodic table to complete the rest.

Element	Symbol	Protons	Neutrons	Electrons
Lithium	Li	3	7-3=4	3
carbon	C	6	12-6=6	6
Sodium				
Aluminum				
	Pb			
	Ti			
	Zn			

**Week-7:**

Day	Topic	Video Lecture Links	Task
Day 1	Acids & Bases	<a href="https://www.youtube.com/watch?v=sGhVhk8DHUg&amp;feature=emb_title">https://www.youtube.com/watch?v=sGhVhk8DHUg&amp;feature=emb_title</a>	<p>Fill in the following blanks.</p> <p><b>Reactions of Acids</b></p> <ul style="list-style-type: none"> <li>With bases - give salt and water</li> </ul>  $\text{HCl} + \text{NaOH} \rightarrow \text{?} + \text{H}_2\text{O}$ <ul style="list-style-type: none"> <li>With active metal - to liberate hydrogen gas</li> </ul>  $\text{Zn} + 2\text{HCl} \rightarrow \text{?} + \text{H}_2$ <ul style="list-style-type: none"> <li>With carbonates and bicarbonates - to liberate carbon dioxide gas</li> </ul>  $\text{Na}_2\text{CO}_3 + 2\text{HCl} \rightarrow \text{?} + \text{CO}_2 + \text{H}_2\text{O}$ <p><b>Reactions of Acids and Bases</b></p> <p><b>Reactions of Bases</b></p> <ul style="list-style-type: none"> <li>With acids – give ? and water</li> </ul>  $\text{KOH} + \text{HCl} \rightarrow \text{?} + \text{H}_2\text{O}$ <ul style="list-style-type: none"> <li>With ammonia – give ammonia gas</li> </ul>  $\text{NH}_4\text{Cl} + \text{NaOH} \rightarrow \text{?} + \text{H}_2\text{O} + \text{NH}_3$ <ul style="list-style-type: none"> <li>With soluble metallic salts giving metallic hydroxide precipitate</li> </ul>  $\text{NaOH} + \text{Copper Sulphate Soln} \rightarrow \text{?} + \text{Precipitate Blue color}$  $\text{NaOH} + \text{Iron (II) Sulphate Soln} \rightarrow \text{?} + \text{Precipitate Green color}$

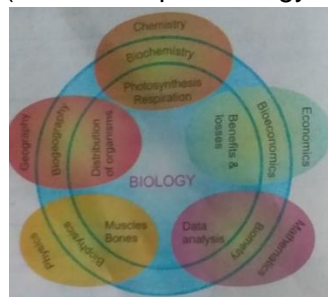
Day 2	Solubility	<a href="https://www.youtube.com/watch?v=6ro--Ehc1i4">https://www.youtube.com/watch?v=6ro--Ehc1i4</a>	<p><b>Q. Use the words in the box to complete the following paragraph.</b></p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">       Strong, pH scale, Universal indicator, weak, higher     </div> <p>Sulphuric acid is a _____ acid, but cows' milk is a _____ acid. _____ acids and alkalis tend to react more quickly than weak acids and alkalis. We use _____ to tell us how strong acids and alkalis are. The _____ shows the range of strengths of acids and alkalis. Alkalis have pH numbers _____ than acids.</p> <p><b>Q. Complete the following table by adding appropriate solute and solvent for the solutions given below:</b></p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 30%;">SOLVENT</th> <th style="width: 30%;">SOLUTE</th> <th style="width: 40%;">SOLUTION</th> </tr> </thead> <tbody> <tr> <td style="text-align: left; font-size: small;">The liquid in which a solute is dissolved to form a solution.</td> <td style="text-align: left; font-size: small;">Def:</td> <td style="text-align: left; font-size: small;">Def:</td> </tr> <tr> <td style="border: none;">+</td> <td style="border: none;">+</td> <td style="border: none;">=</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"></td> <td style="border: none;"> LEMONADE</td> </tr> <tr> <td style="border: none;">+</td> <td style="border: none;">+</td> <td style="border: none;">=</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"></td> <td style="border: none;"> SWEET TEA</td> </tr> <tr> <td style="border: none;">+</td> <td style="border: none;">+</td> <td style="border: none;">=</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"></td> <td style="border: none;"> CHOCOLATE MILK</td> </tr> <tr> <td style="border: none;">+</td> <td style="border: none;">+</td> <td style="border: none;">=</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"></td> <td style="border: none;"> Hot Tea</td> </tr> </tbody> </table>	SOLVENT	SOLUTE	SOLUTION	The liquid in which a solute is dissolved to form a solution.	Def:	Def:	+	+	=			 LEMONADE	+	+	=			 SWEET TEA	+	+	=			 CHOCOLATE MILK	+	+	=			 Hot Tea
SOLVENT	SOLUTE	SOLUTION																															
The liquid in which a solute is dissolved to form a solution.	Def:	Def:																															
+	+	=																															
		 LEMONADE																															
+	+	=																															
		 SWEET TEA																															
+	+	=																															
		 CHOCOLATE MILK																															
+	+	=																															
		 Hot Tea																															
Day 3	Suspension, Colloids & solutions	<a href="https://www.youtube.com/watch?v=hQdycfLOt24&amp;feature=emb_title">https://www.youtube.com/watch?v=hQdycfLOt24&amp;feature=emb_title</a>	<p><b>Q. MCQs.</b></p> <ol style="list-style-type: none"> <li>Sand in ocean water is an example of       <ol style="list-style-type: none"> <li>suspension</li> <li>solution</li> <li>colloid</li> <li>emulsion</li> </ol> </li> <li>Particles in a suspension are       <ol style="list-style-type: none"> <li>smaller than those in a solution</li> <li>smaller than colloid particles</li> <li>about 100 times the size of a solution particle</li> <li>about 1000 times the size of a solution particle</li> </ol> </li> <li>Suspension particles are       <ol style="list-style-type: none"> <li>molecules</li> <li>large particles</li> <li>large molecules</li> <li>small molecules</li> </ol> </li> <li>One of the following is not a property of a suspension       <ol style="list-style-type: none"> <li>heterogeneous mixture</li> <li>particles settle out</li> <li>particles cannot be filtered out</li> <li>particles scatter light</li> </ol> </li> </ol>																														



## BIOLOGY

### 1<sup>ST</sup> WEEK ASSIGNMENT

Unit-1	Introduction to Biology
<b>Topic/s (Pages –2-4)</b>	1.1-Introduction to biology <u>Subtopics:</u> <ul style="list-style-type: none"> <li>• Divisions and branches of biology</li> <li>• Relationship of biology to other sciences</li> </ul>
<b>Text Book Reading</b>	<ul style="list-style-type: none"> <li>➤ Read <b>Division and branches of biology</b> given on page 2-3. It explains the different branches of biology. The following link may prove useful in explaining the concept. <a href="https://youtu.be/zRGdDtjU5U">https://youtu.be/zRGdDtjU5U</a></li> <li>➤ Read <b>Relationship of biology to other sciences.</b> It explains how different sciences relates with biology The following link may prove useful in explaining the concept. <a href="https://youtu.be/hXyX8035HAQ">https://youtu.be/hXyX8035HAQ</a></li> </ul>
<b>Written Work Day 1</b>	<ul style="list-style-type: none"> <li>➤ <b><u>Understanding the concept</u></b>  <b><u>Q-1</u></b> Explain the divisions and branches of biology Refer to text book pgs. : 2-3</li> </ul>
<b>Day 2</b>	<ul style="list-style-type: none"> <li><b><u>Q-2</u></b> Give points to advocate that biology is linked with Chemistry, physics, mathematics, geography and Economics Refer to text book pg. 4</li> </ul>
<b>Day 3</b>	<ul style="list-style-type: none"> <li><b><u>Q-3</u></b> Draw figure 1.1(Relationship of biology with other sciences)</li> </ul>



### 2<sup>ND</sup> WEEK ASSIGNMENT

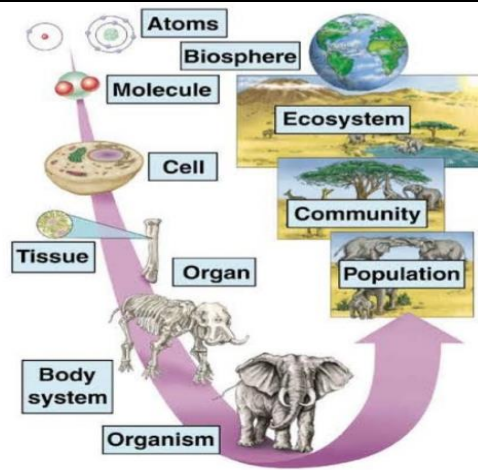
Unit-1	Introduction to Biology
<b>Topic/s (Pages – 5-7)</b>	1.1-Introduction to biology <ul style="list-style-type: none"> <li>• Careers in biology</li> <li>• Quran and biology</li> <li>• Muslim scientists</li> </ul>

<b>Text Book Reading</b>	<ul style="list-style-type: none"> <li>➤ Read <b>Careers in biology</b> given on page 5. It explains accurate and modern knowledge that will benefit the learner in diverse list of careers. The following link may prove useful in explaining the concept. <a href="https://youtu.be/jJoYMpTthZs">https://youtu.be/jJoYMpTthZs</a></li> <li>➤ Read <b>Quran and biology</b> given on page 6. It explains the hints of Allah about the origin and characteristics of living organisms. The following link may prove useful in explaining the concept. <a href="https://youtu.be/P793xlTTwR8">https://youtu.be/P793xlTTwR8</a></li> <li>➤ Read <b>Muslim Scientists</b> given on page 7. It explains the great contributions of scientists to the study of science. After reading this topic students will be aware of scientist's success in different fields of science. The following link may prove useful in explaining the concept. <a href="https://youtu.be/1V-bfHJnptg">https://youtu.be/1V-bfHJnptg</a></li> </ul>
<b>Written Work</b> <b>Day 1</b>  <b>Day 2</b>  <b>Day 3</b>	<ul style="list-style-type: none"> <li>➤ <b><u>Understanding the concept</u></b>  <b><u>Q-1</u></b> Explain the careers in biology? Refer to pg. no.5</li> <li><b><u>Q-2</u></b> How is Quran related to biology? Refer to pg. no.6</li> <li><b><u>Q-3</u></b> Explain the contribution of Muslim scientist to the study of science. Refer to pg. no.7</li> </ul>

### **3<sup>rd</sup> WEEK ASSIGNMENT**

<b>Unit-1</b>	<b>Introduction to Biology</b>
<b>Topic/s</b> <b>(Pages – 7-11)</b>	1.1- Introduction to biology <ul style="list-style-type: none"> <li>• The level of organizations</li> </ul>
<b>Text Book Reading</b>	<ul style="list-style-type: none"> <li>➤ Read <b>The level of organization</b> given on page 7-11. It explains the various phenomena of life. The following link may prove useful in explaining the concept. <a href="https://youtu.be/wcAOD5NmFzQ">https://youtu.be/wcAOD5NmFzQ</a></li> </ul>
<b>Written Work</b> <b>Day 1</b>  <b>Day 2</b>	<ul style="list-style-type: none"> <li>➤ <b><u>Understanding the concept</u></b>  <b><u>Q-1</u></b> Describe the level of organization of life. Refer to pg. no.7-11</li> <li><b><u>Q-2</u></b> Arrange these structures in order of lower level of organization to upper level and write the level against each structure with the help of given diagram. Neuron, nervous system, electron, man, mass of neurons, carbon, mitochondria, brain, protein.</li> </ul>


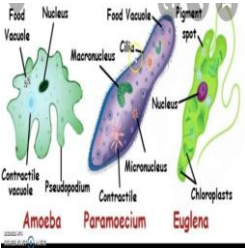
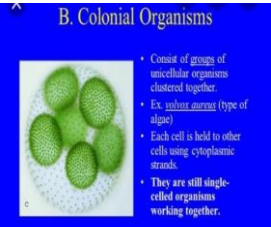
Day 3



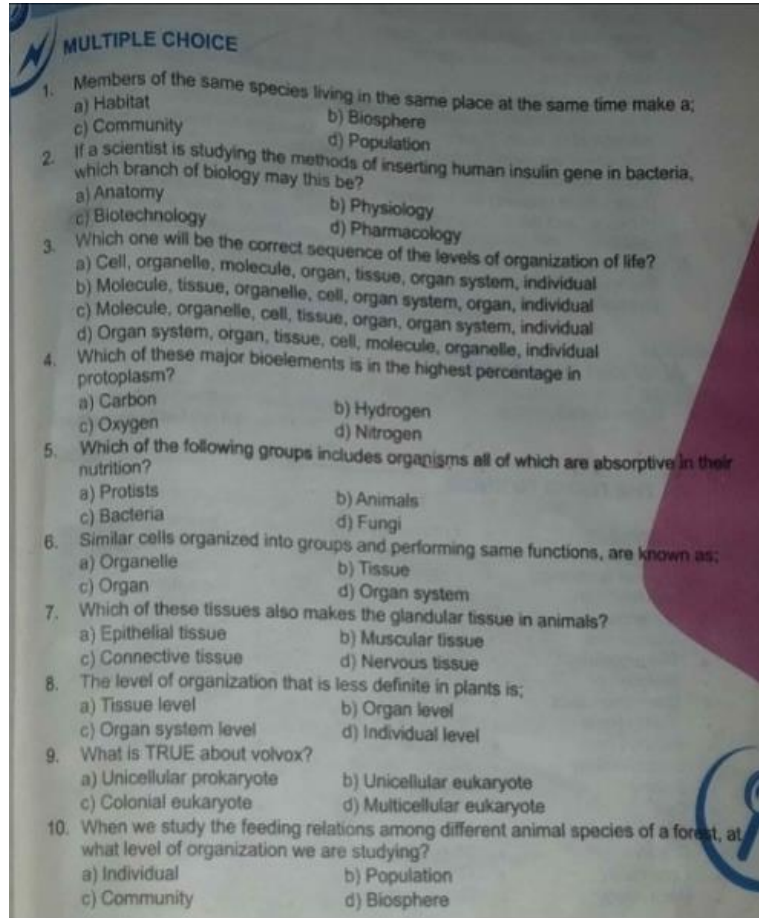
**Q-3** Draw diagram showing level of organization. Refer to pg. no. 11.

**Q-4** Draw pie chart showing percentage composition (by mass) of bioelements in the protoplasm of living organisms Refer to pg. no. 8

**4<sup>th</sup>WEEK ASSIGNMENT**

Unit-1	<b>Introduction to Biology</b>
Topic/s (Pages – 10 -13)	1.2- Introduction to biology <u>Subtopics:</u> <u>Cellular organization</u>
Text Book Reading	➤ Read <b>Cellular organization</b> given on page 10 -13. It explains the division of all organisms into five major groups. The following link may prove useful in explaining the concept. <a href="https://youtu.be/PYkKFUex8tY">https://youtu.be/PYkKFUex8tY</a>
Written Work Day 1  Day 2	➤ <b>Understanding the concept</b> <b>Q-1</b> Explain cellular organization. Refer to pg. no,10-13  <b>Q-2</b> What do you know about unicellular, multicellular and colonial organisms give example.  <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">   <b>Multicellular Organism</b> </div> <div style="text-align: center;">   <b>Unicellular Organisms</b> </div> <div style="text-align: center;">   <b>Colonial Organism</b> </div> </div>

Day 3

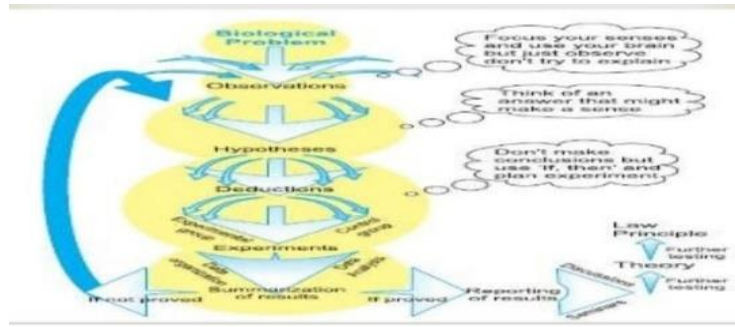
**Q-3** Solve the **MCQs** on pg. no.17**5<sup>th</sup>WEEK ASSIGNMENT**

Unit -2	Solving a biological problem
<b>Topics</b> Page no.20-26	<b>1.3- Solving a biological problem</b>  <b>Subtopics:</b>  <b>Biological method</b>  <b>Study of Malaria-An example of biological method</b>
<b>Text Book Reading</b>	<ul style="list-style-type: none"> <li>➤ Read Biological method given on page 20 -23. It explains the scientific method in which biological problems are solved.</li> <li>➤ The following link may prove useful in explaining the concept.  <a href="https://youtu.be/HwsLH7mvdqw">https://youtu.be/HwsLH7mvdqw</a></li> <li>➤ Read study of malaria – an example of biological method page 23-26 The following link may prove useful in explaining the concept .<a href="http://youtu.be/z3Ls-wc5GKQ">http://youtu.be/z3Ls-wc5GKQ</a></li> </ul>

Written Work  
Day 1

➤ **Understanding the concept**

**Q-1** Describe the steps involved in biological method taking malaria as an example with the help of given diagram.



Day 2

**Q-2** If a test shows that some people have plasmodium in their blood but do not show any symptoms of malaria, what hypothesis would you formulate to answer this problem?

Day 3

**Q-3** Write down the difference between qualitative observations and quantitative observations.

Qualitative Quantitative  
Observations Observations

**6<sup>th</sup>WEEK ASSIGNMENT**

Unit -2	Solving a biological problem
Topics Page no.26-30	1.4- Solving a biological problem <u>Subtopics:</u> Theory ,Law and Principle Data organization and data analysis Mathematics: As an integral part of scientific process

<b>TextBook Reading</b>	<ul style="list-style-type: none"> <li>➤ Read Theory, Law and principle given on page 26-27It explains About theory, law and principle .</li> <li>➤ The following link may prove useful in explaining the concept. <a href="https://youtu.be/yY-92tXXqOo">https://youtu.be/yY-92tXXqOo</a></li> <li>➤ Read Data organization and data analysis given on page 27-28 it explains about data organization and data analysis .The following link may prove useful in explaining the concept. <a href="https://youtu.be/o-QrFXdjoAs">https://youtu.be/o-QrFXdjoAs</a></li> <li>➤ Read Mathematics: As an integral part of scientific process given on page 28 it explain about use of mathematics in biological problems.</li> </ul>
<b>Written Work</b> <b>Day 1</b> <b>Day 2</b> <b>Day 3</b>	<ul style="list-style-type: none"> <li>➤ <b><u>Understanding the concept</u></b></li> <li><b><u>Q-1</u></b> Differentiate between theory and law.</li> <li><b><u>Q-2</u></b> How the principles of ratio and proportion are used in biological method.</li> <li><b><u>Q-3</u></b> Justify mathematics as an integral part of the scientific process.</li> <li><b><u>Q-4</u></b> Solve the <b>MCQs</b> given on pg. no.29</li> </ul>

## 7<sup>th</sup> WEEK ASSIGNMENT

Unit-3	Biodiversity
<b>Topic/s</b> <b>(Pages–31-35)</b>	<b>3.1 – Biodiversity</b>  <b>3.2 – Classification – Aims and Principles</b>
<b>Text Book Reading</b>	<ul style="list-style-type: none"> <li>➤ Read 3.1 Biodiversity given on page 31 and 32. It explains a measure of the variety of organisms present in different ecosystems.</li> <li>➤ The following link may prove useful in explaining the concept. <a href="https://youtu.be/ghMS0Fa6uVs">https://youtu.be/ghMS0Fa6uVs</a></li> <li>➤ Read 3.2 Classification – Aims and Principles given on page 33-35. It explains the classification of different organisms according to their characteristics.</li> <li>➤ The following link may prove useful in explaining the concept. <a href="https://youtu.be/u6YXEJ1TqiHU">https://youtu.be/u6YXEJ1TqiHU</a></li> </ul>
<b>Written Work</b>	<ul style="list-style-type: none"> <li>➤ <b><u>Understanding the concept</u></b></li> <li><b><u>Q-1</u></b> Define biodiversity</li> <li><b><u>Q-2</u></b> Relate the importance of biodiversity with natural ecosystem through examples.</li> </ul>

# Computer Science

## 1<sup>st</sup>WEEK ASSIGNMENT

### Day : 1

**Q.1 Define Computer**

Video link: [What is Computer](#)



**Answer:**

---

---

---

---

---

---

### Day 2

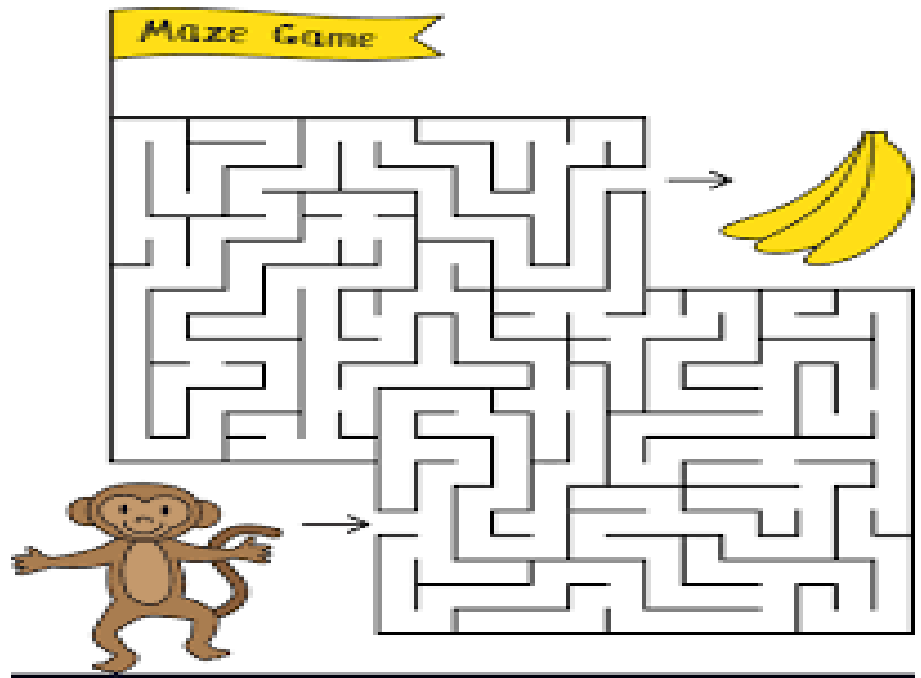
**Q: Help Money to get bananas. Which are the main there functions you performed?**

Video link: [What is Computer?](#)

1- In.....

2-Pro.....

3-out-----



**Day:3****Q Define the function of computer**Video link:[What is Computer?](#)**Answer:**



## 2<sup>nd</sup> WEEK ASSIGNMENT

### Day : 1

Q1. Which tasks performed by Abacus

Video links:[Mechanical Computing devices](#)

[Electro- Mechanical Computing devices](#)



- Abacus:
- Construction:

### Day: 2

Q1. Which tasks performed by Pascaline ?

Video links:[Mechanical Computing devices](#)

[Electro- Mechanical Computing devices](#)



- Pascaline:
- Construction:

**Day: 3**

**Q1- Write the difference between engine and analytic engine.**

**Video links:** [Mechanical Computing devices](#)

[Electro- Mechanical Computing devices](#)

**Engine**

**Analytic engine**

**Diagram:**

**Diagram:**

**3<sup>rd</sup>WEEK ASSIGNMENT****Day : 1**

**Q1. What are the tasks performed by Mark-I?**

**Video links:** [Mechanical Computing devices](#) , [Electro- Mechanical Computing devices](#)

1                      **Mark-I**

2                      **Size**

3 Technology


4 Tasks

**Day :2**

**Q1. How many Generation of Computer?**

**Video link:**[Generations of Computer : An Overview](#)

**Generations of Computers**  
 First, Second, Third, Fourth & Fifth  
 From 1940 to 2020

 <b>First Generation Computers</b> From 1940 – 1956 Vacuum Tubes	 <b>Second Generation Computers</b> From 1956 – 1963 Transistors	 <b>Third Generation Computers</b> From 1964 – 1971 Integrated Circuits	 <b>Fourth Generation Computers</b> From 1972 – 2010 Micro Processors	 <b>Fifth Generation Computers</b> From 2010 Artificial Intelligence
---	--	---	--	---

S#	Generation	Duration
1		
2		
3		
4		
5		

**Day : 3****Q1. Define 1<sup>st</sup> Generation of computer****Video:** [1st Generation of Computer](#)1                    **Diagram:**2                    **Duration:**3                    **Features**4                    **Devices**5                    **Examples****4<sup>th</sup>WEEK ASSIGNMENT****Day :1****Q1. Define 2<sup>nd</sup> Generation of computer****Video:** [2nd Generation of Computer](#)1                    **Diagram:**

2            **Duration:**

3            **Features**

4            **Devices**

5            **Examples**

**Day: 2**

**Q1. Define 3<sup>rd</sup> Generation of computer**

Video link:[3rd Generation of Computer](#)

1            **Diagram:**

2            **Duration:**

3            **Features**

4            **Devices**

5            **Examples**

### **Day:3**

**Q1. Define 4<sup>th</sup> Generation of computer**

**Video:** [4rth Generation of Computer](#)

1            **Diagram:**

2            **Duration:**

3            **Features**

4            **Devices**

5            **Examples**

## 5<sup>th</sup>WEEK ASSIGNMENT

### Day :1

Q1. Define 5<sup>th</sup> Generation of computer,  
1 Diagram:

Video:[5th Generation of Computer](#)

2 Duration:

3 Features

4 Devices

5 Examples

### Day :2

Video link:[Generations of Computer : An Overview](#)

Compare the features of the generations of computers.

Generations	Years	Circuitry	Devices	Processors
First				
Second				
Third				
Fourth				
Fifth				

**Day : 3****Q1- How many Types of Computers?****Video:** [Types of Computer w.r.t Working](#), [Types of Computer w.r.t Size, Speed and efficiency](#)

Sr #	Types
1	
2	
3	



**6<sup>th</sup>WEEK ASSIGNMENT****Day:1****Q1- Describe the types of Computers****Video:**[Types of Computer w.r.t Working](#) , [Types of Computer w.r.t Size, Speed and efficiency](#)

Sr#	Types	Description

**Day 2****Q1- Write down the various fields in which computer is being used.**

- **Video:**[Applications of Computers in Education](#)
- [Applications of Computers in Business](#)
- [Use of Computers in Defense](#)
- [Use of Computers in Media](#)
- [Computer Aided Design](#)

.....

.....

.....

.....

.....

.....

.....

**Day: 3**

**Q1. Highlight the Evolution of computer:**

Video: [A Quick Review of History](#)



**Ans:**

---

---

---

---

## 7<sup>th</sup>WEEK ASSIGNMENT

### Day : 1

Q1-Define Hollerith Desk.

Video links:[Mechanical Computing devices](#)

[Electro- Mechanical Computing devices](#)

- Hollerith Desk:
- Construction:
- Tasks:



### Day:2

Q1. What are the tasks performed by Mark-I?

Video links: [Mechanical Computing devices](#)

[Electro- Mechanical Computing devices](#)

1	Mark-I	
2	Size	
3	Technology	
4	Tasks	

## Social- Studies

### Week 01

#### Day 4

- What do you mean by ideology
- Explain the common sources of ideology
- Explain significance of ideology for a country
- How “Religion” can be an important source of Ideology?
- Define ideology of Pakistan
- Identify the person gave the idea of Ideology of Pakistan
- Explain the basis of Ideology of Pakistan

Review: Long Question.no 05 from textbook.

#### Day 5

- Explain Corona Virus Covid-19 and its origin
- How this virus spreads?
- What are major precautions through which anyone can get rid of this pandemic?
- Describe the position of Muslims in politics
- Explain their loss of properties
- Narrate their loss in employment and businesses

Review: Long Question.no 09 from textbook.

#### Day 6

- Explain how optimistic approach helps you in your hard time? Give example
- Explain with example, how can anyone raise the level of positivity in current situation?

#### VideoLinks

##### Thursday

- <https://www.youtube.com/watch?v=gxODf0t3zds>
- <https://www.youtube.com/watch?v=DRTeGp3mOak>
- <https://www.youtube.com/watch?v=QsHSEzMMXq4>
- <https://www.youtube.com/watch?v=whgCHcYWTRA>
- <https://www.youtube.com/watch?v=TegiAnH7gTs>

##### Friday

- <https://www.youtube.com/watch?v=FC4soCjxSOQ>
- <https://www.youtube.com/watch?v=PSnSo9kYIH4>
- [https://www.youtube.com/watch?v=12i7\\_TxsfTc](https://www.youtube.com/watch?v=12i7_TxsfTc)

##### Saturday

- <https://www.youtube.com/watch?v=FU83xB5Fm-c>
- [https://www.youtube.com/watch?v=y\\_hi8gX9WuA](https://www.youtube.com/watch?v=y_hi8gX9WuA)

## Week 02

### Day 4

- Explain who gave the concept of two Nation theory and what does it mean
- When and who proposed the word “Pakistan”
- Discuss viewpoint of Allama Iqbal about Two-Nation Theory
- During which Mughal emperor’s rule, British approached subcontinent?
- Describe the initial aim of Vasco da Gama to visit subcontinent?
- Narrate the British Colonial System in India

Q.no 09 (long) from textbook exercise

### Day 5

- List down major industries affected due to Covid-19
- Develop a plan through which daily wagers can earn money during lockdown
- Narrate the standpoint of Quaid e Azam in Rowlatt Act 1919
- How did Quaid e Azam get the title of “Ambassador of Peace”

Review: Short Question.no 12, 13, 15 & Long Question.no 08 from textbook.

### Day 6

- Explain how truthfulness makes anyone trustworthy?
- Discuss the connection between media and truthfulness
- Explain the role that the media is playing in current situation? Give examples

❖ For the solution of exercises on the basis of Board Pattern, students can take help from following notes:

<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source>

[=web&cd=7&cad=rja&uact=8&ved=2ahUKEwjFnKv3obPpAhVRUC](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&cad=rja&uact=8&ved=2ahUKEwjFnKv3obPpAhVRUC)

[AKHRCsDXcQjBAwBnoECaCQFQ&url=https%3A%2F%2Fclassn](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&cad=rja&uact=8&ved=2ahUKEwjFnKv3obPpAhVRUC)

[otes.xyz%2Fclass-9-pakistan-studies-notes-](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&cad=rja&uact=8&ved=2ahUKEwjFnKv3obPpAhVRUC)

[fbise%2F&usg=AOvVaw3xAe2dNe4Jnhg5xBuGqrSj](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&cad=rja&uact=8&ved=2ahUKEwjFnKv3obPpAhVRUC)

Video

Links

...

Thursday

- <https://www.youtube.com/watch?v=0tWeo6Ayk3g>
- [https://www.youtube.com/watch?v=0yIk\\_2WqZGU](https://www.youtube.com/watch?v=0yIk_2WqZGU)
- <https://www.youtube.com/watch?v=yBpfOW804pE>

Friday

- <https://www.youtube.com/watch?v=DzDwz18ng7w&t=38s>

Saturday

- <https://www.youtube.com/watch?v=xCt9gP2WAol>
- <https://www.youtube.com/watch?v=6GLAMcBPxFE>
- [https://www.youtube.com/watch?v=mw\\_t0DiwmVY](https://www.youtube.com/watch?v=mw_t0DiwmVY)
- <https://www.youtube.com/watch?v=YXFA3g40q-A>
- <https://www.youtube.com/watch?v=04hvzI-59nY>

## Week 03

### Day 4

- Explain how Indian Ocean is one of the biggest reason for the attraction of Pakistan
- Explain why Pakistan is important for Central Asian Countries

Review: Q.no.05 (long) & Q.no.02, 11 (Short) of textbook

- Explain the characteristics of highest mountain range of Pakistan, Name the highest peak also?
- Discuss why karakoram range is important for China

Review: Q.no.06 long of textbook

### Day 5

- Discuss the importance of CPEC for Pakistan
- Compare the trade of China through old route and through CPEC by using map
- Explain the difference between mountains and plateaus
- Differentiate upper Indus plain and lower Indus plain by using map

Review: Short Q.no 04, 09, 13 & Long Q.no 07 from textbook.

### Day 6

- Explain why self-forgiveness is important to move on after any failure
- Discuss how forgiveness is an important source of peace of mind

For the solution of exercises on the basis of Board Pattern, students can take help from following notes:

<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&cad=rja&uact=8&ved=2ahUKEwjFnKv3obPpAhVRUcAKHRCsDXcQjBAwBnoECACQFQ&url=https%3A%2F%2Fclassnotes.xyz%2Fclass-9-pakistan-studies-notes-fbise%2F&usg=AOvVaw3xAe2dNe4Jnhg5xBuGqrSj>

## Video Links

### Thursday

- <https://www.youtube.com/watch?v=MODXRk49tVk>
- <https://www.youtube.com/watch?v=yOQb9t1yls8>
- <https://www.youtube.com/watch?v=GuUleTbiX-E>
- <https://www.youtube.com/watch?v=zpu6vw8q0WA>

### Friday

- [https://www.youtube.com/watch?v=g\\_rVqxHQmoE](https://www.youtube.com/watch?v=g_rVqxHQmoE)
- [https://www.youtube.com/watch?v=JuE\\_cvaFxA8](https://www.youtube.com/watch?v=JuE_cvaFxA8)
- <https://www.youtube.com/watch?v=w8tPrUDRhF0>

### Saturday

- <https://www.youtube.com/watch?v=M5hW5fzezV8>
- <https://www.youtube.com/watch?v=-kfUE41-JFw>
- <https://www.youtube.com/watch?v=-aEUjlxOK-Y>

## Week 04

### Day 4

- Discuss monsoon likely areas of Pakistan
- Identify the factors that you think can affect the climate of Pakistan

Review: Q.no15 long from textbook.

- Differentiate Deserts and rainy areas of Pakistan
- Identify coldest and hottest areas of Pakistan

Review: Q.no.08 from textbook

### Day 5

- Briefly explain about the industries which are rising/declining due to climate change
- Urbanization
- Explain the effects of climate on domestic life
- Discuss effects of climate on Small businesses

Review: Long Q.no 08 from textbook.

### Day 6

#### Pakistan Values 04: Gratitude

- Explain how gratitude can be linked with inner satisfaction

❖ For the solution of exercises on the basis of Board Pattern, students can take help from following notes:

<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&cad=rja&uact=8&ved=2ahUKEwjFnKv3obPpAhVRUcAKHRCsDXcQjBAwBnoEACAcQFQ&url=https%3A%2F%2Fclassnotes.xyz%2Fclass-9-pakistan-studies-notes-fbise%2F&usg=AOvVaw3xAe2dNe4Jnhg5xBuGqrSj>

### Video Links

#### Monday

- <https://www.youtube.com/watch?v=avFoYtq7K8I>
- <https://www.youtube.com/watch?v=HAoZeW7CrOI>

#### Tuesday

- [https://www.youtube.com/watch?v=\\_ikqqKqVNdE](https://www.youtube.com/watch?v=_ikqqKqVNdE)

#### Wednesday

- [https://www.youtube.com/watch?v=U76Mc\\_wiWT4](https://www.youtube.com/watch?v=U76Mc_wiWT4)

#### Thursday

- <https://www.youtube.com/watch?v=uLCwSsOVXC0>
- [https://www.youtube.com/watch?v=W\\_fQjaySUck](https://www.youtube.com/watch?v=W_fQjaySUck)

#### Friday

- [https://www.youtube.com/watch?v=9\\_4u\\_qqua6s](https://www.youtube.com/watch?v=9_4u_qqua6s)

## Week 05

### Day 4

- Identify location of major glaciers of Pakistan by using map.

Review: Q.no 06 short of Textbook

- Explain why Pakistan faces huge floods every year

Review: Q.no 10 (long) from textbook

### Day 5

Activity: Develop a plan through which Pakistan can raise its water reserves

- Discuss importance of forests of Pakistan
- Now a days, several organizations are contributing there part in “Go Green” campaign. Explain with examples

Review: Q.no.1, 13 (short) Q.no 12(long) from textbook.

### Day 6

- Discuss how faith is an important factor for achievement of any goal. Support your answer with examples

## Video Links

### Thursday

- <https://www.youtube.com/watch?v=caMkwhVgi-s>
- <https://www.youtube.com/watch?v=8lhqBhu7BrI>
- <https://www.youtube.com/watch?v=TD2f5UkLNCA>
- [https://www.youtube.com/watch?v=uY\\_HOJ9MuX8](https://www.youtube.com/watch?v=uY_HOJ9MuX8)

### Friday

- <https://www.youtube.com/watch?v=DwcW12J1FFA>
- <https://www.youtube.com/watch?v=WpJTR-IAG6k>
- <https://www.youtube.com/watch?v=qR1X04PgrUY>
- <https://www.youtube.com/watch?v=GuUleTbix-E>

### Saturday

- <https://www.youtube.com/watch?v=AausKIYbpho>



## Week 06

### Day 4

- Name the common wild animals of Pakistan
- Explain major threats to Wildlife

Review: Q.no.13 (long) from textbook

- Explain the importance of plains of Pakistan
- Discuss issues associated with these deserts of Pakistan

### Day 5

- Explain reasons of urbanization
- Discuss major drawbacks of urbanization
- Identify the importance of seaports of Pakistan
- Explain dry mountain regions of Pakistan

### Day 6

- Explain how strong determination and passion helps to get success

## Video Links

### Thursday

- [https://www.youtube.com/watch?v=DM\\_UCzGBei4](https://www.youtube.com/watch?v=DM_UCzGBei4)
- [https://www.youtube.com/watch?v=pJ58zLuU\\_3g](https://www.youtube.com/watch?v=pJ58zLuU_3g)
- <https://www.youtube.com/watch?v=5weAzmTQmdE>
- <https://www.youtube.com/watch?v=77HIS6zCEd4>

### Friday

- <https://www.youtube.com/watch?v=jlBBrt9F3Wc>
- [https://www.youtube.com/watch?v=d7Ci\\_EooW-k](https://www.youtube.com/watch?v=d7Ci_EooW-k)
- <https://www.youtube.com/watch?v=wRTIKW3rwSw>
- [https://www.youtube.com/watch?v=t7Q7y\\_xjR5E](https://www.youtube.com/watch?v=t7Q7y_xjR5E)

### Saturday

- <https://www.youtube.com/watch?v=fp9dTTIQLPY>
- <https://www.youtube.com/watch?v=GkipANiBspE>

## **Week 07**

### **Day 4**

- Explain the major causes of salinity and water logging
- Explain the way through which salinity and water logging can overcome

Review: Q.no.3, 5, 7, 8, 10, 12 (short) from textbook

- Explain main reasons of deforestation in Pakistan
- How much total area of Pakistan is covered with forests

Reviews: Q.no.14 (long) from textbook

### **Day 5**

- Identify main factors causing Global Warming
- Identify important measures taken to control Global Warming
- Explain how industrialization is the main reason of pollution
- Explain the causes of air pollution

Activity: Develop a plan to reduce air pollution

Review: Objective exercise & Q.no.16 (long) from textbook

### **Day 6**

- “Do respect have respect” explain
- Explain how respect in mind can control your behaviors

## **General- Knowledge**

### **Information Technology**

#### **Week 1**

**Q.1. Which is the part of the computer system that one can physically touch?**

- (A) data
- (B) operating systems
- (C) hardware
- (D) software

**Q.2. A ..... is an electronic device that process data, converting it into information.**

- (A) computer
- (B) processor
- (C) case
- (D) stylus

**Q.3. IC chips used in computers are usually made of:**

- (A) Lead
- (B) Silicon
- (C) Chromium
- (D) Gold

**Q.4. Which of the following is not an example of an Operating System?**

- (A) Windows 98
- (B) BSD Unix
- (C) Microsoft Office XP
- (D) Red Hat Linux

**Q.5. One Gigabyte is approximately equal is:**

- (A) 1000,000 bytes
- (B) 1000,000,000 bytes
- (C) 1000,000,000,000 bytes
- (D) None of these

**Q.6. Compact discs, (according to the original CD specifications) hold how many minutes of music?**

- (A) 74 mins
- (B) 90 mins
- (C) 56 mins
- (D) 60 mins

**Q.7. Which of the following is not an input device?**

- (A) Mouse
- (B) Light pen
- (C) Keyboard
- (D) VDU

**Q.8. What type of process creates a smaller file that is faster to transfer over the internet?**

- (A) Compression
- (B) Fragmentation

- (C) Encapsulation
- (D) None of the above

**Q.9. Which of the following is used to Manage Database?**

- 1) Operating System
- 2) Compiler
- 3) DBMS
- 4) None of the above

**Q.10. Which of the following is an example of non-volatile memory?**

- (A) Cache memory
- (B) RAM
- (C) ROM
- (D) None of the above

## Week 2

**Q.11. File extensions are used in order to .....**

- (A) Name the file
- (B) Ensure the filename is not lost
- (C) Identify the file
- (D) Identify the file type

**Q.12. here are ..... parts to a computer system.**

- (A) 2
- (B) 4
- (C) 16
- (D) 100

**Q.13. During the ..... portion of the Information Processing Cycle, the computer acquires data from some source.**

- (A) processing
- (B) storage
- (C) input
- (D) output

**Q.14. bit stands for**

- (A) binary information term
- (B) binary digit
- (C) binary tree
- (D) Bivariate Theory

**Q.15. Which one of the following is different from other members?**

- (A) Google
- (B) Windows
- (C) Linux
- (D) Mac

**Q.16. The hexadecimal number system consists of the symbols**

- (A) 0 – 7
- (B) 0 – 9 , A – F
- (C) 0 – 7, A – F
- (D) None of these

**Q.17.1 GB is equal to**

- (A) 230 bits

- (B) 230 bytes
- (C) 220 bits
- (D) 220 bytes

**Q.18. A microprocessor unit, a memory unit, and an input/output unit form a:**

- (A) CPU
- (B) compiler
- (C) microcomputer
- (D) ALU

**Q.19. Process to exit from computer by giving correct instructions such as 'EXIT' is classified as**

- (A) log in
- (B) process out
- (C) process in
- (D) log out

**Q.20. Function of running and loading programs by use of peripherals is function of**

- (A) operating system
- (B) inquiry system
- (C) dump programs
- (D) function system

### **Week 3**

**Q.21. An assembler is**

- (A) Programming language-dependent.
- (B) Syntax dependant.
- (C) Machine dependant.
- (D) Data dependant.

**Q.22. Which amongst the following is not an advantage of Distributed systems?**

- (A) Reliability
- (B) Incremental growth
- (C) Resource sharing
- (D) None of the above

**Q.23. The term 'page traffic' describes**

- (A) Number of pages in memory at a given instant.
- (B) Number of papers required to be brought in at a given page request.
- (C) The movement of pages in and out of memory.
- (D) Number of pages of executing programs loaded in memory.

**Q.24. Assembler is**

- (A) A program that places programs into memory and prepares them for execution
- (B) Is a program that appears to execute a source program as if it were machine language
- (C) A program that automates the translation of assembly language into machine language
- (D) A program that accepts a program written in high-level language and produces an object program

**Q.25. An interpreter is**

- (A) A program that places programs into memory and prepares them for execution
- (B) A program that appears to execute a source program as if it were machine language
- (C) A program that automates the translation of assembly language into machine language
- (D) A program that accepts a program written in high-level language and produces an object program

**Q.26. How many buses are connected as part of the 8085 microprocessor?**

- (A) 2
- (B) 3

- (C) 5
- (D) 8

**Q.27. How many bits are used in the data bus?**

- (A) 7
- (B) 8
- (C) 9
- (D) 16

**Q.28. What would you do to highlight a word? You position the cursor next to the word, and then**

- (A) Drag mouse while holding button down
- (B) Click mouse once
- (C) Roll and then click mouse
- (D) None of these

**Q.29. Reusable optical storage will typically have the acronym .....**

- (A) CD
- (B) DVD
- (C) ROM
- (D) RW

**Q.30..... is processed by the computer into information.**

- (A) Data
- (B) Numbers
- (C) Alphabets
- (D) Pictures

#### Week 4

**Q.31. One kilobyte is equal to:**

- (A) 1000 bytes
- (B) 100 bytes
- (C) 1024 bytes
- (D) 1023 bytes

**Q.32. Which supercomputer is developed by the Indian Scientists?**

- (A) Param
- (B) Super 301
- (C) Compaq Presario
- (D) CRAY YMP

**Q.33. In binary code, the number 7 is written as -**

- (A) 110
- (B) 111
- (C) 101
- (D) 100

**Q.34. In which generation of computers, transistors were used?**

- (A) First
- (B) Second
- (C) Third
- (D) Fourth

**Q.35. 'ALU' stands for?**

- (A) Arithmetic Long Unit
- (B) All Longer Units
- (C) Around Logical Units
- (D) Arithmetic and Logical Units

**Q.36. The term 'Pentium' is related to -**

- (A) DVD
- (B) Hard Disk
- (C) Microprocessor
- (D) Mouse

**Q.37. Which of the following is the most powerful type of computer?**

- (A) Super-micro
- (B) Super Computer
- (C) Micro Computer
- (D) Mini Computer

**Q.38. The most common type of storage devices are .....**

- (A) persistent
- (B) optical
- (C) magnetic
- (D) flash

**Q.39. The ..... tells the computer how to use its components.**

- (A) utility
- (B) network
- (C) operating system
- (D) motherboard

**Q.40. Which one of the following is not a linear data structure?**

- (A) Array
- (B) Binary Tree
- (C) Queue
- (D) Stack

## Week 5

**Q.41. Where does a computer add and compare its data?**

- (A) CPU
- (B) Memory
- (C) Hard disk
- (D) Floppy disk

**Q.42. Which one of the following is not an Internet Service Provider (ISP)?**

- (A) MTNL
- (B) BSNL
- (C) ERNET India
- (D) Infotech India Ltd.

**Q.43. The binary equivalent of  $(-15)_{10}$  is (2's complement system is used)**

- (A) 11110001
- (B) 11110000
- (C) 10001111
- (D) None of these

**Q.44. The set of computer programs that manage the hardware/software of a computer is called**

- (A) Compiler system
- (B) Operation system
- (C) Operating system
- (D) None of these

**Q.45. Program which is readily available for computer users as a part of software package is classified as**

- (A) library program
- (B) program library
- (C) software library
- (D) directory library

**Q.46. Set of software authorized to a specific user is considered as**

- (A) software library
- (B) program library
- (C) directory library
- (D) library package

**Q.47. If program can cope data errors, such program can be termed as**

- (A) robust
- (B) reliable
- (C) unreliable
- (D) stable functioning

**Q.48. Which of the following is not a fundamental process state**

- (A) Ready
- (B) Terminated
- (C) Executing
- (D) Blocked

**Q.49. Which of the following is true?**

- (A) Block cipher technique is an encryption technique.
- (B) Steam cipher technique is an encryption technique.
- (C) Both (A) and (B).
- (D) Neither of (A) and (B).

**Q.50. Which of the following loader is executed when a system is first turned on or restarted**

- (A) Bootloader
- (B) Compile and Go loader
- (C) Bootstrap loader
- (D) Relating loader

## Week 6

**Q.51. Storage mapping is done by**

- (A) Linker
- (B) Compiler
- (C) Loader
- (D) Operating system

Answer & Explanation

**Q.52. Forward reference table (FRT) is arranged like -**

- (A) Stack
- (B) Queue
- (C) Linked list



(D) Double linked list

**Q.53. Worldwide web was proposed by:**

(A) Bill Gates

(B) Bill Rogers

(C) Tim Berners Lee

(D) None of Above

**Q.54. Which of the following derivation a top-down parser use while parsing an input string?**

**The input is assumed to be scanned in left to right order?**

(A) Leftmost derivation

(B) Rightmost derivation

(C) Leftmost derivation traced out in reverse

(D) Rightmost derivation traced out in reverse

**Q.55. Which of the following is not a computer bus?**

(A) data bus

(B) timer bus

(C) control bus

(D) address bus

**Q.56. The technique of assigning a memory address to each I/O device in the SAM system is called:**

(A) wired I/O

(B) I/O mapping

(C) dedicated I/O

(D) memory-mapped I/O

**Q.57. A port can be:**

(A) strictly for input

(B) strictly for output

(C) bidirectional

(D) all the above

**Q.58. Which of the following languages is more suited to a structured program?**

(A) PL/1

(B) FORTRAN

(C) BASIC

(D) PASCAL

## Science

### Week :1

1. Electric current is measured using what device?

\_\_\_\_\_

2. True or false? Batteries convert chemical to electrical energy.

\_\_\_\_\_

3. In terms of electricity, what does DC stand for?

\_\_\_\_\_

4. The wire inside an electric bulb is known as the what?

\_\_\_\_\_

5. Conductors have a high or low resistance?

\_\_\_\_\_

6. True or false? The concept of electric fields was first introduced by Albert Einstein.

\_\_\_\_\_

7. Electric resistance is typically measured in what units?

\_\_\_\_\_

8. In terms of electricity, what does AC stand for?

\_\_\_\_\_

9. Electric power is typically measured in what units?

\_\_\_\_\_

10. True or false? You can extend battery life by storing batteries at a low temperature.

\_\_\_\_\_

### Week:2

1. What is the name of the world's largest reef system?

\_\_\_\_\_

2. Do male or female mosquitoes bite people?

3. True or false? Earth Day is held on June 18.

---

4. What state of the USA is the Grand Canyon located in?

---

5. True or false? The Dead Sea is 8.6 times more salty than the ocean.

---

6. What are the 3 R's of recycling?

---

7. True or false? The horn of a rhinoceros is made from bone.

---

8. What famous islands west of Ecuador were extensively studied by Charles Darwin?

---

9. Ayers Rock in Australia is also known as what?

---

10. True or false? Burning or logging naturally occurring forests is known as deforestation.

---

### **Week: 3**

---

1. True or false? The boiling point of water is 100 degrees Celsius (212 degrees Fahrenheit).

---

2. When water is cooled, does it expand or contract?

---

3. True or false? The highest temperature ever recorded on Earth is 42.4 °C (108.3 °F).

---

4. Heat from the sun gets to the Earth by radiation, conduction or convection?

---

5. What is the freezing temperature of water?

---

6. True or false? Kelvin, Celsius and Fahrenheit are all measures of temperature.

---

7. True or false? 100 Kelvin is the temperature of absolute zero.

---

8. Substances that don't conduct heat are known as what?

---

9. True or false? Heat is a form of energy.

---

10. At what temperature is Fahrenheit equal to Centigrade?

---

### **Week :4**

1. When a solid changes to a liquid it is called what?

---

2. True or false? Liquids are easy to compress.

---

3. When a gas changes into a liquid it is called what?

---

4. True or false? The particles of a gas are packed tightly together.

5. When solids reach their melting points they become what?

---

6. True or false? Plasma is a state of matter.

---

7. When a gas reaches its condensation point it becomes a what?

---

8. True or false? Solids do not take the shape of the container they are in.

---

9. What is it called when a solid changes directly into a gas?

---

10. True or false? Gases are hard to compress.

---

### **Week : 5**

1. What is the name of the biggest part of the human brain?

---

2. The colored part of the human eye that controls how much light passes through the pupil is called the?

3. What is the name of the substance that gives skin and hair its pigment?

4. The muscles found in the front of your thighs are known as what?

5. True or false? The two chambers at the bottom of your heart are called ventricles.

6. What substance are nails made of?

7. What is the human body's biggest organ?

8. The innermost part of bones contains what?

9. True or false? An adult human body has over 500 bones.

10. How many lungs does the human body have?

## **Week :6**

Web link: <https://www.sciencekids.co.nz/quizzes.html>

1. Another name for your voice box is the?

2. The two holes in your nose are called?

3. Your tongue is home to special structures that allow you to experience tastes such as sour, sweet, bitter and salty, what is their name?

4. The bones that make up your spine are called what?

5. The shape of DNA is known as?

6. The flow of blood through your heart and around your body is called?

7. The bones around your chest that protect organs such as the heart are called what?

8. What is the name of the long pipe that shifts food from the back of your throat down to your stomach?
9. True or false? Your ears are important when it comes to staying balanced.
10. The outside layer of skin on the human body is called the?

## Islamiyat General Knowledge

### 1<sup>st</sup> week

- انفال کے لفظی معنی کیا ہیں
- مال غنیمت کے متعلق اسلامی احکام کیا ہیں
- سورۃ الانفال کی پہل آیت میں مومنین کو کیا کیا نصیحتیں کی گئی ہیں
- سورۃ الانفال کی پہل آیت میں مومنین کو کیا کیا نصیحتیں کی گئی ہیں
- علم کے لفظی معنی تحریر کریں
- اللہ تعالیٰ نے انسان کی جسمانی اور فطری ضروریات پوری کرنے کے لیے کیا اہتمام فرمایا
- قرآن کریم کا سابقہ آسمانی کتب کے ساتھ کیا تعلق ہے
- زکوٰۃ کے لفظی معنی کیا ہیں
- اسلامی شریعت میں زکوٰۃ سے کیا مراد ہے
- نصاب کسے کہتے ہیں

### 2<sup>nd</sup> week

- زکوٰۃ کی اہمیت بیان کریں۔
- قرآن کریم میں زکوٰۃ کی کون کون سے مصارف ہیں۔
- ہمیں اللہ تعالیٰ کی محبت کیسے حاصل ہوسکتی ہے۔
- علم کے لفظی معنی تحریر کریں۔
- دوگروہوں میں سے ایک گروہ سے کیا مراد ہے۔
- غیر ذات الشوکتہ سے کیا مراد ہے۔
- غذر بدر کے دوران اللہ تعالیٰ نے فرشتوں کو کیا حکم دیا۔
- مسلمانوں کا مشرکین سے جنگ کے سلسلے میں کیا ہدایت دی گئی۔
- اللہ تعالیٰ کے نزدیک بدترین جانور کون لوگ ہیں۔
- مال و اولاد کے فتنہ سے کیا مراد ہے۔

### 3<sup>rd</sup> week

- یسلونک عن الانفال کا ترجمہ کریں۔
- کفار کے اسلام دشمنی سے باز اجانے پر اللہ تعالیٰ نے ان سے کیا وعدہ کر رکھا ہے۔
- مسلمانوں کو کفار خواب میں تھوڑے نظر آئے تو اس کا کیا فائدہ ہوا۔

- کفار سے مقابلے کے دوران کامیابی کے لیے اللہ تعالیٰ نے مومنین کو کن دو باتوں کی تاکید کی ہے۔
- کفار منافقین نے مسلمانوں کو جہاد کے لیے تیار ہوتے دیکھ کر کیا تبصرہ کیا۔
- سورہ انفال کی آیات میں اللہ تعالیٰ نے آل فرعون کی تباہی کی کیا وجہ بتائی ہے۔
- سامان جنگ تیار رکھنے کا مقصد کیا بیان کیا گیا ہے۔
- اگر کوئی دشمن اسلام مسلمانوں کی طرف صلح کا ہاتھ بڑھائے تو کیا کرنا چاہیے۔
- مومنین کی باہمی الفت کے متعلق آپ صلی اللہ علیہ وسلم سے مخاطب ہو کر اللہ تعالیٰ نے کیا فرمایا ہے۔
- غزوہ بدر میں کتنے کفار و مشرکین کو مسلمانوں نے قیدی بنایا۔

#### 4<sup>th</sup> week

- وحی کسے کہتے ہیں۔
- آپ صلی اللہ علیہ وسلم پر سب سے پہلی وحی جو نازل ہوئی اس کے الفاظ کیا ہیں۔
- قرآن کریم کی رو سے قلم کے ذریعے کس نے علم سکھایا۔
- زمین پر انسان کی حیثیت کیا ہے۔
- کس بنا پر حکم ہوا کہ وہ حضرت آدم علیہ کو سجدہ کریں۔
- آپ صلی اللہ علیہ وسلم کو علم میں اضافہ کے لیے کون سی دعا سکھائی۔
- فدیہ کسے کہتے ہیں۔
- غزوہ بدر میں پڑھے لکھے قیدیوں سے کیا فدیا لیا گیا۔
- مسلمان کے لیے معاشی طور پر فنون کا سیکھنا کیوں ضروری ہے۔
- خطبہ جمعہ کے دوران خاموشی اختیار کرنے کے بارے میں آپ (ص) نے کیا فرمایا؟

#### 5<sup>th</sup> week

- جمعہ کے دن کو باقی ایام کے مقابلے میں کیا فضیلت حاصل ہے؟
- طہارت کا مفہوم بیان کریں؟ یا طہارت کے معانی تحریر کریں۔
- طہارت کی قسمیں بے ان کریں۔
- طہارت کے بارے میں ایک آیت کا ترجمہ لکھیں۔
- وضو کے چار فرائض لکھیں۔
- طہارت کے فوائد بیان کریں۔

- اللہ کی راہ میں سعی اور کوشش کی کیا اجر ہے؟ یا اللہ نے کس کو آگ پر حرام کر دیا؟
- ہجرت کے لغوی معنی کیا ہیں؟
- اسلام میں ہجرت کا مفہوم کیا ہے؟ یا ہجرت سے کیا مراد ہے؟
- اگر کسی کے پاس ہجرت کے وسائل نہ ہوں تو اس کے لیے کیا ارشاد ہے؟ یا جو لوگ مجبوری کی بنا پر ہجرت نہ کرسکے تو ان کے لیے کیا حکم ہے؟

#### 6<sup>th</sup> week

- ہجرت کے ہوالے سے سورۃ النحل میں کیا ارشاد ہوتا ہے؟ یا ہجرت کرنے والوں کو سورۃ نحل میں کیا ، بشارتیں دی گئی ہیں؟

ہجرت کرنے والے اللہ تعالیٰ کی رحمت کے حق دار قرار پاتے ہیں۔ اس حوالے سے ارشاد ربانی لکھیں؟ یا اجر مہاجر پر آیت قرآنی کا ترجمہ تحریر کریں

جہاد کے فرض ہونے سے پہلے سب سے بڑا عمل کیا تھا؟

اسلام میں جہاد کا کیا مفہوم ہے؟ یا جہاد سے کیا مراد ہے؟

روزہ کے اصطلاحی معنی بیان کریں؟

حدیث کے مطابق روزے کی قبولیت کی کون سی دو شرائط ہیں؟

روزہ دار کے لیے کتنی خوشیاں ہیں اور کون کون سی ہیں؟

للصائم فرحتان کا ترجمہ لکھیں

ترجمہ کریں: وسبحوة بكرة وأصيلا

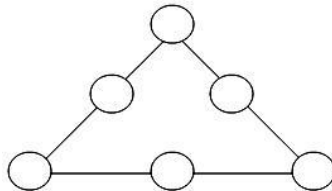
## Mathematics

### Week 1

- I am between 50 and 60. I am a multiple of 7 and 8. Who am I?
- Which is the only even prime number?
- Which is the only number that cannot be used as a divisor?
- Which number does not have a reciprocal?
- What is the next prime number after 13?
- In which number system, there is no symbol for zero?
- Complete the magic square given below so that the sum of the numbers in each row or in each column or along each diagonal is fifteen.

6	1	
	5	

4. Fill in the numbers from 1 to 6 (without repetition) so that each side of the magic triangle adds up to 12.



- Find two numbers whose product is a one-digit number and the sum is a two-digit number.



- x. Find three whole numbers whose product and the sums are equal.

## Week 2

- i. How many right angles in square?
- ii. What is the sum of all interior angles of parallelogram?
- iii. What is the maximum number of right angles in a right angled triangle?
- iv. Name a parallelogram whose all sides are equal.
- v. What is the sum of angle on a straight line?
- vi. What is an angle greater than 180 degrees but less than 360 degrees called?
- vii. How many faces are there in a triangular pyramid?
- viii. What is the name for the longest side of a right angled triangle?
- ix. What is the most famous theory of triangles in geometry?
- x. What is the name of the polygon that has 15 sides?

## Week 3

- i. How many feet in the meter stick?
- ii. How many inches in a foot?
- iii. A car travels at a constant speed of 80 km/h for  $2\frac{1}{2}$  hours. How far does it travel in that time?
- iv. What is the other name of perimeter of Circle?
- v. How many centimeter make a decameter?
- vi. A bag of candies weighs 250 g. If each bag contains 20 candies, what is the weight of each candy?
- vii. Bilal can run three times faster than Ali. If it takes Bilal 45 minutes to run a certain distance, how long will it take Ali to run the same distance?
- viii. A crane can lift a maximum load of 15000 kg. How many boxes each weighing 250 kg can be loaded into a container for the crane to lift?
- ix. 1 mile = 1.61 km. What would a distance of 30 miles be in kilometers?
- x. If the area of square field is  $144\text{m}^2$ . What are the length and the width of the field?

## Week 4

- i. A retailer sells a sofa for Rs. 800. If it costs him Rs. 250, what percentage profit does he make when he sells it?
- ii. Three numbers are in ratio 1 : 4 : 6. If the largest number is 48, what are the other two numbers?

- iii. Salma and Sara share Rs. 24 in ratio of 1 : 3. How much money does Sara get?
- iv. A piece of rope is 4.5 cm long. It is to be cut into two pieces in the ratio of 7 : 2 . What is the length of longer piece?
- v. What is 9% of 61?
- vi. What is 5% as a decimal?
- vii. There are 180 pages in the book. Diana has read 90 pages. What percent of the book has she read?
- viii. Length and width of a field are in the ratio 5 : 3. If the width of the field is 42 m then, find its length.
- ix. What is the ratio of 1 hour to 300 seconds?
- x. Two numbers are in the ratio 7 : 9. If the sum of the numbers is 112, then, find the larger number?

## Week 5

### Encircle the correct answer.

- i. 'A' alone can do a piece of work in 10 days and 'B' alone can do it in 15 days. In how many days will A and B together do the same work?
  - a. 5
  - b. 6
  - c. 8
  - d. 9
- ii. A man can do a piece of work in 5 days, but with the help of his son, he can do it in 3 days. In what time can the son do it alone?
  - a.  $6\frac{1}{2}$  days
  - b. 7 days
  - c.  $7\frac{1}{2}$  days
  - d. 8 days
- iii. A is 40% of B. What percentage is B of A?
  - a. 60%
  - b. 140%
  - c. 250%
  - d. 160%
- iv.  $X + 5 = 10$ . Then x equals:
  - a. 5
  - b. 10
  - c. 15
  - d. -5
- v.  $X^2 + 4x + 3 = 0$ ; Then x equals:
  - a. 2 or 3
  - b. -1 or -3
  - c. 1 or 3
  - d. 5 or -1
- vi. 3, 4, 7, 11,..... next two terms are:
  - a. 16, 23
  - b. 18, 29
  - c. 17, 24
  - d. 19, 27
- vii.  $Y^2 + 4 = 20$ . Then y equals:
  - a. 4 only
  - b. -4 only
  - c. 4 or -4
  - d. 16

- viii. The price of an item increases by 20% and then decreases by 20%. So the price has:
- |                   |                     |
|-------------------|---------------------|
| a. Increase by 4% | b. Decrease by 4%   |
| b. Increase by 0% | d. Increased by 40% |
- ix. The ratio of girls and boys in school is 5 : 7. If there are 525 girls, how many boys are there?
- |        |        |        |        |
|--------|--------|--------|--------|
| a. 375 | b. 625 | c. 735 | d. 325 |
|--------|--------|--------|--------|
- x. David and John share \$ 455 in the ratio 2 : 3 respectively. How much money does John get?
- |          |          |         |          |
|----------|----------|---------|----------|
| a. \$182 | b. \$273 | c. \$91 | d. \$175 |
|----------|----------|---------|----------|

## Week 6

- i. What is the probability of occurrence of an event?
- ii. A coin is tossed 125 times and head is obtained 64 times. Now, if a coin is tossed at random, what is the probability of getting a head?
- iii. A coin is tossed 200 times and tails obtained 128 times. Now, if a coin is tossed at random, what is the probability of getting a tail?
- iv. In 60 throws of a dice, 6 is obtained 24 times. Now, in a random throw of a dice, what is the probability of getting 6?
- v. In 100 throws of a dice, 5 is obtained 42 times. In a random throw of a dice, what is the probability of getting 5?
- vi. In 150 throws of a dice, 2 is obtained 76 times. In a random throw of a dice, what is the probability of getting 2?
- vii. In 2010, there was a survey of 200 people; it was found that 82 like orange juice while 118 dislike it. From these people, one is chosen at random. What is the probability that the chosen people dislike orange juice?
- viii. In a box there are 10 non-defective and some defective bulbs. If the probability that a bulb selected at random from the box to be defective is  $\frac{2}{7}$ , then find the number of defective bulbs.
- ix. A bag contains 5 white balls and some black balls. If the probability of drawing a black ball from the bag is twice the probability of drawing a white ball then find the number of black balls.
- x. A bag contains 4 red balls, 6 green balls and some white balls. If the probability of not drawing a white ball in one draw be  $\frac{2}{3}$ , then find the number of white balls.

## Week 7

- i. Apples are bought at 6 for \$ 10 and sold at 4 for \$ 9. Find the gain or loss per cent.

- ii. Rob purchased an old car for \$ 73500. He spent \$ 10300 on repairs and paid \$ 2600 for its insurance. Then he sold it to a mechanic for \$ 84240. What was his percentage gain or loss?
- iii. The price of a sweater was slashed from \$ 960 to \$ 816 by a shopkeeper in the winter season. Find the rate of discount given by him.
- iv. A tea set was bought for \$ 528 after getting a discount of 12% on its marked price. Find the marked price of the tea set.
- v. At a clearance sale, the price of a t.v. was discounted 40%. The discount price was Rs. 375. What was the original price?
- vi. Out of 270 racers who started the marathon, 244 completed the race, 19 gave up, and 7 were disqualified. What percentage did not complete the marathon?
- vii. Fifteen ounces of concentrate is mixed with 45 ounces of water to make 60 ounces of orange juice. What percent of the orange juice is concentrate?
- viii. In your class there are 48 student; 32 students are female. Approximately what percentage is male?
- ix. Convert  $\frac{3}{8}$  to a percentage.
- x. Eliza took a friend for a birthday dinner. The total bill for dinner was \$34 (including tax and a tip). If Eliza paid a 22.5% tip, what was her bill before adding the tip?

## Week 8

### Encircle the correct answer.

- i. From the choices given below mark the co-prime numbers.
  - a. 2, 3                      b. 2, 4                      c. 2, 6                      d. 2, 110
- ii. A rational number equivalent to  $\frac{5}{7}$  is
  - a.  $\frac{15}{17}$                       b.  $\frac{25}{27}$                       c.  $\frac{10}{14}$                       d.  $\frac{10}{27}$
- iii. An example of a whole number is
  - a. 0                      b.  $-\frac{1}{2}$                       c.  $\frac{11}{5}$                       d. -7
- iv. Given a rational number  $-\frac{5}{9}$ . This rational number can also be known as
  - a. a natural number                      c. a whole number
  - b. a fraction                      d. a real number
- v. The rational number  $\overline{0.3}$  can also be written as

- a. 0.3                      b.  $\frac{3}{10}$                       c. 0.33                      d.  $\frac{1}{3}$
- vi. If the decimal representation of a number is non-terminating, non-repeating then the number is  
a. a natural number                      c. a rational number  
b. a whole number                      d. an irrational number
- vii. The square root of which number is rational  
a. 7                      b. 1.96                      c. 0.04                      d. 13
- viii. A rational number between  $\frac{1}{7}$  and  $\frac{2}{7}$  is  
a.  $\frac{1}{14}$                       b.  $\frac{2}{21}$                       c.  $\frac{5}{14}$                       d.  $\frac{5}{21}$
- ix. The number 1.101001000100001... is  
a. a natural number                      c. a whole number  
b. a rational number                      d. an irrational number
- x. On adding  $2\sqrt{3}$  and  $3\sqrt{2}$ , we get:  
a.  $5\sqrt{5}$                       b.  $5(\sqrt{3} + \sqrt{2})$                       c.  $2\sqrt{3} + 3\sqrt{2}$                       d. None of these

**Useful links are given below:**

- <https://study.com/learn/basic-math-questions-and-answers.html>
- <https://www.careerlauncher.com/cbse-ncert/>
- <http://www.learnmathsonline.org/maths-gk/maths-gk-questions-maths-general-knowledge/>
- <https://www.math-only-math.com/8th-grade-math-practice.html>
- <https://gotest.pk/general-basic-math-test-online-quiz-mcqs-answers/>

اردو سلیبس

عمومی ہدایات برائے طلباء و والدین

1- اردو کی لکھائی خوشخط کریں۔

2- کام نیٹ کاپی پر کریں۔

3. حاشیہ ضرور لگائیں۔

4. والدین سے درخواست ہیں کہ چھٹیوں کو کارآمد بنانے کے لئے دیا گیا کام اپنی نگرانی میں کروائیں۔ اور جہاں کہیں بھی ضرورت ہو متعلقہ استانی سے رابطہ کریں۔

5. ہمارا بنیادی مقصد یہ ہے کہ آپ کا تعلق اپنی تعلیم سے جڑا رہے۔ اسی مقصد کے تحت آپ کے لئے تخلیقی اور تعلیمی سرگرمیوں سے بھرپور تعطیلات کا کام تیار کیا گیا ہے۔

### پہلا ہفتہ

تاریخ	عنوان	صفحہ نمبر	گھر کا کام	ذرائع	سرگرمی
1 جون	ہجرات نبوی	3-2	بلند خوانی	کتابی مواد	
2 جون	ہجرات نبوی مرزا غالب کے عادات و خصائل	3،8	مشقی سوالات بلند خوانی	کتابی مواد نوٹس	آپ ﷺ کے سیرت پر مضمون لکھیں
3 جون	ہجرات نبوی مرزا غالب کے عادات و خصائل	10-8	سوال نمبر 2-5	کتابی مواد ورک شیٹ	مضمون لکھوانا الطاف حسین خالی کی حالت زندگی بیان کریں (دہرائی)

### ورک شیٹ نمبر 1

س نمبر 1۔ ذیل الفاظ کے جملے بنائیے۔

1۔ دعوت حق

2- ہدف

-----:

3-

مصیوب:

-

4. خون

-----ہیا:

س نمبر 2 ہجرت نبوی سے کیا مراد ہے تفصیل سے بیان کریں۔

دوسرا ہفتہ

سرگرمی	ذرائع	گھر کا کام	صفحہ نمبر	عنوان	تاریخ
		بلند خوانی	15	کابلی	8 جون
	کتاب	بلند خوانی	16،،15	کابلی شاعروں کے لطیفے	9 جون
	ورک شیٹ				
	نوٹس	نظم کی دیرائی	16	کابلی شاعروں کے لطیفے	10 جون
	ورک شیٹ				

ورک شیٹ نمبر 2

س نمبر 1 ؛ عنوان کابلی پر مضمون لکھیں ؟

ج

---



---



---



---



---



---



---



---

## تیسرا ہفتہ

سرگرمی	ذرائع	گھر کا کام	صفحہ نمبر	عنوان	تاریخ
		بلند خوانی	16-15	کابلی	15 جون
کابلی کے نقصانات بیان کریں	کتابی مواد ورک شیٹ	مشقی سوالات	22-21	کابلی شاعروں کے لطیفے	16 جون



شاعیری پر نوٹ لکھیں		بلند خوانی			
شاعری کی دہرائی کریں	نوٹس ورک شیٹ	مشق حل کرنا	23،22	کابلی شاعروں کے لطیفے	17 جون

### ورک شیٹ نمبر 3

س نمبر 2۔ آزاد کی کتاب آب حیات کے علاوہ کوئی اور لطیفہ لکھیں۔

ج

س نمبر 3۔ میر تقی میر کی کوئی غزل درست لفظ کے ساتھ پڑھیں:

چوتھا ہفتہ

تاریخ	عنوان	صفحہ نمبر	گھر کا کام	ذرائع	سرگرمی
جون 22	منصوح اور سلیم کی گفتگو	28-31	بلند خوانی	کتاب	نیک صحبت کے عنوان پ مکالمہ لکھیں
جون 23	منصوح اور سلیم کی گفتگو	28-31	مشق اور مشقی سوالات	نوٹس ورک شیٹ	عادل وانصاف پر نوٹ لکھیں
جون 24	پنچایت	36-42	بلند خوانی	نوٹس	مشق حل کرنا

### ورک شیٹ نمبر 4

س نمبر 1؛ ناول کو تفصیل سے بیان کریں؟

ج

:

س نمبر 2۔ افسانہ نگار پرچم چند کا کوئی اور افسانہ بیان کریں۔

### پانچواں ہفتہ

تاریخ	عنوان	صفحہ نمبر	گھر کا کام	ذرائع	سرگرمی
29 جون	حمد	107-106	بلند خوانی	کتابی مواد	دہرائی
30 جون	حمد	107-108	س نمبر 1، 2، 3، 4	کتابی مواد	تشریح بیان
1 جولائی	حمد	108- 109	سوال نمبر 9، 8، 7، 6، 5	نوٹس ، ورک شیٹ	کسی اور شاعر کے کلام سے حمد تلاش کر کے لکھیں (دہرائی کریں)

### ورک شیٹ نمبر 5

س نمبر 1۔ شعر :

دل ناداں تجھے ہوا کیا ہے

آخر اس درد کی دوا کیا ہے

ذیل بند میں قافیہ کی نشاندہی کریں

س نمبر 2۔ شعر

کوئی امیر پر نہیں آئی

کوئی صورت نظر نہیں آتی

نوٹ : ردیف کی تعریف کریں اور ذیل بند میں ردیف کی پہچان کریں

## چھٹا ہفتہ

تاریخ	عنوان	صفحہ نمبر	گھر کا کام	ذرائع	سرگرمی
6 جولائی	برسات کی پہاریں	115-116	بلند خوانی سوال نمبر 1،2،3	کتابی مواد	نظم "برسات" کے موضوع پر طلبہ کے درمیان مضمون نویسی کا مقابلہ
7 جولائی	برسات کی پہاریں	115-116	س نمبر، 5،4،6	نوٹس	
8 جولائی	برسات کی پہاریں	118،117	س نمبر،9،8،7	ورک شیٹ	نظم کی دہرائی کریں

## ورک شیٹ نمبر 6

س نمبر 1- تشبیہ کی تعریف لکھیں

1- اسکے دانت موتیوں کی طرح سفید ہیں -

اس کا دل پتھر کی طرح سخت ہیں -

وہ لومڑی کی طرح چلاک ہیں -

ذیل جملوں میں تشبیہ کی پہچان کریں -

ج

س نمبر 2- نظم کے پیلے بند میں سے قافیہ تلاش کر کے لکھیں -

ج:

## ساتواں ہفتہ

تاریخ	عنوان	صفحہ نمبر	گھر کا کام	ذرائع	سرگرمی
13 جولائی	غزل دل نادان	136	س نمبر 4،3،2،1،	کتابی مواد	اس غزل کو زبانی یاد کریں
14 جولائی	غزل دل نادان	137،136	سوال نمبر،5، 6،7	نوٹس	مرزا اسد اللہ video خان غالب

لنک					
تشریح کریں	کتابی مواد	س نمبر 8،9،	138	غزل دل نادان	جولائی 15

### ورک شیٹ نمبر 7

س نمبر 1- غزل کی تعریف اور کسی بھی غزل کا کوئی بند لکھیں۔

.....:

.....

.....

.....

س نمبر 2-مطع ، مقطع کی تعریف بیان

.....:

.....

.....

.....

## اسلامیات

عمومی ہدایات برائے طلباء و والدین

**CANTT PUBLIC EDUCATION SYSTEM**

1. اسلامیات کی لکھائی خوشخط کریں۔
2. کام نیٹ کاپی پر کریں۔
3. حاشیہ ضرور لگائیں۔
4. عربی الفاظ کے معنی کے لئے تفسیر کا استعمال کریں۔
5. والدین سے درخواست ہیں کہ چھٹیوں کو کارآمد بنانے کے لئے دیا گیا کام اپنی نگرانی میں کروائیں۔ اور جہاں کہیں بھی ضرورت ہو متعلقہ استانی سے رابطہ کریں۔
6. ہمارا بنیادی مقصد یہ ہے کہ آپ کا تعلق اپنی تعلیم سے جڑا رہے۔ اسی مقصد کے تحت آپ کے لئے تخلیقی اور تعلیمی سرگرمیوں سے بھرپور تعطیلات کا کام تیار کیا گیا ہے۔

سلیبس پہلا ہفتہ

عزیز طلبہ اس ہفتے کا کام آپ کو دی گئی ہدایات کے مطابق مکمل کرنا ہے۔

تاریخ	عنوان	صفحہ نمبر	گھر کاکام	ذرائع	سرگرمی
4جون	سبق نمبر 1- سورة انفال آیت 5 تا 10	1،2	الفاظ /معنی	کتاب	معارف القرآن کی تفسیر کروانا
5جون	مشقی سوالات	3	سوال/جواب، عبارت کا مفہوم	ی مواد	
6جون	سبق نمبر 1 کی دہرائی	1 سے لیکر 3 تک	مشقی سوالات یاد کرنا		

ورک شیٹ

مندرجہ ذیل الفاظ کے معنی لکھیں

الفاظ

معنی

کر ہوں۔

2- دابر

-----

3- مردفین

-----

4- وجلت

-----

5- احدی

-----

سوال نمبر- دو گروہوں سے کیا مراد ہے؟

---



---



---



---

سوال نمبر-2- اس سبق میں مومنوں کی کیا صفات بیان کی گئی ہیں؟

---



---



---



---

دوسرا ہفتہ

تاریخ	عنوان	صفحہ نمبر	گھر کا کام	ذرائع	سرگرمی
11 جون	سورۃ انفال - مشقی سوالات 2	4، 6، 5	الفاظ/معانی سوال/جواب، عبارت کا مفہوم	کتابی مواد/ نوٹس	معارف القرآن کی تفسیر کروانا
12 جون	سبق نمبر 2	9-8-7	الفاظ/معنی عبارت کا مفہوم		

		حدیث کا ترجمہ و تشریح	27	پہلی حدیث	13 جون
--	--	-----------------------	----	-----------	--------

ورک شیٹ 2

جماعت ہشتم

سوال نمبر 1- سبق میں غزوہ بدر کے حوالے سے اللہ تعالیٰ نے کن انعامات کا ذکر کیا ہے؟  
جواب۔

---



---



---

سوال نمبر 2- کفار کے ساتھ مقابلے کی صورت میں سورۃ انفال کی ان آیات کریمہ میں کیا ہدایات کی گئی ہیں؟  
جواب۔

---



---



---

سوال نمبر 3- سورۃ انفال کا شان نزول بیان کریں۔  
جواب۔

---



---



---

تیسرا ہفتہ

تاریخ	عنوان	صفحہ نمبر	گھر کا کام	ذرائع	سرگرمی
18 جون	آیت نمبر 20 - 28	10-11	الفاظ/ معنی		
19 جون	حدیث نمبر 2	28	حدیث کا ترجمہ و تشریح	کتابی مواد/ نوٹس	معارف القرآن کی تفسیر کروانا
20 جون	حدیث 3	29	حدیث کا ترجمہ و تشریح		

تیسرا ورک شیٹ۔

الفاظ

معنی

شرر الدواب

2. یخول

3. لا تخونو

4. استجیبو

سوال نمبر 1- سورة انفال میں حیانت سے کیا مراد ہے؟

---



---



---



---

سوال نمبر 2- شرا الدواب سے کیا مراد ہے؟

---



---



---



---

چوتھا ہفتہ



تاریخ	عنوان	صفحہ نمبر	گھر کا کام	ذرائع	سرگرمی
25 جون	آیت نمبر 29 تا 37	صفحہ نمبر 10،11،12	الفاظ/معنی،سوال/جواب عبارت کا مفہوم		
26 جون	قرآن مجید	35،	قرآن مجید کا مختصر تعارف،فضائل قرآن		
27 جون	قرآن مجید	35،،	قرآن مجید کا مختصر تعارف،فضائل قرآن		

ورک شیٹ نمبر 4

سوال نمبر 1- قرآن مجید کا مختصر تعارف بیان کری

---



---



---



---

سوال نمبر 2- فضائل قرآن پر نوٹ لکھیں۔

---



---



---



---

سوال نمبر 3- حدیث کا ترجمہ و تشریح لکھیں۔ من صلی علی مرة فتح الله له بابا من العاقبة۔

---



---



---



---

تاریخ	عنوان	صفحہ نمبر	گھر کا کام	ذرائع	سرگرمی
2 جولائی	قرآن مجید	37	حفاظت قرآن		
3 جولائی	آیت 37 تا 44	16،17	مشقی سوالات		
4 جولائی	آیت نمبر 37 تا 44	16, 17	عبارت کا مفہوم ترجمہ و تشریح		

ورک شیٹ نمبر 5

الفاظ

معانی

فائیتو

.....

2. فتشلو

.....

3. بطرا

.....

4. جار

.....

5. تراء ت

.....

نکص علی عقیبہ

.....

سوال نمبر 1- حفاظت قرآن پر نوٹ لکھیں۔

---



---



---



---

چھٹا ہفتہ

تاریخ	عنوان	صفحہ نمبر	گھر کا کام	ذرائع	سرگرمی
9 جولائی	اللہ اور اس کے رسول کی محبت	68	اللہ اور اس کے رسول کی اطاعت		

		اللہ کی محبت سے کیا مراد ہے؟	70،69،	اللہ اور اس کے رسول کی محبت	10 جولائی
		اسکی اطاعت اور محبت کیوں ضروری ہے	71،72	اللہ اور اس کے رسول کی محبت	11 جولائی

ورک شیٹ

الفاظ

معنی

1. غر

.....

2. عذاب الخریق

.....

3. لم یک مغیرا

.....

4. کذاب

.....

5. تتقفن

.....

6. شرد

.....

7. فائد

.....

سوال نمبر 1۔ اللہ اور اس کے رسول کی محبت کیوں ضروری ہے؟

.....

.....

.....

ساتواں ہفتہ

سرگرمی	ذرائع	گھر کا کام	صفحہ نمبر	عنوان	تاریخ
		دہرائی		آیت 1 تا 44	14 جولائی
		دہرائی		1،2،3 احادیث	15 جولائی

		دہرائی		پہلے 2 سبق کی دہرائی	16 جولائی
--	--	--------	--	-------------------------	-----------

ورک شیٹ نمبر 7

سوال نمبر 1۔ ختم نبوت پر نوٹ لکھیں

---



---



---



---

سوال نمبر 2۔ حدیث کا ترجمہ و تشریح کریں۔

لیس منا من لم یرحم صغیرنا ولم یوقر کبیرنا

---



---



---



---

سوال نمبر 3۔ اللہ کے ساتھ محبت پر نوٹ لکھیں۔

---



---

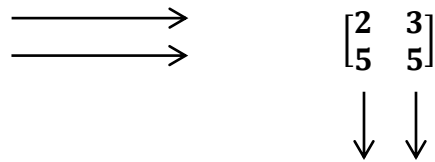
## Mathematics

Week-1

Day-1

A rectangular array or a formation of a collection of real numbers and the enclosed brackets  $\begin{bmatrix} 1 & 2 \\ 3 & 5 \end{bmatrix}$

### Rows and Columns of Matrix



### Order of matrix

The number of rows and columns in a matrix specify its order. Rows are denoted with m and columns denoted by n.

Let Matrix  $\begin{bmatrix} 1 & 2 \\ 3 & 5 \end{bmatrix}$  is named as  $A = \begin{bmatrix} 1 & 2 \\ 3 & 5 \end{bmatrix}$ . Its order is m x n i.e 2x2.

### Equal Matrix

Two matrices are said to be equal when their corresponding entries are equal and their order is also same.

Example:  $A = \begin{bmatrix} 1 & 2 \\ 3 & 5 \end{bmatrix}$   $B = \begin{bmatrix} 1 & 3 - 1 \\ 6 - 3 & 5 \end{bmatrix}$  Thus  $A=B$

Q.1. Find the order of the following matrices.

1.  $A = \begin{bmatrix} 1 \\ 2 \end{bmatrix}$  2.  $B = \begin{bmatrix} 2 & 3 \\ 6 & 7 \end{bmatrix}$   $C = [1 \quad 2]$   $D = \begin{bmatrix} 1 & 2 & 3 \\ 2 & 4 & 5 \\ 4 & 5 & 6 \end{bmatrix}$   $E = [1]$

Q.2 Create 10 more matrices of different orders.

Q.3 Make 5 pairs of equal matrices.

### **Video Lecture Links**

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-1.1&v=m-9-10-matrices1>

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-1.1&v=m-9-10-matrices2>

## Day-2

### 1. Types of matrices

**a. Row Matrix:** A matrix having only one row is row matrix like

$$C = [1 \quad 2]$$

**b. Column Matrix:** A matrix having only one column is column matrix like  $A = \begin{bmatrix} 1 \\ 2 \end{bmatrix}$

**c. Rectangular Matrix:** When number of rows are not equal to number of columns it is called rectangular matrix, like  $C = [1 \quad 2]$

**d. Square Matrix:** A matrix having same number of rows and columns is called square matrix like

$$A = \begin{bmatrix} 1 & 2 \\ 3 & 5 \end{bmatrix} \quad \& \quad D = \begin{bmatrix} 1 & 2 & 3 \\ 2 & 4 & 5 \\ 4 & 5 & 6 \end{bmatrix}$$

e. **NULL or Zero Matrix** When all entries in a matrix are zero it is Null matrix.

$$A = [0] \quad B = \begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix} \quad \& \quad D = \begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$$

**Q.1 Create 3xmatrix of each type having different entries.**

**2. Transpose of Matrix.** Interchanging rows of a matrix into columns is called transpose

$$A = \begin{bmatrix} 1 & 2 \\ 3 & 5 \end{bmatrix} \quad A^t = \begin{bmatrix} 1 & 3 \\ 2 & 5 \end{bmatrix}$$

**Q.2 Make transpose of all matrices that you have made as mentioned in Q1.**

**3. More types of Matrices**

f. **Negative of a Matrix**

$$\text{If } A = \begin{bmatrix} 1 & 2 \\ 3 & 5 \end{bmatrix} \quad \text{the Negative of a will be } (-A) = \begin{bmatrix} -1 & -2 \\ -3 & -5 \end{bmatrix}$$

g. **Symmetric Matrix** If  $A^t = A$  then A is symmetric

h. **Skew symmetric Matrix** If  $A^t = -A$  then A is Skew –Symmetric

i. **Diagonal Matrix** A square matrix is called diagonal if at least anyone of the entries of diagonal is not zero and non-diagonal are zero

$$A = \begin{bmatrix} 1 & 0 \\ 0 & 2 \end{bmatrix}$$

j. **Scalar Matrix** A diagonal matrix is called a scalar matrix , if all the diagonal entries are same and non-zero  $A = \begin{bmatrix} 2 & 0 \\ 0 & 2 \end{bmatrix}$

k. **Identity Matrix** A diagonal matrix is called a identity matrix, if all the diagonal entries 1  $A = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

**Q.1 Create 3 x matrix of each type having different entries except identity matrix.**

**Video Lecture Links**

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-1.2&v=m-9-10-matrices4>

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-1.2&v=m-9-10-matrices5>

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-1.2&v=m-9-10-matrices6>

**Day-3**

**Addition and subtraction of matrices**

Two matrices can be added or subtracted only when they have same order.

$$\text{e.g } A = \begin{bmatrix} 2 & 3 \\ 5 & 6 \end{bmatrix} \& B = \begin{bmatrix} 1 & 2 \\ 3 & 5 \end{bmatrix}$$

$$A + B = \begin{bmatrix} 2+5 & 3+2 \\ 5+3 & 6+5 \end{bmatrix}$$

$$A + B = \begin{bmatrix} 7 & 5 \\ 8 & 11 \end{bmatrix}$$

$$A - B = \begin{bmatrix} 2-5 & 3-2 \\ 5-3 & 6-5 \end{bmatrix}$$

$$A - B = \begin{bmatrix} -3 & 1 \\ 2 & 1 \end{bmatrix}$$

**Q.1 Create 10 pair of matrices( each pair having different order than the others) then add and subtract them.**

### Multiplication of matrices

Two matrices can be multiplied only when number of coulns of 1<sup>st</sup> matrix is equal to number of rows of 2<sup>nd</sup> matrix.

$$\text{e.g } A = \begin{bmatrix} 2 & 3 \\ 5 & 6 \end{bmatrix} \& B = \begin{bmatrix} 1 & 2 \\ 3 & 5 \end{bmatrix}$$

**No of columns in A = 2**

**No . of rows in B = 2**

$$A \times B = \begin{bmatrix} \text{1st row x 1st column} & \text{1st row x 2nd column} \\ \text{2nd row x 1st column} & \text{2nd row x 2nd column} \end{bmatrix}$$

$$A \times B = \begin{bmatrix} 2x1 + 3x3 & 2x2 + 3x5 \\ 5x1 + 6x3 & 5x2 + 6x5 \end{bmatrix}$$

$$A \times B = \begin{bmatrix} 8 & 19 \\ 23 & 40 \end{bmatrix}$$

### **Video Lecture Links**

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-1.4&v=m-9-10-matrices17>

**Q. Make 5x pair of matrices whose multiplication is possible and Prove**

**1. Associative law under multiplication i.e (AB)C = A (BC)**

**2. Distributive laws of Multiplication over addition and subtraction**

**i.e A(B+C) = AB + AC**

### **Video Lecture Links**

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-1.3&v=m-9-10-matrices14>

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-1.3&v=m-9-10-matrices15>

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-1.3&v=m-9-10-matrices16>

## Week-2

### Day-1

#### 1. Determinant of Matrix

If  $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$  then determinant of A will be

$$|A| = \begin{vmatrix} 1 & 2 \\ 3 & 4 \end{vmatrix} = (1 \times 4) - (2 \times 3) = 4 - 6 = -2$$

- If  $|A|$  is not equal to zero then the matrix A is non-singular and its inverse is possible.
- If  $|A|$  is equal to zero then the matrix A is singular and its inverse is not possible

#### 2. Adjoint of Matrix

If  $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$  then adjoint of A will be obtained by interchanging the diagonal entries and changing the sign of other entries.

$$\text{Adj } A = \begin{bmatrix} 4 & -2 \\ -3 & 1 \end{bmatrix}$$

#### 3. Multiplicative Inverse of Matrices

Multiplicative inverse of a Matrix A is  $= \frac{\text{Adj } A}{|A|}$

$$A^{-1} \text{ of above stated matrix is } = \frac{\begin{bmatrix} 4 & -2 \\ -3 & 1 \end{bmatrix}}{-2} = \begin{bmatrix} -2 & 1 \\ -3/2 & 1/2 \end{bmatrix}$$

Find inverse of following matrices where possible.

$$A = \begin{bmatrix} 3 & 6 \\ 2 & 4 \end{bmatrix} \quad B = \begin{bmatrix} -1 & 3 \\ 2 & 0 \end{bmatrix} \quad C = \begin{bmatrix} 3 & 5 \\ 4 & 7 \end{bmatrix} \quad D = \begin{bmatrix} 1 & 2 \\ -3 & 4 \end{bmatrix} \quad E = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$$

$$F = \begin{bmatrix} 4 & 0 \\ -1 & 2 \end{bmatrix} \quad G = \begin{bmatrix} 3 & 1 \\ -2 & 2 \end{bmatrix} \quad H = \begin{bmatrix} 5 & -10 \\ -2 & 4 \end{bmatrix} \quad I = \begin{bmatrix} 4 & 1 \\ 3 & 2 \end{bmatrix} \quad A = \begin{bmatrix} 1 & 2 \\ -3 & -5 \end{bmatrix}$$

**Video Lecture Links:**

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-1.5&v=m-9-10-matrices27>

### Day-2

**Q. Solve these questions**



1. If  $A = \begin{bmatrix} 3 & 6 \\ 2 & 4 \end{bmatrix}$   $B = \begin{bmatrix} -1 & 3 \\ 2 & 0 \end{bmatrix}$   $C = \begin{bmatrix} 3 & 5 \\ 4 & 7 \end{bmatrix}$  then prove  $AB = BA$  and  $A(BC) = (AB)C$

2. If  $A = \begin{bmatrix} 1 & 2 \\ -3 & 4 \end{bmatrix}$   $B = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$   $C = \begin{bmatrix} 4 & 0 \\ -1 & 2 \end{bmatrix}$  then prove that  $(AB)^t = B^t A^t$

3.  $A = \begin{bmatrix} 4 & 1 \\ 3 & 2 \end{bmatrix}$   $B = \begin{bmatrix} 1 & 2 \\ -3 & -5 \end{bmatrix}$  then prove that  $A (\text{Adj } A) = (\text{Adj } A) A = (\det A) \text{ Identity}$

4.  $A = \begin{bmatrix} 3 & 1 \\ -2 & 2 \end{bmatrix}$   $B = \begin{bmatrix} 5 & -10 \\ -2 & 4 \end{bmatrix}$  prove that  $(AB)^{-1} = B^{-1} A^{-1}$

**Video Lecture Links:**

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-1.5&v=m-9-10-matrices13>

### Day-3

1. Solving linear equation with the help of matrices using matrix inversion

Equations are :  $4x - 2y = 8$  ;  $3x + y = -4$

**Solution:**

**Step -1 Forming matrices from equations**

$$\begin{bmatrix} 4 & -2 \\ 3 & 1 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 8 \\ -4 \end{bmatrix}$$

**Step -2 Naming matrices as 1/**

$$\begin{bmatrix} 4 & -2 \\ 3 & 1 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 8 \\ -4 \end{bmatrix}$$

$$A \cdot X = B$$

Step -3

$$X = A^{-1} \cdot B \quad \text{OR}$$

$$X = \frac{\text{Adj } A}{|A|} \cdot B$$

$$\Rightarrow |A| = \begin{vmatrix} 4 & -2 \\ 3 & 1 \end{vmatrix} = (4 \times 1) - (-2 \times 3) = 4 + 6 = 10 \text{ since } |A| \text{ is not equal to zero matrix } A \text{ is}$$

non-singular and  $A^{-1}$  is possible.

$$\text{Adjoint of } A = \begin{bmatrix} 1 & 2 \\ -3 & 4 \end{bmatrix}$$

$$\begin{bmatrix} x \\ y \end{bmatrix} = \frac{1}{10} \times \begin{bmatrix} 1 & 2 \\ -3 & 4 \end{bmatrix} \times \begin{bmatrix} 8 \\ -4 \end{bmatrix}$$

$$\begin{bmatrix} x \\ y \end{bmatrix} = \frac{1}{10} \times \begin{bmatrix} 1x8 + 2x(-4) \\ -3x8 + 4x(-4) \end{bmatrix}$$

$$\begin{bmatrix} x \\ y \end{bmatrix} = \frac{1}{10} \times \begin{bmatrix} 8 - 8 \\ -24 - 16 \end{bmatrix}$$

$$\begin{bmatrix} x \\ y \end{bmatrix} = \frac{1}{10} \times \begin{bmatrix} 0 \\ -40 \end{bmatrix}$$

$$\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 0 \\ 10 \\ -40 \\ 10 \end{bmatrix}$$

$$\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 0 \\ -4 \end{bmatrix}$$

—————→  $x = 0, y = -4$

### Q.1 Now solve these equation as above

$$1. 2x - 2y = 4 \quad ; \quad 3x + 2y = 6$$

$$2. 2x + y = 3 \quad : \quad 6x + 5y = 1$$

$$3. 4x + 2y = 8 \quad : \quad 3x - y = -1$$

### Q.2 Now solve these word problems by using matrix inversion.

- The length of a rectangle is 4 times its width. The perimeter of the rectangle is 150 cm. Find dimensions of the rectangle.
- Two sides of a rectangle differ by 3.5 cm. Find the dimensions of the rectangle if its perimeter is 67 cm.
- Two cars that are 600 km apart are moving towards each other. Their speeds differ by 6 km per hour and the cars are 123 km apart after 4 ½ hours. Find the speed of cars.

#### Video Lecture Links:

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-1.6&v=m-9-10-matrices31>

## Week-3

### Day-1

#### 1. Solving linear equation with the help of matrices using Cramer's Rule

Equation are  $3x - 2y = 1$  ;  $-2x = 3y = 2$

**Step 1 : Make matrices like this**

$$A = \begin{bmatrix} 3 & -2 \\ -2 & 3 \end{bmatrix}, A_x = \begin{bmatrix} 1 & -2 \\ 2 & 3 \end{bmatrix}, A_y = \begin{bmatrix} 3 & 1 \\ -2 & 2 \end{bmatrix}$$

→  $|A| = \begin{vmatrix} 3 & -2 \\ -2 & 3 \end{vmatrix} = (3 \times 3) - (-2 \times -2) = 9 - 4 = 5$  since  $|A|$  is not equal to zero matrix  $A$  is non-

singular and solution is possible.

$$X = \frac{|A_x|}{|A|} = \frac{\begin{vmatrix} 1 & -2 \\ 2 & 3 \end{vmatrix}}{5} = \frac{3+4}{5} = \frac{7}{5}$$

$$Y = \frac{|A_y|}{|A|} = \frac{\begin{vmatrix} 3 & 1 \\ -2 & 2 \end{vmatrix}}{5} = \frac{6+2}{5} = \frac{8}{5}$$

**Q. 1 Now solve these equations with the help of Cramer's rule.**

1.  $3x - 2y = -6$  ;  $5x - 2y = -10$

2.  $3x - 2y = 4$  ;  $-6y + 4y = 7$

3.  $4x + y = 9$  ;  $-3x - y = -5$

**Q. 2 Now solve these word problems with the help of Cramer's rule.**

1. The third angle of an isosceles triangle is  $16^\circ$  less than the sum of the two equal angles.

Find three angles of triangle.

2. One acute angle of a right angle is  $12^\circ$  more than twice the other acute angle .Find the acute angles of right angles.

3. The length of a rectangle is 4 times its width. The perimeter of the rectangle is 150 cm.Find dimensions of the rectangle.

**Video Lecture Links**

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-1.6&v=m-9-10-matrices32>

## Day-2

### Real & Complex Numbers

#### A -Learn these sets first

1. Natural Numbers  $N = \{1, 2, 3, \dots\}$

2. Whole Numbers  $W = \{0, 1, 2, 3, \dots\}$

3. Integers  $Z = \{\dots, -3, -2, -1, 0, 1, 2, 3, \dots\}$

4. Set of Real numbers = Set of rational and irrational numbers

5. Rational numbers  $Q = \{p/q \mid p, q \in Z \text{ and } q \neq 0\}$

6. Irrational numbers  $Q' = \{x/x = p/q, p, q \in Z \text{ and } q \neq 0\}$

#### B- Properties of Real Numbers w.r.t addition

1. Closure Property  $a + b \in R, a, b \in R$

2. Commutative property  $a + b = b + a, a, b \in R$

3. Associative Property  $(a + b) + c = a + (b + c) \quad a, b, c \in R$

4. Additive Identity  $a + 0 = a = 0 + a \quad a \in R$

5. Additive Inverse  $a + (-a) = 0 = (-a) + a$

#### B- Properties of Real Numbers w.r.t Multiplication

1. Closure Property  $ab \in R, a, b \in R$

2. Commutative property  $ab = ba, a, b \in R$

3. Associative Property  $(a b) c = a (bc) \quad a, b, c \in \mathbb{R}$
4. Multiplicative Identity  $a \cdot 1 = a = 1 \cdot a \quad a \in \mathbb{R}$
5. Additive Inverse  $a \times 1/a = 1 = 1/a \times a$
6. Multiplication is distributive over Addition and subtraction  
 $a, b, c \in \mathbb{R}$   
 $a(b+c) = ab + ac$  (left distributive law)  
 $(a+b)c = ac + ab$  (right distributive law)

Q. 1 Prove properties of real numbers w.r.t addition in set of natural numbers.

Q.2 Prove properties of real numbers w.r.t multiplication in set of whole numbers.

**Video Link**

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-2.1&v=m-9-10-real-numbers22>

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-2.1&v=m-9-10-real-no10-prob1>

**Day-3**

**Complex Numbers**

$\sqrt{-1} = i$  where  $i$  is complex number.

**Conjugate of complex number**

The conjugate of a real number  $z = a + 0i$  coincides with the number itself. Conjugate of a real number is the same real number. Like conjugate of  $a + 0i$  is  $a - 0i$

Q.1 Write conjugate of

1.  $2+3i$     2.  $3-5i$     3.  $-i$     4.  $-3+4i$     5.  $-4-i$

Q.2. Write real and imaginary parts of the following numbers.

1.  $1+i$     2.  $-1+2i$     3.  $-3i+2$     4.  $-2-2i$     5.  $-3i$     6.  $2+0i$

Q.3. Create 10 more imaginary numbers a) write their real and imaginary number

b) Write their conjugates also.

**Video Link:**

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-2.5&v=m-9-10-complex-numbers1>

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-2.5&v=m-9-10-complex-numbers2>

**Week-4**

**Day-1**

**Writing Numbers in Scientific or ordinary Notation**

Scientific notation =  $6 \times 10^{-4}$  ordinary notation = 63500000

1. Scientific notation of 30600 =  $3.06 \times 10^4$

2. Scientific notation of 0.000761 is =  $7.61 \times 10^{-4}$

Q. Write numbers in scientific notation.

1. 63500000

2. 23400000

3. 1200000

4. 0.0000074

5. 830000

6. 0.00000000003395

Q. Write numbers in ordinary notation.

1.  $6 \times 10^{-4}$

2.  $5.06 \times 10^{10}$

3.  $9.018 \times 10^{-6}$

4.  $7.865 \times 10^8$

**Video Link:**

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-3.1&v=m-9-10-logarithm1>

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-3.1&v=m-9-10-log1-prob1>

## Day-2

**A- With the help of video link solve these questions.**

Q.1 Find common logarithms of these numbers

a. 232.92

b. 29.326

c. 0.00032

d. 0.3206

Q.2. Find the value of x from the following.

a.  $\log_2 x = 5$

b.  $\log_{81} 9 = x$

c.  $\log_{64} 8 = x/2$

d.  $\log_x 64 = 2$

e.  $\log_3 x = 4$

Q.3 Prove laws of logarithm

1.  $\log_a (mn) = \log_a m + \log_a n$

2.  $\log_a (m/n) = \log_a m - \log_a n$

3.  $\log_a m^n = n \log_a m$

4.  $\log_a n = \log_b n \times \log_a b$

**Video Link:**

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-3.2&v=m-9-10-logarithm7>

## Day-3

**Q. 1 Solve these questions using laws of logarithms**

1.  $\log \sqrt[3]{\frac{7}{15}}$

2.  $\log 22^{1/3} / 5^3$

3.  $\log \frac{25 \times 47}{29}$

4.  $\log \frac{15.2}{30.5}$

Q.2 Express  $\log x - 2\log x + 3 \log (x+1) - \log (x^2 - 1)$  as single log

Q.3 Express these as single log

1.  $\log 25 + \log 5$
2.  $\log 25 - 2 \log 3$
3.  $2 \log x - 3 \log y$
4.  $\log 5 + \log 6 - \log 2$

**Video Link:**

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-3.4&v=m-9-10-logarithm21>

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-3.4&v=m-9-10-logarithm22>

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-3.4&v=m-9-10-logarithm23>

<https://sabaq.pk/video-page.php?sid=federal-math-9th-2013-3.4&v=m-9-10-logarithm24>

## Week-5

### Day-1

Q.1 using log tables find the values of

1.  $0.8176 \times 13.64$
2.  $(789.5)^{1/8}$
3.  $\frac{0.678 \times 9.01}{0.0234}$
4.  $\sqrt[5]{2.097} \times \sqrt[7]{1.239}$

5. If  $A = \pi r^2$ , find A when  $\pi = 22/7$  and  $r = 15$

6. if  $V = 1/3 \pi r^2 h$ , find V, when  $\pi = 22/7$  and  $r = 2.5$  and  $h = 4.2$

**Video Link:** <https://www.youtube.com/watch?v=M83aCcTxyB8>

### Day-2

#### Algebraic Expressions

“Algebraic Expression is an expression which connects variables and constants by algebraic operations of addition, subtraction, multiplication and division is called an algebraic expression.”

#### Components of Algebraic Expression Constant:

A symbol that has a fixed numerical value is called a constant.

For Example:  $3x - 2y + 7$



Constant, 7 is a constant

#### Variables:

A variable is a quantity that may change within the context of a mathematical problem or experiment.

For Example:  $3x - 2y + 7$

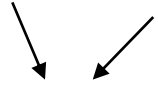
CANTT PUBLIC EDUCATION SYSTEM

variables

### Coefficient:

A coefficient is a number used to multiply a variable. Variables with no number have a coefficient of 1.

For Example:  $3x - 2y + 7$



Coefficient

**Q#1.** Write constants, variables and coefficients used in each expression.

i.  $2x + 4y - 3$       ii.  $3a + b - 2$

iii.  $l^6 + 4m^2 + cn^3$       iv.  $7a + b$

v.  $2x^2 + 8y^3 - 1$       vii.  $l + 8n^3$

### **Video link**

<https://www.youtube.com/watch?v=JVIE4u467fY>

### Day-3

#### **Algebraic Identity:**

An algebraic equation which is true for all values of the variable occurring in the relation is called an algebraic identity.

#### **Binomial:**

A polynomial having two terms is called binomial, i.e.  $7x + a$ ,  $b - 3a$ , etc.

Identity 1:  $(x+a)(x+b) = x^2 + (a+b)x + ab$

Proof:      L.H.S =  $(x+a)(x+b)$   
 $= x(x+a) + a(x+b)$   
 $= x^2 + xb + ax + ab$   
 $= x^2 + (a+b)x + ab = \text{R.H.S}$

Thus **L.H.S = R.H.S**

Q1. Simplify the following binomial by using the identity

i.  $(x + 1)(x + 2)$

ii.  $(4x + 5)(4x + 3)$

iii.  $(b + 6)(b - 9)$

iv.  $(2x + 3)(2x - 7)$

v.  $(8a + 7)(8a - 3)$

vi.  $(3b - 1)(3b - 7)$

vii.  $(5y - 2)(5y + 6)$

viii.  $(4x + 5)(4x + 3)$

<https://youtu.be/2XK7LXK90Gs>

Identity 1:  $(a + b)^2 = a^2 + 2ab + b^2$

L.H.S =  $(a + b)^2$

=  $(a + b)(a + b)$

=  $a(a + b) + b(a + b)$

=  $a^2 + ab + ba + b^2$

=  $a^2 + 2ab + b^2$  Thus L.H.S = R.H.S

Identity 2:  $(a - b)^2 = a^2 - 2ab + b^2$

L.H.s =  $(a - b)^2$

=  $(a - b)(a - b)$

=  $a(a - b) - b(a - b)$

=  $a^2 - ab - ba - b^2$

=  $a^2 - 2ab - b^2$  Thus L.H.S = R.H.S

1. By using identity, find the square of the following binomials.

i.  $x + y$

ii.  $3a + 4$

iii.  $a + 2b$

iv.  $2x - 3y$

v.  $4x + 5y$

vi.  $7a - 8b$

viii.  $3x + 3y$

ix.  $4a - 7b$

x.  $9x + 6y$

**Video link** <https://youtu.be/2XK7LXK90Gs>

**Week- 6**

**Day - 1**



**Factorization of algebraic expression:** The process of writing an algebraic expression as the product of two or more expression which divide it exactly is called the factorization.

i.  $5x^2y - 10xy^2$

ii.  $4a^2 - 25$

iii.  $x^2 + 8x + 16$

iv.  $a^2x^2 + 2abcx + b^2c^2$

v.  $lx - my + mx - ly$

vi.  $x^2 - x - 20 = 0$

vii.  $7x^2 + 2x - 1$

viii.  $2x^4 - 11x^2 + 5 = 0$

ix.  $x^4 - 13x^2 + 36 = 0$

**Video link**

<https://youtu.be/qsQM-zLTqRs>

<https://youtu.be/NGCiB854MQw>

## Day – 2

### Mental Maths

1. If  $x + y = 3$ , then  $2x + 2y =$  \_\_\_\_\_
2. What percent of 6 is 3 \_\_\_\_\_
3. Calculate 7% of 5 \_\_\_\_\_
4. If  $a = 3$ ,  $b = 2$ ,  $c = 3$ , then  $3a + 9b - 6c =$  \_\_\_\_\_
5. When two negative integers are added, we get a \_\_\_\_\_ integer.
6. Find  $-5 + 10 - (+5) + 20 =$  \_\_\_\_\_
7.  $0 +$  \_\_\_\_\_  $= -7$
8. 1 eighteen times = \_\_\_\_\_
9.  $8 \times 36 \times 5 =$  \_\_\_\_\_
10. Which temperature is higher:  $-5^\circ\text{C}$  or  $-9^\circ\text{C} =$  \_\_\_\_\_

## Day – 3

### Mental Maths

1. Find  $\frac{1}{5}$  of 20? \_\_\_\_\_

2. Find the quotient of  $0.126 \div 6 =$  \_\_\_\_\_
3. Find the mean of first 10 natural numbers \_\_\_\_\_
4.  $100 + (-20) =$  \_\_\_\_\_
5. The average marks scored by a student in 5 five subject is 72. Find his total marks?
6. Write the formula for finding the mean of n observations.
7. The sum of x and 5 is 7 = \_\_\_\_\_
8. Twice p divided by 4 gives 6 = \_\_\_\_\_
9. The sum of three consecutive numbers is 159. Find the number?
10. Check whether  $p = -3$  is a solution to the equation  $\frac{p-4}{7} = p + 4$

## Week 7

### Day – 1

1. By which number should we multiply – 8 to get – 32 \_\_\_\_\_
2. 3 positive integers and 8 negative integers multiplied together. What will be the sign of product?
3. Find the median of first 9 natural numbers \_\_\_\_\_
4. Express 8 cm into kilometer \_\_\_\_\_
5. Two angles are called supplementary angles if the sum of their measures is \_\_\_\_\_
6. If the sum of the measures of two angles is  $90^\circ$ , then the angles are called \_\_\_\_\_
7. Find the measure of the third angle of the triangle two of whose angles are :
  - i.  $40^\circ, 72^\circ$
  - ii.  $105^\circ, 24^\circ$
  - iii.  $69^\circ, 38^\circ$
8. Two angles are congruent if they have the same \_\_\_\_\_ and \_\_\_\_\_
9. What percent is 25 of 500 \_\_\_\_\_
10. In a school with 1200 children, 60% are girls,
  - i) The number of girls = \_\_\_\_\_
  - ii) The number of boys = \_\_\_\_\_

### Day – 2

1. Find the ratio of 4 km to 60 m = \_\_\_\_\_
2. Express 1 : 4 as a percent = \_\_\_\_\_

3. Find the value of 100% of 1 – 1 % of 100 = \_\_\_\_\_
4. 50% of which number is 150 ? = \_\_\_\_\_
5. 0 lies to the \_\_\_\_\_ of  $\frac{4}{7}$  on the number line.
6. How many rational numbers are there between – 2 and 5 ? \_\_\_\_\_
7. Simplify :  $\frac{-7}{15} + \frac{1}{-30} =$  \_\_\_\_\_
8. Write the rational number which is its own additive inverse \_\_\_\_\_
9. Write the additive inverse of  $\frac{5}{-7} =$  \_\_\_\_\_
10. Construct a triangle in which AB = 4.6 cm , BC = 6 cm and AC = 5.5 m

**Day – 3**

1. Reduce  $\frac{52}{-68}$  to reduce form \_\_\_\_\_
2. Perimeter of square \_\_\_\_\_
3. Find the perimeter of square whose side is 10 cm.
4. If  $A = 5x - 2y + 4$ ,  $B = -4x + 6y - 1$  and  $C = 11y - 10$ , find  $A+B - C$
5. 4 added to twice of number  $x =$  \_\_\_\_\_
6. The coefficient of  $y$  in  $-2xy =$  \_\_\_\_\_
7.  $6^2$ , Base = \_\_\_\_\_, Exponent = \_\_\_\_\_
8. If  $\triangle ABC = \triangle DEF$  then,  
 $AB =$  \_\_\_\_\_,  $BC =$  \_\_\_\_\_,  $AC =$  \_\_\_\_\_,
9. Simplify:  $\frac{-8}{11} + \frac{44}{33} =$  \_\_\_\_\_
10. Find the perimeter of rectangle with length = 5 cm and breadth = 4 cm.

**English**

Week	Day	Unit	Tasks
	1	Unit 1: The Savior of Mankind <b>Grammar and composition work</b>	Watch Video: <a href="https://www.youtube.com/watch?v=JH9ZSHiLKcw">https://www.youtube.com/watch?v=JH9ZSHiLKcw</a>

1		Kinds of Noun	Worksheet (kinds of Noun)
	2	<b>Unit 1: The Savoir of Mankind</b> Grammar and composition work Kinds of Pronoun	Watch Video: <a href="https://www.youtube.com/watch?v=4vOIM9iTau">https://www.youtube.com/watch?v=4vOIM9iTau</a> Worksheet (Pronouns)
	3	<b>Unit 1: The Savoir of Mankind</b> Grammar and composition work Kinds of Verb	Watch video <a href="https://www.youtube.com/watch?v=LciKb0uuFEc">https://www.youtube.com/watch?v=LciKb0uuFEc</a>
2	1	<b>Unit 2: Patriotism</b> Grammar and composition work Kinds of Adjective	Watch video: <a href="https://www.youtube.com/watch?v=mti_jOVMEgg">https://www.youtube.com/watch?v=mti_jOVMEgg</a> Worksheet (Adjective)
	2	<b>Unit 2 : Patriotism</b> Grammar and composition work Present Indefinite Tense Present Continuous Tense	Watch Video: <a href="https://www.youtube.com/watch?v=3lI3R9_Z1HY">https://www.youtube.com/watch?v=3lI3R9_Z1HY</a>
	3	<b>Unit 2: Patriotism</b> Punctuation:	Watch video: <a href="https://www.youtube.com/watch?v=RPL8iij1X2A">https://www.youtube.com/watch?v=RPL8iij1X2A</a>
3	1	<b>Unit 3: Media and its Impact</b> Grammar and composition work •Present Indefinite Tense •Present Continuous Tense	Watch Video: <a href="https://www.youtube.com/watch?v=H3Aspcj40m0">https://www.youtube.com/watch?v=H3Aspcj40m0</a>
	2	<b>Unit 3: Media and its Impact</b> Grammar and composition work •Present Indefinite Tense •Present Continuous Tense	Watch video : <a href="https://www.youtube.com/watch?v=8X3xOPTgYDshhttps://www.youtube.com/watch?v=oBbJNijSYBo&amp;feature=youtu.be">https://www.youtube.com/watch?v=8X3xOPTgYDshhttps://www.youtube.com/watch?v=oBbJNijSYBo&amp;feature=youtu.be</a>
	3	<b>Unit 3: Media and its Impact</b> Grammar and composition work Voice: Present Indefinite Tense	Watch video: <a href="https://www.youtube.com/watch?v=14Pa9TBSgL4">https://www.youtube.com/watch?v=14Pa9TBSgL4</a>
4	1	<b>Unit 5: Daffodils (poem)</b> Grammar and composition work Voice: Present Continuous Tense	Watch video <a href="https://www.youtube.com/watch?v=dUI0VDdt3IQ">https://www.youtube.com/watch?v=dUI0VDdt3IQ</a>
	2	<b>Unit 5: Daffodils (poem)</b> Figures of Speech	Watch video <a href="https://www.youtube.com/watch?v=erT5bXhx25Q">https://www.youtube.com/watch?v=erT5bXhx25Q</a>
	3	Grammar and composition work Creative writing	Watch video: <a href="https://www.youtube.com/watch?v=-Tip9S5WZf4">https://www.youtube.com/watch?v=-Tip9S5WZf4</a>
5	1	Grammar and composition Work : Letter Writing ( Formal and Informal Letters )	Watch video : <a href="https://www.youtube.com/watch?v=m6TuXixyg9E">https://www.youtube.com/watch?v=m6TuXixyg9E</a>
	2	Translation : Past Indefinite Tense	Watch video : <a href="https://www.youtube.com/watch?v=kHJVt-jCfvg&amp;t=39s">https://www.youtube.com/watch?v=kHJVt-jCfvg&amp;t=39s</a>
	3	Translation : Past Indefinite Tense	Watch video: <a href="https://www.youtube.com/watch?v=kHJVt-jCfvg&amp;t=39s">https://www.youtube.com/watch?v=kHJVt-jCfvg&amp;t=39s</a>
6	1	Grammar and composition Work : Dialogue Writing	Watch video : <a href="https://www.youtube.com/watch?v=b9Fsjc24t0o&amp;t=219s">https://www.youtube.com/watch?v=b9Fsjc24t0o&amp;t=219s</a>
	2	Translation: Past Continuous Tense	Watch video : <a href="https://www.youtube.com/watch?v=Lm7BJV3sizM">https://www.youtube.com/watch?v=Lm7BJV3sizM</a>

	3	<b>Translation: Past Continuous Tense</b>	Watch video : <a href="https://www.youtube.com/watch?v=Lm7BJV3sizM">https://www.youtube.com/watch?v=Lm7BJV3sizM</a>
7	1	<b>Grammar and Composition work : Paragraph Writing</b>	Watch video <a href="https://www.youtube.com/watch?v=L1J9ZPVydrC">https://www.youtube.com/watch?v=L1J9ZPVydrC</a>
	2	<b>Voices : Past Indefinite Tense</b>	Watch video : <a href="https://www.youtube.com/watch?v=3BmHV9gsfUc">https://www.youtube.com/watch?v=3BmHV9gsfUc</a> Worksheet
	3	<b>Voices : Past Continuous Tense</b>	Watch video : <a href="https://www.youtube.com/watch?v=N7dWJScfWJ0">https://www.youtube.com/watch?v=N7dWJScfWJ0</a> Worksheet

**Objectives: The students will be able to:**

1. Learn the reading skills of skimming, scanning and summarizing.
2. identify the meanings of words in the context
3. Illustrate the rules of different grammatical concepts.
4. Construct the meaning of the different topics through understanding the key theme.
5. Utilize appropriate informational sources like encyclopedias and internet.

**Week 1: Day 1**

- Do a thorough reading of unit 1 and use words given in glossary in your own sentences.
- Find and write the following parts of speech from the text: Noun, Pronoun, Verb, Adverb (5 Examples).
- Grammar and composition work : Kinds of noun

<https://www.youtube.com/watch?v=JH9ZSHiLKcw>

Part of Speech	Kinds of Noun	Examples
Noun	<ul style="list-style-type: none"> <li>• Common Noun</li> <li>• Proper Noun</li> <li>• Collective Noun</li> <li>• Material Noun</li> <li>• Abstract Noun</li> </ul>	<ul style="list-style-type: none"> <li>. chair, table, baby etc.</li> <li>. Islamabad, Quaid-e-Azam, Mount Everest etc.</li> <li>. Army, family, class etc.</li> <li>. gold, plastic, wood etc.</li> <li>. bravery, kindness, justice etc.</li> </ul>

**Worksheet:** Q: Now find out above mentioned kinds of nouns in the following sentences.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Nouns Worksheet (Circling Part 1)

A noun is a word that names a person, place, thing or idea.

Directions: Circle the noun or nouns in each sentence given below.

*Example A- We rented a cabin to stay ~~the~~ night.*

*Answer- we, cabin, night*

1. My alarm went off loudly in the morning.
2. I love the month of April because the flowers bloom.
3. My body ached after I played three hours of basketball.
4. We saw a deer run across the road!
5. The forest had many beautiful trees and animals.
6. We saluted the flag every morning in class.
7. My parents went to vacation on an island.
8. Next month will be my birthday.
9. I opened my mail when I got home from school.
10. The package at the door was heavy.
11. My friends and I went swimming in the stream.
12. We bought a turkey for Thanksgiving.
13. The earth has always been round.

### Week 1: Day 2

Q1. Read unit # 1 and answer the questions given in exercise .

Grammar and composition work : kinds of pronoun

<https://www.youtube.com/watch?v=4vOIM9iTaU>

Part of Speech	Kinds of Pronoun	Example words
Pronoun	. Personal . Relative . Reflexive . Demonstrative	. I, we, you, they, he, she, it etc. . Whom, which, whose etc. . Myself, yourself, ourselves etc. . this, that, these, those etc.

**Worksheet:**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Pronouns Worksheet (Circling Part 1)**

A pronoun is a word that may take the place of one or more nouns.

Directions: Circle the pronoun that best completes each sentence.

*Example A- (We/Us) are going the supermarket this weekend.  
Answer- We*

- (I / Us) think that you are one of the brightest students in the class.
- (We / Us) are going to the football game this weekend.
- I can tell that (him / you) really enjoyed the movie.
- (That / It) is one of the best movies I have seen all year.
- (He / They) is a very bright young man.
- I can tell (her / she) really tried hard to perform well.
- (They / Them) are going to the movies after school today.
- Can you give the gift to (it / him) once you get to his party?
- Tell (her / she) that she did a fabulous job.
- (We / I) am one of the hardest working players on the team.
- Make sure to tell (us / we) the score as soon as you can.
- (You / Him) are a very fast runner!
- I can tell (it / that) was a very difficult decision to make.
- Are you sure that (he / they) turned in his homework?
- Please remind (her / she) the importance of being on time.
- Please ask (they / them) if they are available for Monday.

**Week 1: Day 3**

<https://www.youtube.com/watch?v=LciKb0uuFEc>

**Punctuate the following lines.**

- it was in this land that the rasool s a w w was born in the city of makkah which is about fifty miles from the red sea

2. read in the name of thy lord who created created man from a clot of congealed blood read and thy lord is most bountiful who taught the use of the pen taught man which

Part of Speech	Kinds of Verb	Example words
Verb	. Regular Verb . Irregular Verb . Transitive Verb . Intransitive Verb	. decide, suggest, work etc. . eat, go, do etc. . read, speak, like etc. . happened, slept, died etc.

### Transitive and Intransitive Verbs

Write a "T" or "I" for transitive and intransitive verbs.

1. When he arrived, nobody was there to greet him. (\_\_\_)
2. I bought a bicycle so I can go to school faster. (\_\_\_)
3. The boy laughed so much that milk came out of his nose. (\_\_\_)
4. He reads books to help him fall asleep. (\_\_\_)
5. Jim is sleeping so don't be so loud. (\_\_\_)
6. When I lie down, I like to sleep on my back. (\_\_\_)
7. In order to catch up in class, she wrote an essay. (\_\_\_)
8. The man sneezed so hard that he fell from his chair. (\_\_\_)
9. She sat down patiently waiting for her homework. (\_\_\_)
10. For about an hour, they passed the ball back and forth. (\_\_\_)
11. The family turned off the light and went to sleep. (\_\_\_)
12. We moved the tables next to each other. (\_\_\_)
13. He puts on his winter boots because it's so cold outside. (\_\_\_)
14. They waited but nobody helped them find their room. (\_\_\_)
15. The train stopped abruptly. (\_\_\_)

### Week 2: Day 1

- Do a thorough reading of unit and use words given in glossary in your own sentences.
- Find and write the following parts of speech from the text: Noun, Verb, Adverb, Preposition(5 Examples).

Grammar and composition work : kinds of Adjective

[https://www.youtube.com/watch?v=mti\\_jOVMEgg](https://www.youtube.com/watch?v=mti_jOVMEgg)



Part of Speech	Kinds of Adjective	Example words
Adjective	. Quality . Quantity . indefinite . Definite	. large, foolish, good etc . much, little, few etc. . few, many, all etc. . exact numbering(1, 2, 3)

**Worksheet:****Q: Circle all the adjectives given in these sentences and write their kinds.**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Circling Adjectives Worksheet (Part 1)**

An adjective is a word that describes a noun or pronoun.

**Directions:** Circle each adjective or adjectives in the sentences given below.  
Draw a line under the noun it describes.

*Example A: The test was challenging.*

*Answer: The test was challenging.*

1. The food tasted bitter.
2. I was ashamed that I didn't pass the difficult test.
3. The story was brief.
4. I felt comfortable in my new home.
5. The man was very creepy and scary on Halloween.
6. My dad was courageous when he picked up the skunk.
7. My friend is anxious for his birthday.
8. It was a breezy day.
9. I am eager to start my test.
10. My brother was excited for his basketball game.
11. I learned a lot about the blue ocean.
12. That tree is now green because I watered it daily.
13. My son is helpful.
14. There are five players on the court.

**Week 2: Day 2**

[https://www.youtube.com/watch?v=3II3R9\\_Z1HY](https://www.youtube.com/watch?v=3II3R9_Z1HY)

**Write 5 questions (other than exercise and side-box questions) and answer them.**

**Grammar: Translation: Present Indefinite Tense and Present Continuous Tense.**

**Definition:** The present indefinite tense, also known as simple present tense, denotes a stative or habitual or

eternally true action.

**Definition:** The Present Continuous Tense describes an action that is taking place at the time of speaking.

Tense	Sentence Structure(Affirmative sentences )
.Present Indefinite Tense	Subject(I/We/You/They)+Verb(1 <sup>st</sup> form)+ Object. Subject(He/She/It/Name)+ Verb(1 <sup>st</sup> form+s/es) + object.
.Present Continuous Tense	Subject+ Helping Verb(is/am/are)+Verb(1 <sup>st</sup> form+ ing) + Object.

Watch this video and learn the tense.<https://www.youtube.com/watch?v=8X3xOPTgYDs>

**Activity:** Write Urdu sentences of above given tenses and translate them in English by applying their relevant rules.( 5 sentences of each Tense)

### Week 2: Day 3

Q1. Read unit # 2 carefully , find and write 8 to 10 fill in the blanks from the text.

**Punctuation :** <https://www.youtube.com/watch?v=RPL8ijj1X2A>

Q2. Punctuate the following lines

the word patriot comes from the latin word patriota which means countryman

patriotism therefore is not just a feeling it is a live spirit that continuously inspires and guides a nation \_\_\_\_\_

### Week 3: Day 1

- Do a thorough reading of unit # 3 and write its theme in your own words .
- Sort out the following kinds of sentences from the text: Assertive, Negative, Exclamatory, interrogative ( 2 examples of each kind).

**Grammar and composition work :** Translation present indefinite tense

<https://www.youtube.com/watch?v=RPL8ijj1X2A>

Tense	Sentence Structure (Negative Sentences)
Present Indefinite Tense	Subject+Helping Verb (do/does) not+ Verb(1 <sup>st</sup> form) + Object.
Present continuous Tense	Subject+Helping verb (is/am/are) not+ Verb(1 <sup>st</sup> form+ ing)+ Object.

**Activity:** Write Urdu sentences of above given tenses and translate them in English by applying their relevant rules.( 5 sentences of each Tense)

### Week 3: Day 2

<https://www.youtube.com/watch?v=8X3xOPTgYDs><https://www.youtube.com/watch?v=oBbJNijSYBo&feature=youtu.be>

Write 5 questions (other than exercise and side-box questions) and answer them.

Tenses	Sentence Structure: Interrogative Sentences
--------	---

Present Indefinite Tense	Do/Does + Subject + Verb(1 <sup>st</sup> form)+ Object?
Present Continuous Tense	Is/Am/Are + Subject+ Verb(1 <sup>st</sup> form+ ing) + Object?

**Activity: Write Urdu sentences of above given tenses and translate them in English by applying their relevant rules.( 5 sentences of each Tense)**

### Week 3: Day 3

- Read Unit # 3 carefully and write 8 to 10 fill in the blanks from the text.
- Punctuate the following lines.
- 1. it raises awareness about many social issues like corruption terrorism drug addiction and violation of human rights

- 2. ok as we have decided earlier the topic for todays discussion is role of media and its impact

#### **Grammar and composition work : Voices Present Indefinite Tense**

<https://www.youtube.com/watch?v=14Pa9TBSgL4>

Voice is that form of a verb which shows whether the subject does something or has something done to it. There are two voices in the English language.

**Active voice:** a verb is in the action voice when its subject does something.

**Passive Voice:** a verb is in passive voice when something is done to its subject.

#### **Rules and Changes:**

1. The SUBJECT becomes OBJECT and the OBJECT becomes SUBJECT.
2. The main verb is changed into 3rd form(past Participle) and is preceded by some form of the verb 'be'(is/am/are).
3. The preposition 'by ' is placed before the object.

#### **Worksheet:**

**Q: Change the Voice.**

1. She violates the rules.	
2. I call him for help.	
3. You do not cheat me.	
4. Do they purchase a new house?	
5. Does he disobey his parents?	
6. Who knocks at the door?	
7. The peon does not ring the bell.	
8. How does he solve the sums?	

### Week 4: Day 1

- Do a thorough reading of the poem and write its theme based on your own understanding.
- Why do we call William Wordsworth "a true worshipper of Nature" . Write at least his four quotes regarding "beauty of Nature".

**Grammar and composition work : Voices Present Continuous Tense**

<https://www.youtube.com/watch?v=dUI0VDdt3IQ>

- Rules and changes:** 1.The SUBJECT becomes OBJECT and the OBJECT becomes SUBJECT.  
 2.The main verb is changed into 3rd form(past Participle) and is preceded by same third form of the verb 'be'(is being/ am being/ are being).  
 3.The preposition 'by ' is placed before the object.

**Worksheet:**

1.	The hen is laying eggs.	
2.	The fishermen are catching fish.	
3.	We are printing a new book.	
4.	I am making the map of Pakistan .	
5.	My friends are not encouraging me.	
6.	Is the rich man giving alms?	
7.	Who is ringing the bell?	
8.	Are the players playing the match?	

**Week 4: Day 2**

- Do a thorough reading of the poem Daffodils and paraphrase its first two stanzas.

**Figures of Speech:Figures of Speech:**

<https://www.youtube.com/watch?v=erT5bXhx25Q>

- 1.Simile :**A simile is a figure of speech that directly compares two things that must use "like" and "as". For example: **as brave as a lion.**
- 2.Metaphor :** a figure of speech in which an implicit comparison is presented between two things.  
 For example **Her tears were a river flowing down her cheeks. A lion's heart etc**
- 3.Personification:** a figure intended to represent an abstract quality. For example  
 i.beauty's feet,  
 ii. the little waves, with their soft white hands.

**Activity:** Find out examples of the above given figures of speech from this poem and write them In your notebook.

**Week 4: Day 3****Grammar and composition work : Creative writing**

<https://www.youtube.com/watch?v=-Tip9S5WZf4>

Enhance your grammatical skills and write a paragraph on the following topic .

**CANTT PUBLIC EDUCATION SYSTEM**

“Uses and Abuses of Internet/ Mobile phone” (write at least 3 relevant quotes)

### Week 5 : Day 1

Grammar and composition work :

Letter Writing : ( Formal And Informal Letter Writing )

<https://www.youtube.com/watch?v=m6TuXixyg9E>

#### Activity

Write a letter to your friend and advise him / her to focus his / her attention towards his / her studies in this current scenario .

### Week 5 : Day 2

Grammar and composition work : Translation Past Indefinite Tense

<https://www.youtube.com/watch?v=kHJvT-jCfvg&t=39s>

Introduction : The Past Indefinite tense is used to indicate a single act or action in the past .

Tense	Sentence Structure(Affirmative and Negative sentences )
Past Indefinite Tense	<b>Affirmative sentences</b> : Subject +Verb(2 <sup>nd</sup> form)+ Object. <b>Negative sentences</b> : Subject + did not+ Verb (1 <sup>st</sup> form) + object.

Activity: Write Urdu sentences of above given tense and translate them in

English by applying their relevant rules.( 10 Affirmative sentences and 10 Negative sentences )

### Week 5 : Day 3

Grammar and composition work : Translation Past Indefinite Tense

<https://www.youtube.com/watch?v=kHJvT-jCfvg&t=39s>

Introduction : The Past Indefinite tense is used to indicate a single act or action in the past .

Tense	Sentence Structure( Interrogative sentences )
Past Indefinite Tense	<b>Interrogative sentences</b> : Did + Subject +Verb( 1 <sup>st</sup> form)+ Object?

Activity: Write Urdu sentences of above given tense and translate them in

English by applying their relevant rules.( 10 Interrogative sentences )

### Week 6: Day 1

Grammar and composition Work : Dialogue Writing

<https://www.youtube.com/watch?v=b9Fsjc24t0o&t=219s>

Q 1. How do dialogue writing improve our creative and grammatical skills ?

Q2. Write a dialogue between two friends about the importance of time ?

### Week 6: Day 2

**Grammar and composition work : Translation Past Continuous Tense**

<https://www.youtube.com/watch?v=Lm7BJV3sizM>

**Introduction :** The Past Continuous Tense represents an action which was going on at some point in the past tense .

Tense	Sentence Structure(Affirmative and Negative sentences )
Past Continuous Tense	<p><b>Affirmative sentences :</b> Subject+ Helping Verb (was / were )+Verb (1<sup>st</sup> form+ ing) + Object.</p> <p><b>Negative sentences :</b> Subject+ Helping Verb (was / were )+ not + Verb (1<sup>st</sup> form+ ing) + Object.</p>

**Activity:** Write Urdu sentences of above given tense and translate them in English by applying their relevant rules.( 10 Affirmative sentences and 10 Negative sentences )

### Week 6: Day 3

**Grammar and composition work : Translation Past Continuous Tense**

<https://www.youtube.com/watch?v=Lm7BJV3sizM>

**Introduction :** The Past Continuous Tense represents an action which was going on at some point in the past tense .

Tense	Sentence Structure( Interrogative sentences )
Past continuous Tense	<p><b>Interrogative sentences :</b> Helping Verb (Was / Were )+ subject + (1<sup>st</sup> form+ ing) + Object?</p>

**Activity:** Write Urdu sentences of above given tense and translate them in English by applying their relevant rules.( 10 Interrogative sentences )

### Week 7 : Day 1

**Grammar and composition work: Paragraph Writing**

<https://www.youtube.com/watch?v=L1J9ZPVydrC>

Enhance your writing skill .

Q1:Write a paragraph on the topic “ Hazrat Muhammad ( S.A.W.W) as an Embodiment of perfection .

### Week 7 : Day 2

**Grammar and composition work : Voices Past Indefinite Tense**

<https://www.youtube.com/watch?v=3BmHV9gsfUc>

Voice is that form of a verb which shows whether the subject does something or has something done to it. There are two voices in the English language.

**Active voice:** a verb is in the action voice when its subject does something.

**Passive Voice:** a verb is in passive voice when something is done to its subject.

**Rules and Changes:**

1. The SUBJECT becomes OBJECT and the OBJECT becomes SUBJECT.
2. The main verb is changed into 3rd form (Past Participle) and is preceded by same form of the verb
3. The preposition 'by' is placed before the object.
4. Affirmative sentences : Object + Was / Were + 3<sup>rd</sup> form of verb + by + Subject.
- 5 . Negative sentences : Object + Was / were + not + 3<sup>rd</sup> form of verb + by + Subject.
6. Interrogative sentences: Was / were + Object + 3<sup>rd</sup> form of verb + by + Subject?

**Worksheet:**

**Q: Change the Voice.**

1. The passengers packed their luggage .	
2. He forgave his enemy .	
3. He took a loan from bank .	
4. You plucked a flower .	
5. She did not accuse me .	
6. I did not obey him .	
7. The peon did not ring a bell .	
8. He did not disobey his parents .	
9. Did she follow the rules ?	
10. Did he buy a new book ?	
11. How did he solve the sum ?	
12. Where did you put my book ?	

**Week 7 : Day 3**

**Grammar and composition work : Voices Past Continuous Tense**

<https://www.youtube.com/watch?v=N7dWJScfWJO>

Voice is that form of a verb which shows whether the subject does something or has something done to it.

There are two voices in the English language.

**Active voice:** a verb is in the action voice when its subject does something.

**Passive Voice:** a verb is in passive voice when something is done to its subject.

**Rules and Changes:**

1. The SUBJECT becomes OBJECT and the OBJECT becomes SUBJECT.
2. The main verb is changed into 3rd form (Past Participle) and is preceded by same form of the verb (Was / Were).
3. The preposition 'by' is placed before the object.
4. Affirmative sentences : Object + Was / Were+ being + 3<sup>rd</sup> form of verb + by + Subject.
- 5 . Negative sentences : Object + Was / were + not + being + 3<sup>rd</sup> form of verb + by + Subject.
6. Interrogative sentences: Was / were + Object + being + 3<sup>rd</sup> form of verb + by + Subject?

**Worksheet:****Q: Change the Voice.**

1. The boys were throwing stones .	
2. Aslam was playing cricket .	
3. The farmer was ploughing the field .	
4. The students were rowing a boat .	
5. He was not beaten his brother .	
6. She was not making lame excuses.	
7. The servant was not performing his duty.	
8. The labors were not building a wall .	
9. Was he plucking the flowers ?	
10. Were you combing your hair ?	
11. Why were they cheating him ?	
12. Who was knocking at the door ?	