

Academic Solutions &
Assessment Network

GRADE-8

ASAN

CADET & RESIDENTIAL COLLEGES

ADMISSION GUIDE

(For Admission in Class 8th)

- Cadet College Hasan Abdal
 - Cadet College Kohat
 - Military College Jhelum/Murree/Sui
 - PAF College Sargodha/Lower Topa
 - Garrison Cadet College Kohat
 - Cadet College Petaro, Palandri, Batrasi
 - Cadet College Kalar Kahar/Swat
 - WAPDA Cadet College Tarbela
 - Pakistan Steel Cadet College, Karachi
- & All other Cadet Colleges
Class 8th Seekers

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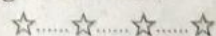
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Dear Students:-

Topics of some important Essays are given below, that may be included in the entry tests of different institute/cadet colleges, you can read these essays in Asan Cadet Colleges Hasan Abdal Admission Guide.

- 1- Quaid-e-Azam
- 2- Quaid's Efforts for Creation of Pakistan
- 3- Allama Muhammad Iqbal
- 4- Unity, Faith, Discipline
- 5- Future of Pakistani Youth
- 6- The Ideology of Pakistan
- 7- Defence of Our Country
- 8- Scientific And Atomic Advancement in Pakistan
- 9- Why I Love Pakistan
- 10- Science and its Uses
- 11- Problems Facing Pakistan
- 12- Democracy
- 13- Importance of Media
- 14- My Ideal of a Happy Life
- 15- Benefits of Games
- 16- Life Today is Better Than in The Past
- 17- Computer
- 18- Good Education-Its Aims & Objectives
- 19- SAARC
- 20- United Nations Organisations
- 21- Honesty is the Best Policy
- 22- Necessity is the Mother of Invention
- 23- The Pen is Mightier than the Sword
- 24- Knowledge is Power
- 25- Slow and Steady Wins the Race

- 26- Prevention is Better than Cure
- 27- Covid-19 and Its Effects
- 28- Knowledge is Power
- 29- CPEC-China-Pakistan Economic Corridor
- 30- Importance of Art in Human Life
- 31- Female Education
- 32- Moral Values
- 33- The Cause of Terrorism
- 34- Energy Crisis
- 35- Human Rights Abuse
- 36- Science & the Modern Civilization
- 37- Dignity of Labour
- 38- Kashmir Issue
- 39- Future of Mankind
- 40- Education & the Training of Character
- 41- Horrors of War
- 42- Nationalism/Patriotism
- 43- Advantages of Democracy
- 44- Human Rights
- 45- Inflation - Rising Prices
- 46- Role of Laptop in Education
- 47- National Unity
- 48- Childhood Pleasures
- 49- Water crisis in Pakistan
- 50- Peace - The Essential Message of Islam
- 51- Students Role in Nation Building
- 52- A Pakistani Wedding
- 53- Women Rights in Islam



Lesson # 1

Vowel and Consonants:

حروف علت اور حروف صحیح:

There are two types of letters on the basis of their sound.

آواز کے لحاظ سے انگریزی حروف تہجی کی دو اقسام ہیں۔

حروف علت Vowels

The letters which help other letters to make proper sound are called "Vowels".

ایسے حروف جو دیگر حروف کو مناسب آواز پیدا کرنے میں مدد دیں۔ حروف علت کہلاتے ہیں۔

Five letters "a, e, i, o and u" are used as "Vowels".

پانچ حروف (a, e, i, o, u) بطور "حروف علت" استعمال کیے جاتے ہیں۔

Consonants

حروف صحیح

Except vowels, all English alphabets are called "Consonants".

حروف علت کے علاوہ تمام حروف کانسوننٹس یعنی "حروف صحیح" کہلاتے ہیں۔

In English alphabets, there are twenty one consonants. These are following.

انگریزی حروف تہجی میں اکیس "حروف صحیح" ہیں جو مندرجہ ذیل ہیں۔

b, c, d, f, g, h, j, k, l, m, n, p, q, r, s, t, v, w, x, y, z

Lesson # 2

Sentence, Phrases & Clause Formation

Sentence

جملہ

A meaningful group of words is called "sentence". i.e.

الفاظ کا ایسا مجموعہ جس کا کوئی مطلب ہو، جملہ یا فقرہ کہلاتا ہے۔ مثلاً:

This is a cat.	یہ ایک بلی ہے۔
That is a book.	وہ ایک کتاب ہے۔
These are not tables.	یہ میزیں نہیں ہیں۔
Are those chairs?	کیا وہ کرسیاں ہیں؟

Phrase

مرکب ناقص

If a group of words, fails to make a complete sentence, it is called phrase.

الفاظ کا ایسا مجموعہ جس کا مطلب پوری طرح سمجھ میں نہ آئے، اسے

Phrase کہتے ہیں۔

Under the table..

کے نیچے۔

From hand to mouth.

ہاتھ سے منہ تک۔

The boy with a bat.

بے کے ساتھ لڑکا۔

In the air.

ہوا میں۔

The Clause

مرکب نام

If a group of words, which requires another group of words to give a complete sense, is called a clause.

الفاظ کا ایسا مجموعہ جس کی مکمل سمجھ کے لئے الفاظ کے ایک اور مجموعہ کی

مدد ہوتی ہے۔ مثلاً:

He said that he would go to Sialkot.

God helps those who help themselves.

(a) Parts of sentence:

جملہ کے حصے

جب ہم جملہ بناتے ہیں تو ہم کسی شخص یا چیز کا نام لیتے ہیں اور اس شخص یا چیز کے بارے میں کوئی بات کرتے ہیں یا اس سے متعلق کوئی خبر دیتے ہیں۔ دوسرے لفظوں میں یوں ہے کہ جملہ بنانے کے لیے ہمارے پاس بات کرنے یا خبر دینے کے لیے لازمی طور پر کسی شخص یا چیز کا نام ہونا چاہیے۔ ہم اس شخص یا چیز کے بارے میں لازمی طور پر کوئی بات کریں۔ ہر جملہ کے دو حصے بنتے ہیں۔

1. Subject مندریہ یا فاعل

2. Predicate مندر یا خبر

1. Subject: (فاعل)

The name of a person, thing, place or idea we speak about or which performs an action or which is associated with an action is called a subject.

کسی شخص، چیز، جگہ یا خیال کا نام جس کے بارے میں ہم بات کرتے ہیں یا جو کوئی کام کرتا ہے یا جو کسی کام سے تعلق رکھتا ہو، فاعل کہلاتا ہے۔

2. Predicate: (مندریہ)

That part of a sentence which is not the subject but which gives information about the subject is called predicate.

جملے کا وہ حصہ جو Subject نہ ہو بلکہ Subject کے بارے میں معلومات دے

Predicate کہلاتا ہے۔

Examples

Sr.	Sentence	Subject	Predicate	ترجمہ
-----	----------	---------	-----------	-------

1.	The Sun rises in the east.	The sun	rises in the east.	سورج مشرق سے طلوع ہوتا ہے۔
2.	Man is a social animal.	Man	is a social animal.	انسان معاشرتی حیوان ہے۔
3.	He went to Okara.	He	went to Okara.	وہ اوکاڑہ گیا۔
4.	Ali is an intelligent boy.	Ali	is an intelligent boy.	علی ذہین لڑکا ہے۔

Construction of a Sentence

جملے کی بناوٹ

There are three parts of a simple sentence. سادہ جملے کے تین حصے ہوتے ہیں۔

(i). Subject: فاعل

One who does some work, is called subject. کام کرنے والے کو فاعل کہتے ہیں۔

(ii). Verb: فعل

Which work is done, is called verb. جو کام کیا گیا ہو، اسے فعل کہتے ہیں۔

(iii). Object: مفعول

On which some work is done, is called object. جس چیز پر کام واقع ہو، اسے مفعول کہتے ہیں۔

Subject فاعل	Verb فعل	Object مفعول	بامحاورہ ترجمہ
Boys لڑکے	read پڑھتے ہیں	books کتابیں	لڑکے کتابیں پڑھتے ہیں۔
Ahmad احمد	writes لکھتا ہے	A story کہانی	احمد کہانی لکھتا ہے۔
She وہ	does کرتی ہے	her work اپنا کام	وہ اپنا کام کرتی ہے۔
You تم	buy خریدتے ہو	a computer ایک کمپیوٹر	تم ایک کمپیوٹر خریدتے ہو۔
You تم	send بھیجتے ہو	a letter ایک خط	تم ایک خط بھیجتے ہو۔
We ہم	play کھیلتے ہیں	badminton بیڈمنٹن	ہم بیڈمنٹن کھیلتے ہیں۔
They وہ	watch دیکھتے ہیں	TV ٹی وی	وہ ٹی وی دیکھتے ہیں۔

I میں	water پانی	plants پودے	میں پودوں کو پانی دیتا ہوں۔
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Direct Object

بلا واسطہ مفعول

In English Language subject + verb + object is a simple sentence structure. Here object means direct object. It refers to non-living things.

انگریزی زبان میں فاعل، فعل، مفعول جملوں کی ایک سادہ ساخت ہے۔ یہاں مفعول کے معنی بلا واسطہ مفعول ہوتا ہے۔ یہ بے جان چیزوں کی طرف اشارہ کرتا ہے۔

مثال کے طور پر: Ali sent a message to his friend.

Indirect Object

بالواسطہ مفعول

Some sentences have two objects. Indirect objects usually refer to living things.

بعض اوقات جملوں میں دو مفعول ہوتے ہیں۔ بالواسطہ مفعول عام طور پر جاندار چیزوں کی طرف اشارہ کرتا ہے۔

"Ali sent his friend a message."

For example, "Ali sent a message to his friend" can be changed into "Ali sent his friend a message."

مثال کے طور پر، "علی نے ایک پیغام اپنے دوستوں کو بھیجا۔" کو اس طرح سے تبدیل کیا جاسکتا ہے: "علی نے دوستوں کو ایک پیغام بھیجا۔"

1. Read the following sentences. The direct object is given in the box and the indirect object are underlined.

مندرجہ ذیل جملوں کو پڑھیے۔ بلا واسطہ مفعول Direct object کے گرد ڈبہ لگایا گیا ہے اور بالواسطہ مفعول کے نیچے لکیر لگائی گئی ہے۔

1. She gave the beggar money.
2. The guide showed the boys monkey.
3. He gave his friend a present.
4. The teacher told the girls a story.
5. I gave her a lot of map.

Correct Arrangement of the Sentences

	Words	Meaningful Sentences
(i)	I classroom like my.	I like my classroom.
(ii)	It also is airy very.	It is also very airy.
(iii)	There thirty are students our in class.	There are thirty students in our class.
(iv)	I a am student VI of class.	I am a student of class VI.

(v)	My father doctor is a.	My father is a doctor.
(vi)	She breakfast prepares	She prepares our
	our.	breakfast.
(vii)	My teaches mother	My mother teaches in a
	college in a.	college.
(viii)	He to school goes.	He goes to school.

(b) Kinds of Sentence

جملہ کی اقسام

(A) Kinds of Sentences (Construction Wise):

(A) بناوٹ کے لحاظ سے جملوں کی اقسام:

1. Simple Sentences	سادہ جملے
2. Compound Sentences	مرکب جملے
3. Complex Sentences	پچیدہ جملے

1: Simple Sentences سادہ جملے

It consists of one basic verb and expresses one thought.

اس میں ایک بنیادی فعل ہوتا ہے اور یہ ایک خیال کو ظاہر کرتا ہے۔

For examples:

Some students like to study in the morning.	کچھ طالب علموں کو صبح میں مطالعہ کرنا پسند ہے۔
Ali and Ahmad play football every afternoon.	علی اور احمد ہر دوپہر کو فٹ بال کھیلتے ہیں۔
Alia goes to the library.	عالیہ لائبریری جاتی ہے۔

2: Compound Sentences مرکب جملے

It contains more than one clause joined by coordinate conjunction. It expresses two or more thoughts.

اس قسم کے جملوں میں ایک سے زیادہ ہم آہنگ خیالات ہوتے ہیں جو حرف

عطف سے ملے ہوتے ہیں۔ ان میں دو یا زیادہ خیالات ہوتے ہیں۔ مثلاً:

The town <u>where</u> I grew up is in the Lahore.	قصبہ جس میں میں نے پرورش پائی لاہور میں ہے۔
Salman failed <u>but</u> Aslam passed.	سلیمان فیل ہوا لیکن اسلم پاس ہوا۔
Ali went <u>and</u> Alia came.	علی گیا اور عالیہ آئی۔

3: Complex Sentences پچیدہ جملے

It consists of one principal clause and one or more

subordinate clauses. It also expresses two or more thoughts.

وہ جملے جن میں ایک سے زیادہ خیالات کا اظہار کیا جاتا ہے اور ان میں

principal اور subordinate clause کو آپس میں ملایا جاتا ہے۔

For Examples

When he did his home work, he forgot to do the last page.	جب اس نے اپنا ہوم ورک کیا تو وہ آخری صفحہ کرنا بھول گیا۔
The teacher returned the homework after she checked.	معلمہ نے اسے ہوم ورک لوٹا دیا جب اس نے چیک کر لیا۔
The students are studying because they have a test.	طلباء مطالعہ کر رہے ہیں کیونکہ ان کا ٹیسٹ ہے۔

(B) Kinds of Sentences (Meaning Wise)

مفہوم کے لحاظ سے جملوں کی اقسام

There are six kinds of sentences on the basis of their meaning.

یعنی کے لحاظ سے جملوں کی چھ اقسام ہیں۔

1.	Declarative (Positive) Sentence مثبت جملہ
2.	Negative Sentence منفی جملہ
3.	Interrogative Sentence سوالیہ جملہ
4.	Imperative Sentence حکمیہ یا انشائیہ جملہ
5.	Exclamatory Sentence استعجابیہ جملہ
6.	Optative Sentence دعائیہ جملہ

(i) Declarative (Positive) Sentence:

مثبت جملہ:

If a statement is positive, it is called a "Positive sentence". i.e.

اگر جملے میں کوئی مثبت بات بیان کی جائے تو یہ مثبت جملہ کہلاتا ہے۔ مثلاً:

I am a student.	میں ایک طالب علم ہوں۔
He is a teacher.	وہ ایک استاد ہے۔
They are my class fellows.	وہ میرے کلاس فیلو ہیں۔

(ii) Negative Sentence:

منفی جملہ:

If a statement is negative, it is called a "Negative sentence". i.e.

اگر جملے میں کسی بات کی نفی کی گئی ہو تو یہ منفی جملہ کہلاتا ہے۔ مثلاً:

I am <u>not</u> a student.	میں ایک طالب علم نہیں ہوں۔
He is <u>not</u> a teacher.	وہ ایک استاد نہیں ہے۔
They are <u>not</u> my class fellows.	وہ میرے کلاس فیلو نہیں ہیں۔

(iii) Interrogative Sentence:

سوالیہ جملہ:

If in a sentence, something is asked, it is called "Interrogative sentence", i.e.

اگر کسی جملہ میں کسی بارے میں پوچھا گیا ہو تو اسے سوالیہ جملہ کہتے ہیں۔ مثلاً:

Am I a student?	کیا میں ایک طالب علم ہوں؟
Is he a teacher?	کیا وہ ایک استاد ہے؟
Are they my class fellows?	کیا وہ میرے کلاس فیلو ہیں؟

(iv) Imperative Sentence:

حکمیہ یا انشائیہ جملہ:

A sentence that expresses command, advice, request or makes some prohibition is called an "Imperative sentence", i.e.

جس جملہ میں کوئی کام کرنے کا حکم، مشورہ، درخواست، نصیحت یا منع کیا جائے انشائیہ جملہ کہلاتا ہے۔ ایسے جملے میں ہمیشہ فعل کی پہلی حالت استعمال کی جاتی ہے۔ فعل جملہ کے شروع میں آتا ہے۔ مثلاً:

1. Come here.	یہاں آؤ۔
2. Stand up.	کھڑے ہو جاؤ۔
3. Sit down.	بیٹھ جاؤ۔
4. Go back.	واپس چلے جاؤ۔
5. Go away.	چلے جاؤ۔
6. Open your book.	اپنی کتاب کھولو۔
7. Shut the door.	دروازہ بند کرو۔
8. Open the door.	دروازہ کھول دو۔

(v) Exclamatory Sentences:

جملہ استعجابیہ:

It is a sentence that expresses some feelings like happiness, sadness, wonder or sorrow.

جملہ استعجابیہ وہ جملہ ہے جس میں خوشی، غمی، حیرت یا افسوس کا اظہار ہو۔

1. Hurrah! my father has come. (خوشی)	آہا! میرے ابو آچکے ہیں۔
2. Alas! I am undone. (غمی)	افسوس! مجھ سے نہ ہو سکا۔
3. What a beautiful bird it is! (حیرانی)	کتنا خوبصورت پرندہ!
4. Aha! we have won the match. (خوشی)	آہا! ہم نے میچ جیت لیا ہے۔

(vi) Optative Sentences:

دعا سیہ جملہ:

Sentences of this kind express some wish.

جس جملے میں دعا، تمنا یا خواہش پائی جائے اسے Optative Sentence کہتے ہیں۔ مثلاً: اللہ کرے تم کامیاب ہو جاؤ۔

May you succeed!

دعا سیہ جملوں کے آخر میں استعجابیہ نشان (!) آتا ہے۔

1. May God help you!	کاش خدا آپکی مدد کرے۔
2. May you live long!	کاش تم لمبی زندگی پاؤ۔
3. May I pass the examination!	کاش میں امتحان میں پاس کر لوں۔

Examples:

Identify declarative, negative, interrogative, exclamatory and imperative sentences.

1. An aeroplane flew above clouds.

Ans. Declarative sentence

2. The baby does not play with toys.

Ans. Negative sentence

3. Wow! What a beautiful watch.

Ans. Exclamatory sentence

4. Shut the window, please.

Ans. Imperative sentence

5. Are you going to the market?

Ans. Interrogative sentence

Lesson # 3

Parts of Speech اجزائے کلام

Introduction

تعارف

When we speak or write a sentence, we use different words. Every word has its own function in the sentence. They are named according to their functions they play in that particular sentence.

جب ہم کوئی جملہ لکھتے ہیں یا بولتے ہیں، تو مختلف الفاظ استعمال کرتے ہیں۔ ہر لفظ اس جملے میں اپنا کردار ادا کرتا ہے۔ ان الفاظ کو جملے میں ان کے کردار کے لحاظ سے نام دیے جاتے ہیں۔

We can categorize English words into eight basic types which are called "Parts of Speech".

ہم انگریزی کے الفاظ کو آٹھ مختلف اقسام میں تقسیم کر سکتے ہیں۔ ان اقسام یا ناموں کو ہم "اجزائے کلام" کہتے ہیں۔

There are eight parts of speech in English Grammar:

انگریزی گرامر میں آٹھ اجزائے کلام ہیں:

1	Noun	2	Pronoun	3	Verb
4	Adjectives	5	Adverb	6	Preposition
7	Conjunctions	8	Interjection		

A pack of cattle.	مویشیوں کا گروہ۔
A brood of chickens.	چوزوں کا گروہ۔
A set of china wares.	چینی برتن۔
A set of furniture.	لکڑی کا ساز و سامان۔
A bale of cotton.	روٹی کی گانٹھ۔
A board of directors.	ڈائریکٹرز کا بورڈ۔
A herd of elephants.	ہاتھیوں کا گروہ۔
A company of friends.	دوستوں کی محفل۔
A tuft of grass.	گھاس کا لچھا۔
A group of islands.	جزائر کا سلسلہ۔
A bench of Magistrates.	ججوں کی جیوری۔
A troop of monkeys.	بندروں کا قافلہ۔
A band of pilgrims.	حجاج کا گروہ۔
A caravan of sailors.	ملاحوں کا قافلہ۔
A fleet of ships.	بحری جہازوں کا بیڑا۔
A cluster of stars.	ستاروں کا جھرمٹ۔
A bundle of sticks.	چھڑیوں کی گٹھڑی۔
A gang of thieves.	چوروں کا جتھہ۔
A clump of trees.	درختوں کا ذخیرہ۔

2. Material Noun

مادی اسم

The raw material for making other things, are called the Material Nouns. e.g. wood, iron, gold, silver and rubber etc.

وہ خام اشیاء جو دوسری چیزیں بنانے کے لیے استعمال ہوتی ہیں انہیں مادی اسم کہتے ہیں۔ مثلاً: لکڑی، لوہا، سونا، چاندی اور ربڑ وغیرہ۔

3. Compound Noun

م مرکب اسم

The nouns formed by joining two or more nouns are called "Compound Nouns". e.g. arm + chair = armchair, black + board = blackboard, bath + room = bathroom, foot + ball = football etc.

وہ نام (اسم) جو دو یا دو سے زیادہ ناموں (اسموں) کو ملا کر بنائے جائیں، انہیں "م مرکب اسم" کہا جاتا ہے۔ مثلاً: آرام کرسی، تختہ سیاہ، غسل خانہ، فٹ بال وغیرہ۔

4. Abstract Noun

اسم کیفیت یا مجرد اسم

The naming words for things which we can't see or touch are called "Abstract Nouns". e.g. health, happiness, hatred, love, etc. We also call them "Uncountable Nouns" because we cannot count them.

وہ نام جو ایسی چیزوں کے لیے استعمال ہوں جنہیں چھوا یا دیکھا نہیں جاسکتا،

انہیں "مجرد اسم یا اسم کیفیت" کہا جاتا ہے۔ انہیں غیر شمار کنندہ اسم بھی کہا جاتا ہے کیونکہ انہیں گنا نہیں جاسکتا۔ مثلاً: صحت، خوشی، نفرت، محبت وغیرہ۔

5. Concrete Noun

اسم جامد

The naming words for things which we can see or touch are called "Concrete Nouns". e.g. trees, book, chair, pencil, table etc. They are also called "Countable Nouns" because we can count them.

وہ نام جو ایسی چیزوں کے لیے استعمال ہوں جنہیں چھوا یا دیکھا جاسکتا ہو، انہیں "جامد اسم" کہا جاتا ہے۔ مثلاً: درخت، کتاب، کرسی، پنسل، میز وغیرہ۔ انہیں شمار کنندہ اسم بھی کہا جاتا ہے کیونکہ ہم ان کو گن کر سکتے ہیں۔

(c) Singular and Plural Nouns

واحد اور جمع اسم

Singular Nouns

اسم واحد

A noun which denotes one person or thing is said to be singular e.g.: chair, bird, table, man, boy, tree, fan etc.

وہ اسم جو ایک شخص، چیز یا جگہ کے نام کو ظاہر کرے، اسے 'واحد' کہتے ہیں۔ مثلاً: کرسی، پرندہ، میز، شخص، لڑکا، درخت، پنکھا وغیرہ۔

Plural Nouns

اسم جمع

The noun which denotes more than one person, place or thing is plural number e.g.: chairs, birds, tables, men, boys, trees, fans, stars, rivers etc.

وہ اسم جو ایک سے زیادہ اشیاء، اشخاص یا مقامات کے نام کو ظاہر کرے اسے 'جمع' کہتے ہیں۔ مثلاً: کرسیاں، پرندے، میزیں، لڑکے وغیرہ۔

Forming Plural Numbers

(1) Most nouns are changed from singular to plural form by adding 's' to the singular nouns:

اکثر اسماء کو واحد سے جمع بنانے کے لیے ان کے بعد 's' کا اضافہ کیا جاتا ہے۔

Singular (واحد)	Meaning (معنی)	Plural (جمع)
Animal	جانور	Animals
Apple	سیب	Apples
Aunt	خالہ	Aunts
Ball	گیند	Balls
Bag	تھیلیا	Bags
Bat	ہلا	Bats
Bird	پرندہ	Birds
Basket	لوگری	Baskets

Revenge	بدلہ لینا	Revenged	Revenged
Reverse	الٹا یا الٹا دینا	Reversed	Reversed
Review	دوبارہ جانزہ لینا	Reviewed	Reviewed
Revise	اعادہ کرنا	Revised	Revised
Revolt	گھومنا	Revolted	Revolted
Rob	لوٹنا	Robbed	Robbed
Rotate	مرکز پر گھومنا	Rotated	Rotated
Row	تھپتی چلانا	Rowed	Rowed
Rub	رگڑنا	Rubbed	Rubbed
Rinse	کھانچا لینا	Rinsed	Rinsed
Rule	حکومت کرنا	Ruled	Ruled
Rush	اجوم ہونا	Rushed	Rushed
Sail	بحری سفر کرنا	Sailed	Sailed
Save	بچانا	Saved	Saved
Score	سکور کرنا	Scored	Scored
Scorn	حقارت کرنا	Scored	Scored
Scream	چینچنا	Screamed	Screamed
Scratch	خارش کرنا	Scratched	Scratched
Seize	پکڑنا	Seized	Seized
Select	چن لینا یا منتخب کرنا	Selected	Selected
Serve	خدمت کرنا	Served	Served
Settle	حل کرنا یا طے پانا	Settled	Settled
Sew	سینا	Sewed	Sewed
Shape	شکل میں ڈھالنا	Shaped	Shaped
Share	حصہ لینا	Shared	Shared
Sharpen	تیز کرنا	Sharpened	Sharpened
Shave	بال کاٹنا	Shaved	Shaved
Shift	جگہ تبدیل کرنا	Shifted	Shifted
Shape	شکل بنانا	Shaped	Shaped
Shiver	کانپنا	Shivered	Shivered
Shock	صدمہ لگنا یا جھٹکا دینا	Shocked	Shocked
Sigh	آہ بھرنا	Sighed	Sighed
Simplify	سادہ بنانا	Simplified	Simplified
Skip	چھوٹ جانا یا اچھلنا	Skipped	Skipped
Slaughter	ذبح کرنا	Slaughtered	Slaughtered
Stay	قیام کرنا	Stayed	Stayed
Slip	پھسلنا	Slipped	Slipped
Slow	آہستہ ہونا	Slowed	Slowed
Smash	پاش پاش ہونا	Smashed	Smashed
Smile	مسکراتا	Smiled	Smiled

Smoke	دھواں دینا	Smoked	Smoked
Snatch	چھیننا	Snatched	Snatched
Snore	خراٹے لینا	Snored	Snored
Soothe	آرام دینا	Soothed	Soothed
Sow	بونا	Sowed	Sowed
Spare	بچانا	Spared	Spared
Spell	سیج کرنا	Spelled	Spelled
Splash	پھینکنا	Splashed	Splashed
Spoil	خراب کرنا	Spoiled	Spoiled
Sprinkle	چھڑکنا	Sprinkled	Sprinkled
Squeeze	مسلسلہ، چوڑنا	Squeezed	Squeezed
Stagger	تھجڑ مارنا	Staggered	Staggered
Stare	گھورنا	Stared	Stared
State	بیان کرنا	Stated	Stated
Stir	زور سے ہلانا	Stirred	Stirred
Stop	روکنا	Stopped	Stopped
Store	گودام میں رکھنا	Stored	Stored
Succeed	کامیاب ہونا	Succeeded	Succeeded
Suck	چوسنا	Sucked	Sucked
Support	سہارا دینا	Supported	Supported
Suppose	فرض تصور کرنا	Supposed	Supposed
Surprise	حیران ہونا	Surprised	Surprised
Surround	گھیرا کرنا یا محیط ہونا	Surrounded	Surrounded
Survive	زندہ بچ جانا	Survived	Survived
Suspect	شک کرنا	Suspected	Suspected
Swallow	نگل جانا	Swallowed	Swallowed
Swell	سوج جانا	Swelled	Swelled
Talk	بات کرنا	Talked	Talked
Tame	پالتو بنانا	Tamed	Tamed
Taste	چکھنا	Tasted	Tasted
Tease	ستانا	Teased	Teased
Temper	چھیڑ چھاؤ کرنا	Tempered	Tempered
Tend	پالنا پوسنا	Tended	Tended
Terrify	خوفزد کرنا	Terrified	Terrified
Test	جانچنا	Tested	Tested
Thank	شکریہ ادا کرنا	Thanked	Thanked
Trust	اعتماد کرنا	Trusted	Trusted
Tickle	گدگدی کرنا	Tickled	Tickled
Thrust	ٹھونسن	Thrust	Thrust
Toss	سکھڑا پھینکنا	Tossed	Tossed

4. Ali was ill _____ fever.
Ans: with
5. She was suffering _____ fever.
Ans: from
6. He is blind _____ one eye.
Ans: of
7. Who is knocking _____ the door?
Ans: of
8. Nasima is fond _____ apples.
Ans: of
9. The house was _____ fire.
Ans: at
10. He is hard _____ hearing.
Ans: of

Exercise No. 3

3. Fill in the blanks with suitable prepositions given in the brackets.

تو سین میں دیئے گئے مناسب حروف جار سے خالی جگہ پُر کیجئے۔

- (i) The rat ran _____ the hole. (in, into)
Ans: into
- (ii) The book is _____ the table. (on, at)
Ans: on
- (iii) Ulfat came _____ Multan. (from, to)
Ans: from
- (iv) She sat _____ me. (beside, besides)
Ans: beside
- (v) They looked _____ the blackboard. (at, on)
Ans: at

Exercise No. 4

4. Fill in the blanks with the most suitable prepositions in each sentence given below:

ہر جملے کے نیچے دیئے گئے حروف جار میں سے موزوں ترین خالی جگہ پُر تحریر کیجئے:

1. She came here _____ 6 a.m.
(a) on (b) in (c) at (d) by
Ans: (c) at
2. We get up early _____ the morning.
(a) in (b) at (c) of (d) on
Ans: (a) in
3. This book is written _____ my father.
(a) with (b) by (c) to (d) from
Ans: (b) by
4. Nasima is not _____ the room.
(a) in (b) into (c) at (d) on
Ans: (a) in

5. Ali walked _____ the room.
(a) in (b) into (c) on (d) at
Ans: (b) into
6. The frog jump _____ the pond.
(a) in (b) into (c) under (d) inside
Ans: (b) into
7. The birds were flying _____ the trees.
(a) on (b) by (c) above (d) inside
Ans: (c) above
8. I was sitting _____ all my friends.
(a) in (b) between (c) among (d) inside
Ans: (c) among
9. There was a bridge _____ the river.
(a) over (b) on (c) across (d) above
Ans: (a) over
10. The snake hid _____ the dry grass.
(a) behind (b) between (c) under (d) beside
Ans: (c) under

Prepositions حروف جار (Explanation)

حرف جار (Preposition) وہ لفظ ہے جسے اسم یا اسم ضمیر سے پہلے یا کسی دوسرے لفظ کے درمیان جملے میں تعلق کو ظاہر کرنے کے لیے لگاتے ہیں۔ نیز یہ کسی Verb کے ساتھ مل کر اس کے معنی میں بھی تبدیلی لے آتے ہیں۔ جیسے take کے معنی لینا یا پکڑنا کے ہوتے ہیں لیکن Preposition کو اس کے ساتھ لگانے سے اس کے معنی میں تبدیلی آ جاتی ہے۔ جیسے غلطی سے سمجھنا take for، مشابہت رکھنا take after، پسند کرنا take to، لکھنا take، اتارنا take off، down

Words followed by Appropriate Preposition (From Punjab Textbook Board)

1. Players must <u>abide by</u> the rules of the game.	کھلاڑیوں کو کھیل کے قواعد کی پابندی کرنی چاہیے۔
2. He was <u>absent from</u> class.	وہ جماعت سے غیر حاضر تھا۔
3. He was <u>accused of</u> theft.	اُس پر چوری کا الزام تھا۔
4. You must <u>act upon</u> the advice of your teacher.	تمہیں اپنے استاد کی نصیحت پر عمل کرنا چاہیے۔
5. I <u>agree with</u> you in this matter.	اس معاملے میں میں آپ سے متفق ہوں۔
6. She was <u>angry at</u> my behaviour.	وہ مجھ سے روپے ناراض تھی۔
7. They were <u>angry with</u> me.	وہ مجھ سے ناراض تھے۔

(ii). To <u>pen</u> off the issue, his case was postponed.	مختصر یہ کہ اس کا معاملہ ملتوی کر دیا گیا۔
(iii). To <u>conclude</u> the matter, we worked hard.	معاہدے کا نتیجہ نکالنے کے لیے ہم نے محنت کی۔

Lesson # 6

The Articles

حروف تنکیر

'a' 'an' and 'the' are called 'articles'

"An" اور "The" کو انگریزی کی گرامر میں Articles اور اردو زبان میں

حروف تنکیر کہا جاتا ہے۔

Article 'A':

We put 'a' before the singular, countable nouns which start with the consonant sound.

"A" یہ حرف تنکیر اُن اسموں سے پہلے لگایا جاتا ہے جو واحد ہوں اور جن کی گنتی کی جا سکے اور صحیح الفاظ کی آواز سے شروع نہ ہو۔ مثلاً

a pencil, a book, a cat, etc.

Article "An"

We put 'an' with singular, countable nouns starting with vowel sounds: e.g., an apple, an egg, an inkpot, an orange, an umbrella, etc.

یہ حرف تنکیر ان اسموں سے پہلے استعمال کیا جاتا ہے جو واحد ہوں اور ان کی گنتی کی جا سکے اور واول الفاظ کی آواز سے شروع ہوں۔

Article 'The':

Article 'the' is used to mention one or more nouns particularly.

e.g., The pencil I bought yesterday is black.

The book I borrowed from library is a novel.

the کو ہم کسی ایک یا زیادہ اسماء کو مخصوص کرنے کے لیے استعمال کرتے ہیں۔

جیسے: جو پینسل میں نے کل خریدی تھی، وہ سیاہ ہے۔

وہ کتاب جو میں نے لائبریری سے مستعار لی تھی، وہ ایک ناول ہے۔

Exercise No. 1

Tick (✓) the Correct article to fill in the blanks in the following sentences.

مندرجہ ذیل فقرات میں خالی جگہ پر کرنے کے درست تنکیر پر (✓) کا نشان لگائیے۔

1. This is _____ pen.

(a) a (b) an (c) the

- I wrote _____ application.
(a) a (b) an (c) the
- She is _____ honest girl.
(a) a (b) an (c) the
- He is _____ boy who met me yesterday.
(a) a (b) an (c) the
- Keep to _____ left.
(a) a (b) an (c) the
- Ali gave me _____ egg.
(a) a (b) an (c) the
- the cow is _____ useful animal.
(a) is (b) an (c) the
- Lahore is _____ big city.
(a) a (b) an (c) the

Answers:

جوابات:

- (a)
- (an)
- (an)
- (the)
- (the)
- (an)
- (a)
- (a)

Lesson # 7

Pair of Words متشابہ الفاظ

hail	ٹالہ/اولہ	hell	دوزخ
late	دیر	let	اجازت دینا
later	بعد میں	letter	خط
dairy	ڈیری (فارم)	diary	ڈائری (کاپی)
fair	صاف	fare	میلہ
feet	پاؤں	feats	کرتب
merry	مزے کرنا	marry	شادی کرنا
cold	ٹھنڈا	cool	ہلکا ٹھنڈا
heel	ایڑھی	heal	مندمل ہونا
dew	شبلم	due	حصہ
berth	جگہ	birth	پیدائش
rein	ہاگ	rain	بارش
waste	ضائع کرنا	waist	کمر
gate	دروازہ	gait	چال

Solution

A (-6, 3), E (3, 4), F (-4, -2), H (7, -8),
J (-9, 2), K (4, 7)

MCQs

49. Choose the correct option.

(i) What number was subtracted to make the sequence 58, 56, 54, 52?

- (a) 1 (b) 3
✓(c) 2 (d) 4

(ii) In sequence: 30, 33, 36, ... the next term is:

- (a) 38 ✓(b) 39
(c) 40 (d) 43

(iii) Which of the following sequence starts at 36 and having common difference 2?

- (a) 34, 35, 36 (b) 36, 36, 36
(c) 36, 39, 42 ✓(d) 36, 38, 40

(iv) The n th term of the sequence 1, 3, 5, 7, ... is:

- (a) $n^2 + 1$ (b) $3n + 4$
✓(c) $2n - 1$ (d) $2n + 1$

(v) $(z^4)^3 + z^4$

- (a) z^{16} (b) z^{12}
(c) z^3 ✓(d) z^8

(vi) Which one of the following is polynomial

- (a) $8x^{-2} + 2$ (b) $9x^2 + 5x^{-1}$
✓(c) $2x^2 + 5$ (d) $\frac{5}{x} + 3$

(vii) The factorization of $x^2 - 4$ is:

- (a) $(x - 4)^2$ (b) $(x - 2)^2$
(c) $(x - 4)^3$ ✓(d) $(x + 2)(x - 2)$

(viii) The example of linear equation in two variables is:

- (a) $7x + 3y - 4z = 0$ ✓(b) $6x + 5y = 10$
(c) $8x = 2 + 9$ (d) $y = 1 + 3y$

(ix) (9, -6) lies in _____ quadrant.

- (a) I (b) II
(c) III ✓(d) IV

(x) The solution of $2x - 3 = 7$ is:

- ✓(a) 5 (b) 7
(c) 11 (d) 12

50. Add the following:

(i) $7x^2 + 8x + 3, 12x^2 + 2x + 6$

Ans. $7x^2 + 8x + 3, 12x^2 + 2x + 6$

$$= 7x^2 + 8x + 3 + 12x^2 + 2x + 6$$

$$= 19x^2 + 10x + 9$$

(ii) $15x^2 - 5x + 2, 7x^2 - 3x - 8$

Ans. $15x^2 - 5x + 2, 7x^2 - 3x - 8$

$$= 15x^2 - 5x + 2 + 7x^2 - 3x - 8$$

$$= 22x^2 - 8x - 6$$

(iii) $20x^2 + 8x - 10, 8x^2 - x - 8$

Ans. $20x^2 + 8x - 10, 8x^2 - x - 8$

$$= 20x^2 + 8x - 10 + 8x^2 - x - 8$$

$$= 28x^2 + 7x - 18$$

51. Subtract the first polynomial from the 2nd polynomial:

(i) $10x^2 - 8x - 5, 15x^2 + 2x + 8$

Ans. $10x^2 - 8x - 5, 15x^2 + 2x + 8$

$$= 15x^2 + 2x + 8 - 10x^2 + 8x + 5$$

$$= 5x^2 + 10x + 13$$

(ii) $8x^2 - 5x + 2, 7x^2 + 2x - 8$

Ans. $(7x^2 + 2x - 8) - (8x^2 - 5x + 2)$

$$= 7x^2 + 2x - 8 - 8x^2 + 5x - 2$$

$$= -x^2 + 7x - 10$$

52. Solve the following:

(i) $(8x^2y^2 + 3xy^2 + 2)(3xy^2)$

Ans. $(8x^2y^2 + 3xy^2 + 2)(3xy^2)$

$$= 24x^3y^4 + 9x^2y^4 + 6xy^2$$

(ii) $(5x^3y + 8)(-2x^2 + y)$

Ans. $(5x^3y + 8)(-2x^2 + y)$

$$= -2x^2(5x^3y + 8) + y(5x^3y + 8)$$

$$= -10x^5y - 16x^2 + 5x^3y^2 + 8y$$

(iii) $\left(\frac{1}{2}l^2m + \frac{1}{3}\right)(2lm^2 + 2)$

Ans. $\left(\frac{1}{2}l^2m + \frac{1}{3}\right)(2lm^2 + 2)$

$$= 2lm^2\left(\frac{1}{2}l^2m\right) + \frac{1}{3} \times 2$$

$$= l^3m^3 + \frac{2}{3}$$

53. Divide the polynomials.

(i) $10x^3y^2$ by $5xy$

Ans. $10x^3y^2$ by $5xy$

- A. $\frac{1}{20}$ B. $\frac{3}{10}$
C. $\frac{5}{2}$ D. $\frac{2}{5}$
9. The value of x in the equation $\frac{1}{3}(x+3) = \frac{10}{3}$
A. 0.7 B. 7
C. 13 D. $\frac{1}{7}$
50. If $a + b = 1$ and $ab = -1$ then the value of $(a+b)^2 + 2ab(a+b)$
A. -1 B. 2
C. 0.2 D. 1
51. If the cost of two dozen books is Rs. 500. The cost of 6 such books is:
A. Rs. 125 B. Rs. 2
C. Rs. 125.50 D. Rs. 1
52. If LCM of two numbers is 90 and HCF of numbers is 16, product of the number is:
A. 1430 B. 1440
C. 1436 D. None of these
53. If Zakat on Rs. 100 is Rs. 1.50 what will be the Zakat on Rs. 1500
A. Rs. 20 B. Rs. 21.5
C. Rs. 22 D. Rs. 22.5
54. If $(x)(y) = \frac{1}{10}$ and $y = 0.5$ the value of x is
A. 0.3 B. 0.2
C. 0.4 D. 0.25
55. If $a = 1, b = 0, c = -1$ then what will be the value of $\left[\frac{(a+bc+c)}{c} \right]^2$.
A. -1 B. -1.1
C. 0 D. 1.2
56. $(x+2)(x-1) - (x-1)(x+2)$ simplified gives.
A. x B. $-x$
C. $x^2 + 2$ D. 0
57. The solution set of $x + 0.001 = 1$ is
A. 1.001 B. 1.991
C. 1.101 D. 0.999
58. The circumference of a circle of radius 1 cm is:
A. $64/7$ B. $54/7$
C. $44/7$ D. $22/7$
59. A quadrilateral having four equal sides and four right angle is called:
A. Parallelogram B. Trapezium
C. Square D. Rhombus
60. The perimeter of a rectangle whose length is x metre and width is $(1-x)$ m is given by
A. $x+1$ B. $2(x+1)$
C. $2(1-x)$ D. 2
61. If length, breadth and thickness of a cuboids be 0.1cm, 0.2cm and 0.5cm respectively is volume will be:
A. 0.1cm^3 B. 0.01cm^3
C. 0.001cm^3 D. 0.0001cm^3
62. Angle of 27° is
A. Obtuse angle B. Acute angle
C. Right angle D. None of these
63. The area of a parallelogram whose base is 15cm and altitude is 10cm will be:
A. 105cm^2 B. 150cm^2
C. 115cm^2 D. 151cm^2
64. The complement of an angle of 45° is
A. 135° B. 45°
C. 25° D. 35°
65. The line joins two points of a circle is
A. Radius B. Chord
C. Diametre D. Arc
66. The product of $(2f-m)(2f-m)$
A. $4f^2 - 4fm + m^2$ B. $2fm + m$
C. $-f$ D. $2fm + mf$
67. Simplify: $\frac{7}{8} \div \frac{1}{2} + \frac{5}{4} \left[\frac{7}{3} \div \frac{5}{2} \times \frac{14}{14} \right]$
A. $\frac{311}{170}$ B. $\frac{513}{180}$
C. 3 D. None of these
68. If we add 9 to twice of a number we get 39 the number is:
A. 12 B. 13
C. 14 D. 15
69. A student got 20 out of 60 questions

Simplify:

$$\frac{x}{y} + \frac{z^2}{xy} + \frac{y}{x}$$

$$\frac{3x-2y}{2} - \frac{x+y}{3} - 1$$

Solve the following equations:

$$\frac{x+2}{6} + \frac{x-2}{2} = \frac{4-4x}{12}$$

$$\frac{4}{5x} = \frac{1}{10} + \frac{7}{10x}$$

$$\frac{3}{x+3} = \frac{4}{x+9}$$

$$\frac{15}{x-8} = \frac{6}{20-x}$$

99. Two solid spheres have surface areas $144\pi \text{ cm}^2$ and $256\pi \text{ cm}^2$ respectively. They are melted and recast to form a larger sphere. Find the approximate surface area of this sphere in cm^2 .

100. A cylinder and a cone have the same height, $2r$, and base diameter, $2r$. A sphere has a diameter $2r$. Find the ratio of the volume of the cylinder to that of the cone and the sphere.

101. The external diameter of a hollow metal sphere is 12cm and its thickness is 2cm . Find the radius of a solid sphere made of the same material and having the same weight as the hollow sphere. Given that 1 cm^3 of the metal weighs 5.4g , find the weight of the sphere in kg , leaving your answer correct to the nearest 0.1kg .

102. In an experiment, a small spherical drop of oil is allowed to fall onto the surface of water so that it produces a thin film of oil covering a large area.

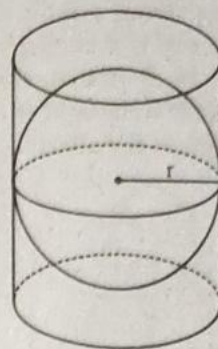
- a) Given that the volume of a drop of oil is 12.5mm^3 , find the number of drops which can be produced by 5000mm^3 of oil.

- b) Given that the volume V of a sphere of radius ' r ' is $\frac{4}{3}\pi r^3$, express r in terms of V and π . Taking π to be 3.14 , calculate the radius of one drop of oil.

103. Fifty-four solid hemispheres, each of diameter 2cm , are melted to form a solid cone with base diameter 6cm . Find the height of the cone.

104. The figure shows a sphere of radius r fitting exactly into a cylinder, i.e. the sphere touches the cylinder at the top, bottom and curved surface. Show that the surface area of the sphere is equal to the area of the curves

surface of the cylinder. (The surface area of a sphere of radius r is $4\pi r^2$).

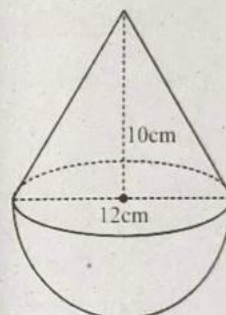


205. A mound of earth is shaped approximately like a right circular cone 6m high with a base circumference of 30m . Find the cost or removing it at 99 cents per cubic metre.

(Take π to be $\frac{22}{7}$)

206. Find the cost of painting a hemispherical roof 10m in diameter at $\$1.50$ per square metre.

207. The figure shows a composite solid consisting of a cone and a hemisphere with a common base. The cone has a height of 10cm and a base diameter of 12cm . Find the volume of the whole solid.



208. A solid metal model of a rocket is made by fastening a cone of vertical height 49cm and base radius 18cm to a circular cylinder of length 192cm and radius 18cm . If the mass of the model is 2145kg , calculate the mass of 1m^3 of the metal in kg , taking π to be $\frac{22}{7}$.

(Volume of a cone = $\frac{1}{3}\pi r^2 h$)

209. A bowl is made by cutting into half a hollow sphere of external diameter 50.8cm , made of metal 2.54cm thick.

- (a) If the bowl is filled with a liquid of density 31.75kg/m^3 , calculate the total mass of liquid in the bowl.

- (b) The bowl when empty weighs 97.9kg . Calculate the density, in kg/m^3 , of the metal of which the bowl is made of.

SOLUTION

Given that the angles of a quadrilateral are in the ratio 1 : 2 : 4 : 5, find the angles.

The sum of the ratio's of the angles is,

$$1 + 2 + 4 + 5 = 12$$

Therefore,

$$\text{First angle} = \frac{1}{12} \times 360^\circ = 30^\circ$$

$$\text{Second angle} = \frac{2}{12} \times 360^\circ = 60^\circ$$

$$\text{Third angle} = \frac{4}{12} \times 360^\circ = 120^\circ$$

$$\text{Fourth angle} = \frac{5}{12} \times 360^\circ = 150^\circ$$

A journey takes 6 hours if John travel at 30km/h. How long will it take if John travel at 45km/h?

Let x hours to be taken to cover the journey at speed of 45 km/h.

According to the given condition.

Hours	Speed
6	30km/h
x	45km/h

$$6 : x = 30 : 45$$

$$6 \times 30 = 45 \times x$$

$$x = \frac{6 \times 30}{45}$$

$$x = 4 \text{ hours}$$

The cost of petrol for a 240km journey for a car which runs 12km on each litre of petrol is \$24. What would be the cost of petrol for a 500km journey for a van which runs 11km on each litre of petrol?

According to the given condition,

Journey	km/lit	\$
240	12	24
500	11	x

$$240 : 500 = 12 : 11 = 24 : x$$

$$240 \times 11 \times x = 500 \times 12 \times 24$$

$$x = \frac{500 \times 12 \times 24}{240 \times 11}$$

$$x = \frac{600}{11}$$

$$x = 54.54$$

Therefore, cost of petrol for van is \$54.54.

Find the speed in m/s of point on a bicycle rim of diameter 88cm, making 200 revolutions per minute?

Diameter of bicycle rim = 88cm

$$= \frac{88}{100} \text{ m}$$

$$= 0.88 \text{ m}$$

$$\text{Radius of bicycle rim} = \frac{0.88}{2} = 0.44 \text{ m}$$

Distance covered in one revolutions,

$$C = 2\pi r$$

$$= 2 \times \frac{22}{7} \times 0.44 = 2.76 \text{ m}$$

So, distance covered in 200 revolutions,

$$S = 200 \times 2.76 = 552 \text{ m}$$

Hence, speed in one minute,

$$V = St$$

$$V = \frac{552}{60} = 9.2 \text{ m/s}$$

So, speed in 9.2 m/s.

5. In producing a certain article the cost of overheads, labour and materials are in the ratio 2 : 7 : 5. If the cost of labour in producing an article is \$28, find:

(a) The total cost of producing an article,

Ans. Let x be the total cost of producing one article.

$$\text{Sum of ratio's} = 2 + 7 + 5 = 14$$

$$\text{Labour cost} = \$28$$

$$\text{So, Labour cost} = \frac{7}{14} \times \text{Total cost}$$

$$\Rightarrow 28 = \frac{7}{14} \times x$$

$$x = \frac{14}{7} \times 28$$

$$x = 56$$

Hence, total cost of producing on article is \$56.

(b) The cost of materials for each article.

$$\text{Ans. Cost of material} = \frac{5}{14} \times \text{Total cost}$$

$$= \frac{5}{14} \times 56 = \$20$$

6. Eight tins of paint are required for a surface of an area 50 m^2 if 4 coats are applied on an area of 70 m^2 . Find the number of tins of paint needed for _____ coats of paint are applied.

Ans. Area : Coats : Tin

50	4	8
70	5	x

$$50 \times 4 \times x = 70 \times 5 \times 8$$

$$200x = 70 \times 40$$

$$x = \frac{2800}{200}$$

$$x = 14$$

Therefore, 14 tins of paint are needed.

7. The Singapore Navy acquired 4 Swedish-built Sjoor-men class submarine to beef up its defence capabilities. The submarine is capable of attaining a top speed of 16 knots (nautical miles per hour) when submerged. Convert 16 knots to;

(a) km/h

Ans. Submarine capable of attaining a speed = 16knots = 16 nautical miles/hour

$$\begin{aligned}\text{Area} &= \frac{50 \times (40000)^2}{(2000)^2} \\ &= \frac{50 \times 40000 \times 40000}{20000 \times 20000} = 200\text{cm}^2\end{aligned}$$

14. On a map whose scale is 1 : 50000, a housing estate is represented by an area of 24cm^2 . Find in cm^2 , the area representing this housing estate on a map whose scale is 1 : 100000.

Ans. Area of the housing estate on the map whose scale is 1 : 50000 is 24cm^2 .

Area of the same housing estate on a map whose scale is 1 : 100000 is given by

$$\text{Area} = \frac{24 \times (50000)^2}{(100000)^2} = \frac{24}{4} = 6\text{cm}^2$$

15. A model of a ship is made to a scale of 1 : 200. The volume of a hall on the model is 250cm^3 . Find the volume of the hall on the actual ship in m^3 .

Ans. Scale of the model is 1 : 200.

Volume of the hall on the model = 250cm^3

Volume of the hall on the actual ship

$$= 250 \times (200)^3 = 2000000000\text{cm}^3$$

$$= \frac{2000000000}{100 \times 100 \times 100}\text{m}^3 = 2000\text{m}^3$$

16. Simplify the following:

(a) $(x-7)(x+8) + (x+2)(x-3)$

Ans. $(x-7)(x+8) + (x+2)(x-3)$

$$= \{x(x+8) - 7(x+8)\} + \{x(x-3) + 2(x-3)\}$$

$$= (x^2 + 8x - 7x - 56) + (x^2 - 3x + 2x - 6)$$

$$= x^2 + x - 56 + x^2 - x - 6$$

$$= x^2 + x^2 + x - x - 56 - 6$$

$$= 2x^2 - 62$$

(b) $(x+2y)(x-6y) - (x-3y)(x-y)$

Ans. $(x+2y)(x-6y) - (x-3y)(x-y)$

$$= \{x(x-6y) + 2y(x-6y)\} - \{x(x-y) - 3y(x-y)\}$$

$$= (x^2 - 6xy + 2xy - 12y^2) - (x^2 - xy - 3xy + 3y^2)$$

$$= (x^2 - 4xy - 12y^2) - (x^2 - 4xy + 3y^2)$$

$$= x^2 - 4xy - 12y^2 - x^2 + 4xy - 3y^2$$

$$= x^2 - x^2 - 4xy + 4xy - 12y^2 - 3y^2$$

$$= -15y^2$$

(c) $(2x-5y)(3x+y) + 5y(4x+y)$

Ans. $(2x-5y)(3x+y) + 5y(4x+y)$

$$= 2x(3x+y) - 5y(3x+y) + 5y(4x+y)$$

$$= 6x^2 + 2xy - 15xy - 5y^2 + 20xy + 5y^2$$

$$= 6x^2 + 2xy - 15xy + 20xy - 5y^2 + 5y^2$$

$$= 6x^2 + 7xy$$

(d) $(a-3b)^2 - (3a-b)^2$

Ans. $(a-3b)^2 - (3a-b)^2$

$$= \{(a)^2 - 2(a)(3b) + (3b)^2\} - \{(3a)^2 - 2(3a)(b) + (b)^2\}$$

$$= (a^2 - 6ab + 9b^2) - (9a^2 - 6ab + b^2)$$

$$= a^2 - 6ab + 9b^2 - 9a^2 + 6ab - b^2$$

$$= a^2 - 9a^2 - 6ab + 6ab + 9b^2 - b^2$$

$$= -8a^2 + 8b^2$$

$$= 8b^2 - 8a^2$$

(e) $4(a+3)^2 + 3(a-4)(a+7)$

Ans. $4(a+3)^2 + 3(a-4)(a+7)$

$$= 4\{(a)^2 + 2(a)(3) + (3)^2\} + 3\{a(a+7) - 4(a+7)\}$$

$$= 4(a^2 + 6a + 9) + 3(a^2 + 7a - 4a - 28)$$

$$= 4(a^2 + 6a + 9) + 3(a^2 + 3a - 28)$$

$$= 4a^2 + 24a + 36 + 3a^2 + 9a - 84$$

$$= 4a^2 + 3a^2 + 24a + 9a + 36 - 84$$

$$= 7a^2 + 33a - 48$$

(f) $2(2a+1)(3a-2) - 3(4a-1)^2$

Ans. $2(2a+1)(3a-2) - 3(4a-1)^2$

$$= 2\{2a(3a-2) + 1(3a-2)\} - 3\{(4a)^2 - 2(4a)(1) + (1)^2\}$$

$$= 2\{6a^2 - 4a + 3a - 2\} - 3\{16a^2 - 8a + 1\}$$

$$= 12a^2 - 2a - 4 - 48a^2 + 24a - 3$$

$$= 12a^2 - 48a^2 - 2a + 24a - 4 - 3$$

$$= -36a^2 + 22a - 7$$

(g) $5p^2 - 4(p+q)(2p-3q)$

Ans. $5p^2 - 4(p+q)(2p-3q)$

$$= 5p^2 - 4\{p(2p-3q) + q(2p-3q)\}$$

$$= 5p^2 - 4(2p^2 - 3pq + 2pq - 3q^2)$$

$$= 5p^2 - 4(2p^2 - pq - 3q^2)$$

$$= 5p^2 - 8p^2 + 4pq + 12q^2$$

$$= -3p^2 + 4pq + 12q^2$$

(h) $2p(5p-4q) - (3p+2q)^2$

Ans. $2p(5p-4q) - (3p+2q)^2$

$$= (10p^2 - 8pq) - (9p^2 + 12pq + 4q^2)$$

$$= p^2 - 20pq - 4q^2$$

17. A sum of \$360 is shared among 3 people in the ratio 2 : 3 : 7. Calculate the largest and smallest shares.

Ans. Total sum = \$360

No. of people = 3

Ratio among shares = 2 : 3 : 7

Sum of ratios = 2 + 3 + 7 = 12

So, The largest share = $\frac{7}{12} \times 360 = \$210$

and Smallest share = $\frac{2}{12} \times 360 = \$60$

18. Simplify:

$$3x^2 - 5x - \{7x - [-2x^2 + x + 4(x-2)]\}$$

Ans. $3x^2 - 5x - \{7x - [-2x^2 + x + 4(x-2)]\}$

$$= 3x^2 - 5x - \{7x - [-2x^2 + x + 4x - 8]\}$$

$$= 3x^2 - 5x - \{7x - [-2x^2 + 5x - 8]\}$$

$$= 3x^2 - 5x - \{7x + 2x^2 - 5x + 8\}$$

$$x = \frac{d}{4\frac{2}{3}}$$

$$x = \frac{d}{\frac{14}{3}}$$

$$x = \frac{3}{14}d$$

$$d = \frac{14}{3}x \quad (i)$$

If man increase his speed by 3km/h, he can reduce the time taken by $\frac{1}{3}$ hours. So,

$$(x + 3) = \frac{d}{\left(4\frac{2}{3} - \frac{1}{3}\right)}$$

$$x + 3 = \frac{d}{4\frac{1}{3}}$$

$$x + 3 = \frac{d}{\frac{13}{3}}$$

$$x + 3 = \frac{3}{13}d$$

$$d = \frac{13}{3}(x + 3) \quad (ii)$$

Comparing equation (i) and equation (ii)

$$\frac{14}{3}x = \frac{13}{3}(x + 3)$$

$$14x = 13(x + 3)$$

$$14x = 13x + 39$$

$$14x - 13x = 39$$

$$x = 39 \text{ km/h}$$

So, the men's usual speed is 39 km/h.

68. A motorist does the first part of his journey at an average speed of 54 km/h. He then increases his speed to 60 km/h for the rest of the journey. If he travels 225km in 4 hours, what is the distance for the first part of his journey?

Ans. Let t_1 and t_2 be the time taken by the motorist in two parts of his journey.

In the first journey, his speed is 54km/h and let d be the distance covered.

So,

$$54 = \frac{d}{t_1}$$

$$d = 54t_1 \quad (a)$$

Similarly, for second part of journey, his speed is 60km/h and let be the distance covered. So,

$$60 = \frac{D}{t_2}$$

$$D = 60t_2$$

$$\text{As, } t_1 + t_2 = 4 \text{ hours}$$

$$t_2 = 4 - t_1 \quad (i)$$

And total distance covered = 225 kms.

$$\text{So, } 54t_1 + 60t_2 = 225 \quad (ii)$$

Put $t_2 = 4 - t_1$ in equation (ii)

$$54t_1 + 60(4 - t_1) = 225$$

$$54t_1 + 240 - 60t_1 = 225$$

$$54t_1 - 60t_1 = 225 - 240$$

$$-6t_1 = -15$$

$$6t_1 = 15$$

$$t_1 = \frac{15}{6}$$

$$t_1 = 2\frac{1}{2} \text{ hours}$$

Equation (a) $\Rightarrow$

$$d = 54\left(2\frac{1}{2}\right)$$

$$d = 27 \times 5$$

$$d = 135$$

So, the distance for the first part of his journey is 135km.

69. Mrs. Lims buys 30kg of cheese at a certain price. She finds that if she had bought some cheaper cheese costing 95 cents less per kg, she could have $32\frac{1}{2}$ kg for the same amount of money. What is the price per kg of the cheese which is more expensive?

Ans. Let x the price per kg of dearer cheese.

$$\begin{aligned} \text{Also, Price of cheaper cheese per kg} &= \$\left(x - \frac{95}{100}\right) \\ &= \$ (x - 0.95) \end{aligned}$$

So,

$$\begin{aligned} \text{Price of } 32\frac{1}{2} \text{ kg of cheaper cheese} &= \$ 32\frac{1}{2} (x - 0.95) \\ &= 32.5 (x - 0.95) \end{aligned}$$

According to given condition,

$$32.5(x - 0.95) = 30x$$

$$32.5x - 30.875 = 30x$$

$$32.5x - 30x = 30.875$$

$$2.5x = 30.875$$

$$x = 12.35$$

So, the price of per kg of dearer cheese is 12.35.

70. A boy has a certain number of sweets. If he eats 16 a day, they will last him 2 days longer than if he eats 18 a day. How many sweets has he?

Ans. Let x be the no. of sweets and y be the no of days the sweets last when 16 are eaten a day. Then,

$$16y = x \quad (i)$$

According to given condition,

$$18(y - 2) = x$$

General Science

By:
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Unit # 1

Plant System

Short & Long Q/As

Q. 1. Define Science. Why do we study science?

Ans: Science:

Science came from the Latin word, "Scientia" which means knowledge, a knowing, expertness or experience, covering general truth.

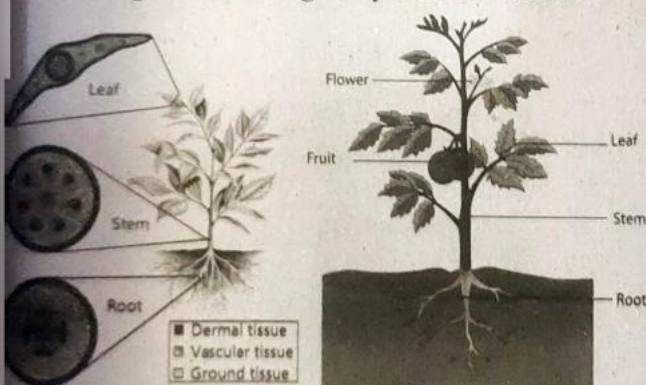
Why we study science:

Science is research-based knowledge, practice-based skill and inquiry-based approach to investigate and learn further through scientific method. The key activities involved in scientific method are observation, experimentation and deduction. Technology is application of scientific knowledge for solving daily life problems, making arduous works easy and improving quality of life. In order to meet the globally recognized standards, we need to broaden our educating horizons and adopt scientific method to learn science.

The inquiries and activities of scientific method involve observations, experimentations and conclusions. Hypothesis, theory and principle, etc., are the developmental stages in scientific research.

Q. 2. Name the organs and organ system in plants.

Ans: Organs and Organ System in Plants:



Organs and organ systems in plants

Q. 3. Name the two major systems of plants.

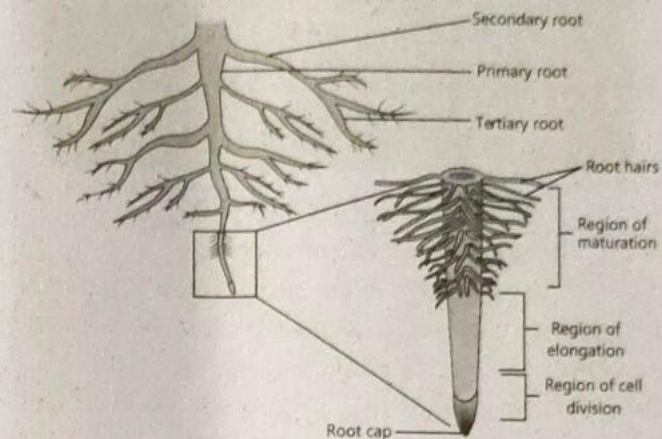
Ans: Plants have two major systems:

- (a) Roots system (b) Shoot system

Q. 4. Describe the structure and function of the Root system in plants.

Ans: Root System:

Roots are the underground parts of the plants forming a system specialized for absorption of water and minerals from the soil (Figure).



Parts of root

The initial root which grows from radicle of the embryo is the **primary root** or **tap root**. Its further branches form **secondary** and **tertiary** root system. The tips of roots and shoots in plants consist of tissues formed by the cells called meristematic tissues. These cells are specialized for growth. These cells increase in number by rapid cell division.

Root tip is covered by hard and protective structure called **root cap**. It protects the newly born soft cells from being damaged and environmental stresses. It enables root tip to grow through soil. More and more cells are formed by rapid cell divisions in this region causing the root to grow deep into the soil and elongate the root behind. The **region of maturation** has root hairs. **Root hairs** are thread like outgrowths of epidermal cells which increase the surface area for absorption of water. Plants, like grasses and strawberry have thread like roots spread in soil but not growing deep. Such roots are called **fibrous roots** (Figure).

24. **Products of Photosynthesis are**
a. Sucrose + Oxygen b. Glucose + CO₂
c. Glucose + Oxygen d. Glucose + water
25. **What is the effect of increasing light intensity on photosynthesis?**
a. It increases b. It decreases
c. No effect d. Increases first then decreases
26. **The level of Carbon dioxide in the air is about**
a. 0.03 to 0.04 percent
b. 0.03 to 0.05 percent
c. 0.02 to 0.04 percent
d. 0.03 to 0.06 percent
27. **What is the most suitable temperature for plant growth?**
a. 20 - 30°C b. 20 - 35°C
c. 25 - 30°C d. 25 - 35°C
28. **Plants transport prepared food through:**
a. Phloem vessels
b. Xylem vessels
c. Parenchyma tissues
d. None of these
29. **The loss of water by evaporation from plant is called:**
a. Translocation b. Transpiration
c. Transformation d. Transportation
30. **The movement of prepared food from leaves to those parts of plants body where it is needed is called:**
a. Translocation b. Transpiration
c. Transformation d. Transportation
31. **Plants transport prepared food through:**
a. Phloem vessels b. Xylem vessels
c. Parenchyma tissues d. None of these
32. **Plants transport water through:**
a. Phloem b. Xylem
c. Parenchyma d. None of these
33. **The loss of water by evaporation from plant is called:**
a. Translocation b. Transpiration
c. Transformation d. Transportation
34. **The movement of prepared food from leaves to those parts of plants body where it is needed is called:**
a. Translocation b. Transpiration
c. Transformation d. Transportation
35. **The waxy layer cuticle around the stem:**
a. Increases water loss
b. Reduces water loss
c. Increases flow of food
d. Decreases flow of food
36. **These are the food factories in plants:**
a. Stem b. Roots
c. Leaves d. Branches
37. **Stomata are present in the:**
a. Lower layer of the leaves
b. Upper layer of the leaves
c. Middle layer of the leaves
d. All of these
38. **Midrib and veins of a leaf have:**
a. Xylem vessels b. Phloem vessels
c. Both a. & b. d. None of these
39. **Midrib is present in:**
a. Leaves b. Roots
c. Stem d. All of these
40. **In an area equal to the size of the head of a pin, there may be:**
a. 10 stomata b. 20 stomata
c. 50 stomata
d. 100 or more stomata
41. **Glucose contains:**
a. Carbon, Hydrogen and Nitrogen
b. Carbon, Hydrogen and Oxygen
c. Carbon, Hydrogen and Phosphorous
d. All of these
42. **One molecule of water contains:**
a. One atom of hydrogen
b. Two atoms of hydrogen
c. Three atoms of hydrogen
d. Four atoms of hydrogen
43. **One molecule of Carbon dioxide contains:**
a. One atom of carbon
b. Two atoms of carbon
c. Three atoms of carbon
d. Four atoms of carbon
44. **The root system which can get water from deep underground sources is:**
a. Fibrous roots b. Tap roots
c. Storage roots d. Root nodules
45. **Which of the following is not an organ of plant?**
a. Epidermis b. Root
c. Stem d. Leaf

pumped towards the lungs.

Q. 15. Explain the structures and functions of the following:

- Arteries
- Veins
- Capillaries

Ans: Blood Vessels (Arteries, Veins, Capillaries):

a. Arteries

The blood vessels that carry blood away from the heart are called *arteries*. *Aorta* is the main artery. It branches to form small arteries. The arteries branch again to form arterioles.

Structure of Arteries:

Arteries are thick-walled. When an artery constricts, its *lumen* (space) becomes narrower and less blood flows through it in a given time. Arteries have no valves. In places where the arteries are close to the skin, such as wrist, one can feel the expansion of the arteries as pulse. The pulse tells us the rate of heart beat. The blood flows under high pressure in the *arteries*.

b. Veins

Capillaries re-unite to form small veins called *venules*. The *venules* join to form bigger veins. The veins carry blood back to the heart.

Structure of Veins:

When the blood reaches a vein, it flows slowly and smoothly. So the walls of the veins need not be as thick and muscular as those of the *arteries*.

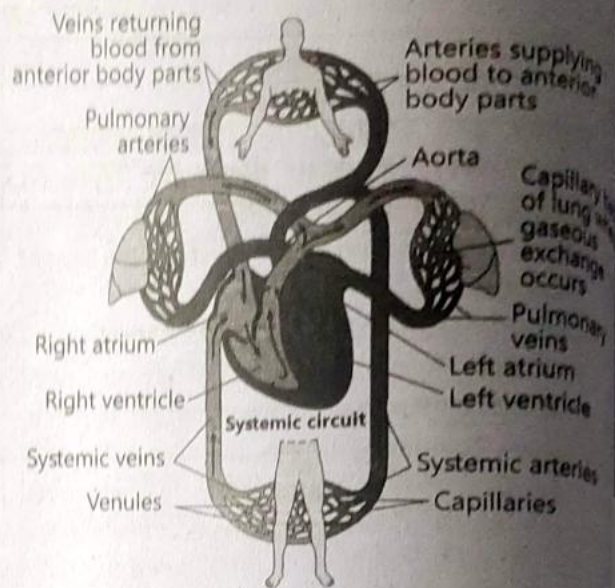
Veins have larger lumen. Most of the veins have internal valves to prevent backflow of the blood.

c. Capillaries

The arterioles divide and become tiny vessels called *capillaries*. *Capillaries* provide a large surface area for the exchange of materials between the blood and the tissues.

Structure of Capillaries:

Capillaries are very thin walled vessels through which the exchange of materials between blood and tissues takes place.



Structure and Function of Blood Vessels

Q. 16. What type of blood is received by right atrium. Oxygenated or deoxygenated blood?

Ans: Deoxygenated blood.

Q. 17. Differentiate between Arteries, veins and capillaries.

Ans: Difference between Arteries, Veins and Capillaries:

Arteries	Veins	Capillaries
Carry blood away from the heart	Carry blood towards the heart	Provide surface area for exchange of materials between the body cells and blood cells
Thick walled vessels	Thin walled vessels	Very thin walled
Facing high blood pressure	Facing low blood pressure	Facing low blood pressure
Having no valves	Veins have valve	No valve
Carry blood having oxygen and nutrients for the body cells, except pulmonary artery which carries de-oxygenated blood.	Return blood carrying carbon dioxide and other wastes, except pulmonary vein which carries oxygenated blood	Provide oxygen and nutrients to the cells and collect carbon dioxide and other wastes from the cells.

Unit # 3

Immunity & Diseases

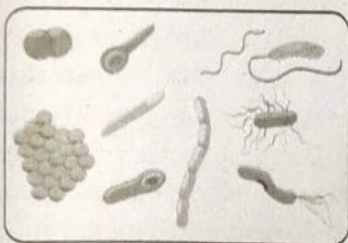
Short & Long Q/As

1. Name the disease causing organisms (agents).

Ans: The disease causing organisms (agents) are as under:



Virus



Bacteria



Plasmodium



Fungus

2. Define the following:

a. Immunity

- b. Infection
- c. Antibodies
- d. Pathogens
- e. Parasites

Ans:

a. **Immunity**

Ability of an organism's body to defend itself against disease-causing organisms is called *immunity*.

b. **Infection**

Entry and growth of microorganisms into bodies of other organisms is called infection.

c. **Antibodies**

Proteins that protect human body when an unwanted substance enters it are called *antibodies*.

d. **Pathogens**

Disease causing microorganisms are called *pathogens*.

e. **Parasites**

An organism living in the body of another organism for food that may cause diseases are called *parasites*.

Q. 3. Write 'C' against the correct and 'I' against the incorrect statement in the middle column. Also correct the incorrect statement and write it in the next column.

Ans:

Correct/Incorrect	C/I	Correct statement
Diseases that can be transmitted from one person to another are called contagious diseases.	C	
Diseases that are not transferred from one person to another are called contagious diseases.	I	Diseases that are not transferred from one person to another are called non-contagious diseases.
Cancer and diabetes are the examples of contagious diseases.	I	Cancer and diabetes are the examples of non-contagious diseases.

Q. 11. Define shell (orbit). How many number of maximum electrons each shell can hold?

Ans: Shells Or Orbits:

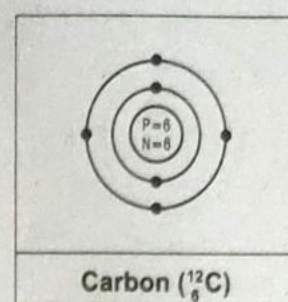
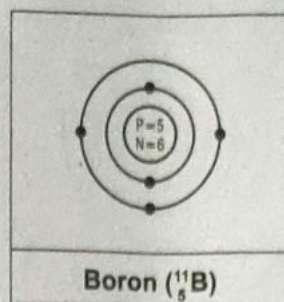
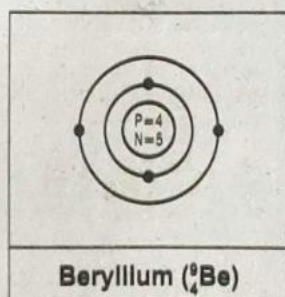
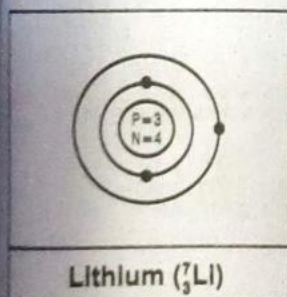
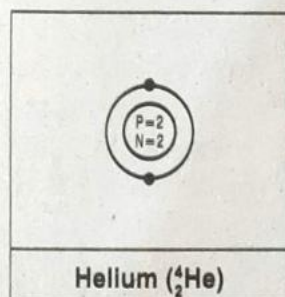
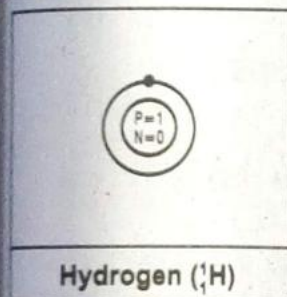
Areas around the nucleus of an atom where electrons are found are known as shells or orbits. First, second, third and fourth shells are named as K, L, M and N respectively. An integer 'n' is used to describe the position of these shells around the nucleus of an atom. For the first K shell $n = 1$, for the second L shell $n = 2$, for the third M shell $n = 3$ and for the fourth N shell $n = 4$. The maximum number of electrons which each shell can accommodate can be determined by using the formula $2n^2$ Table.

Table: Electrons in different shells around an atom

Shell	Value of n	Name of the shell	Maximum of number of electrons = $2n^2$
First	1	K	$2n^2 = 2 \times 1^2 = 2 \times 1 = 2$
Second	2	L	$2n^2 = 2 \times 2^2 = 2 \times 4 = 8$
Third	3	M	$2n^2 = 2 \times 3^2 = 2 \times 9 = 18$
Fourth	4	N	$2n^2 = 2 \times 4^2 = 2 \times 16 = 32$

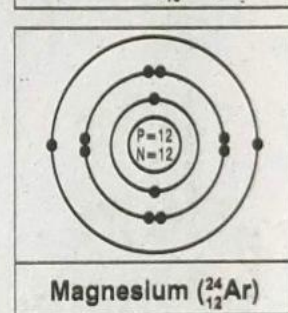
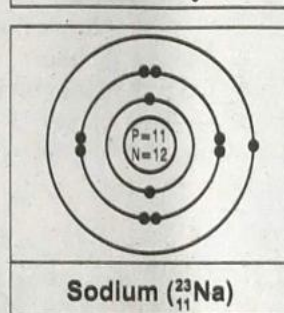
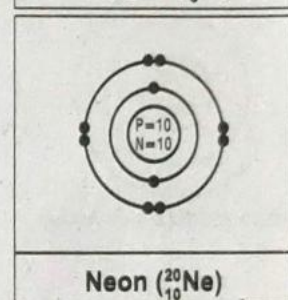
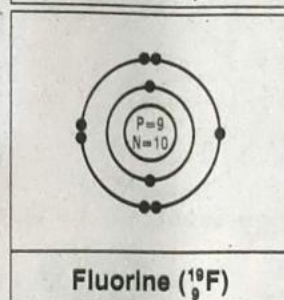
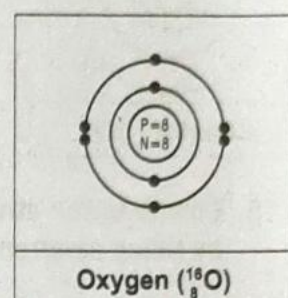
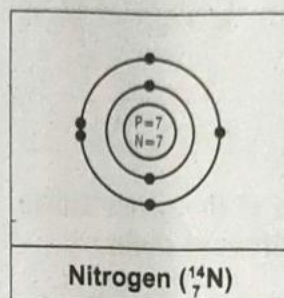
Q. 12. Draw the atomic structure of elements having number 1 to 6.

Ans:



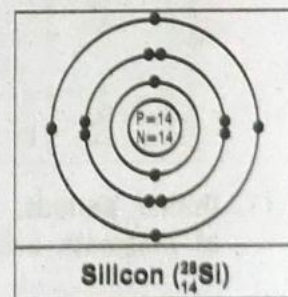
Q. 13. Draw the atomic structure of elements having number 7 to 12.

Ans:



Q. 14. Draw the atomic structure of elements having number 13 to 18.

Ans:



3. Name the members of the following families in the Periodic Table:

- (a) **Alkali metals**
 Group I = Sodium, Potassium, Rubidium
- (b) **Alkaline earth metals**
 Group II = Beryllium, Magnesium, Calcium, Strontium, Barium, Radium
- (c) **Halogens**
 Group 17 = Fluorine, Chlorine, Bromine, Iodine, Astatine.
- (d) **Nobel gases**
 Group 18 = Helium, Neon, Argon, Krypton, Xenon, Radon

4. Name the element having the same period number and group number.

Ans: Hydrogen

5. What does $^{13}_{27}\text{Al}$ indicate?

Ans: One atom of aluminum contains 13 protons. Its atomic mass is 27. So it contains 14 neutrons.

6. Why do H and Be exist as atoms while He and Ne as molecules?

Ans: **Beryllium** does not react directly with hydrogen because the oxidation potential of Beryllium is very low. It does not donate electrons.

Helium is considered monoatomic because it has one atom in one molecule but hydrogen is considered diatomic because it has 2 atoms of hydrogen in its molecule.

Neon is noble gas. It has its full share of valence electrons, that makes it unlikely to bond with other atoms. So it exists as monoatomic molecule.

7. What does electronic configuration mean?

Ans: The electronic configuration of an atom is the representation of the arrangement of electrons, distributed among the orbital shells and subshells.

Example:

Oxygen atom has 8 electrons. Its first shell contains 2 electrons and the second shell contains 6 electrons.

8. What is the difference between an atom and isotope?

Ans:

	Atom	Isotope
1.	Atom of each element has same number of electrons and protons.	Isotopes are the atoms of the same element, having same number of proton but different numbers of neutrons.
2.	Atoms of the same elements have same chemical properties.	Different isotopes of the same element have different mass numbers.
3.	In each atom of an element neutrons are equal.	Different atoms of different isotopes of the same element, have different number of neutrons.

4.4 Investigate the isotopes and their uses.

Ans: **Isotopes:** Atoms of the same element with the same number of protons but different numbers of neutrons are called isotopes. They have mostly same chemical properties, but differ in mass number and physical properties.

Uses of Isotopes:

- Isotopes are used for solving chemical and medical issues.
- Used in the laboratories to investigate the chemical reactions.
- An isotope of **Uranium** is used as fuel in nuclear reactor.
- Carbon-14** is used to calculate the age of plants.
- Nitrogen-15** is used to study the effects of nitrogenous fertilizers in plants.
- Sodium-24** is used to study circulation of blood.
- Phosphorus-32** is used in treatment of blood cancer and bone diseases.
- Chromium-51** is used to study red blood cells in patients with blood

Examples of contact forces

i. Push and pull

For pushing a box ahead and pulling a rope in opposite directions, we need to make physical contact with them (Figure).



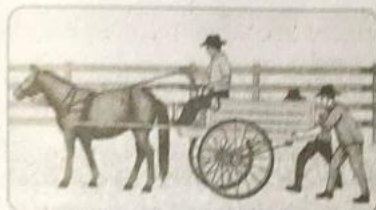
Pushing a box



Pulling a rope

Push and pull (contact forces)

For pushing and pulling the objects, the muscular force of animals and humans is applied. Muscular force is also an example of contact force (Figure).



Pushing and pulling a cart

Q. 25. Define frictional force.

Ans: Frictional force:

When a boy stops paddling, the bicycle facing the frictional force between its tyres and the ground stops to move (Figure). The frictional force is produced due to a contact between tyres of bicycle and the ground. The frictional force is therefore a contact force.



Frictional force stops the moving bicycle

Q. 26. Define mechanical force. Explain with the help of an example.

Ans: Mechanical Force:

The force exerted by a machine is called mechanical force.

Force is required for lifting heavy objects. Such a force is provided by the machines like cranes.

iii. Machines do not produce force by themselves. They need energy from other sources to produce force. For lifting a heavy object, the object and the crane come in contact with each other. Therefore, the mechanical force that makes the crane lift the object is also a contact force (Figure).



Crane lifting heavy objects

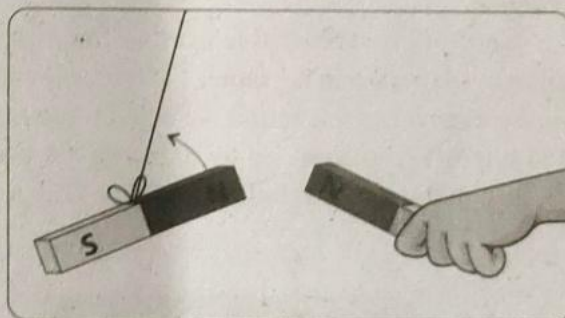
Q. 27. Define non-contact force.

Ans: Non-Contact Forces:

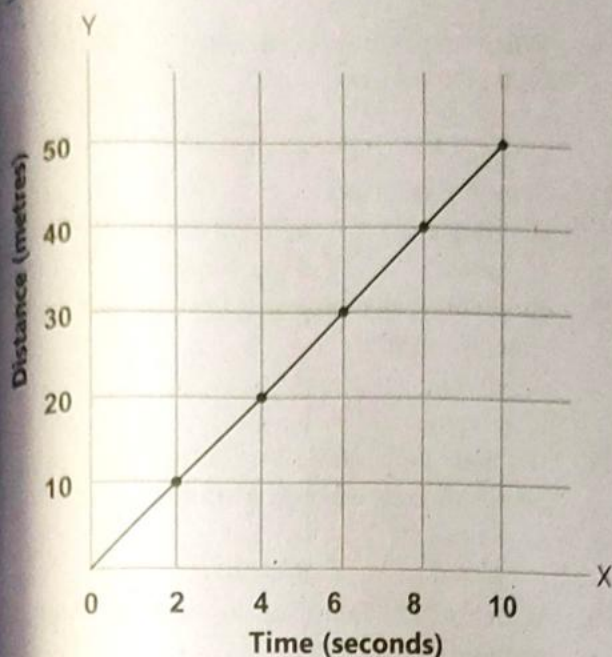
Some forces do not involve physical contact between the objects on which they act. They act through the space between them. Such forces are called non-contact forces.

Example of non-contact forces:

Magnetic force (Figure a), electrostatic force (Figure b) and gravitational force (Figure c) are the examples of non contact forces.



a. Magnetic forces



b. State what the graph tells you about the motion of the toy train:

(i) During the first second

Ans: During the first second = $\frac{10}{2} = 5$ m

(ii) From 2 to 4 seconds

Ans: Time = 2 seconds

Distance $5 \times 2 = 10$ metres

(iii) From 8 to 10 seconds

Ans: Time = 2 seconds

Distance $5 \times 2 = 10$ metres

Total distance = 50 metres.

Additional MCQs

- Average speed of elephant is:
A. 45-50 miles/hour
b. 50-60 miles/hour
c. 70 miles/hour d. 20 miles/hour
- Average speed of Cheetah is:
a. 45-50 miles/hour b. 50-60 miles/hour
c. 70 miles/hour d. 20 miles/hour
- Average speed of race horse is:
a. 45-50 miles/hour b. 50-60 miles/hour
c. 70 miles/hour d. 20 miles/hour
- Which one is the correct formula:
a. Average speed = Distance $\times$ time
b. Average speed = Distance $\div$ time
c. Distance = Speed $\div$ time
d. Distance = Time $\div$ Speed
- A cyclist moves 40 km in East for 2 hours and 20 km in North for 1 hour. His average speed is:
a. 30 km/hr b. 20 km/hr
c. 25 km/hr d. 15 km/hr
- Force is:
a. A push b. A pull
c. Can change the state of the body
d. All of these
- Unit of Force is:
a. Joule b. Newton
c. Kilogram d. Gram
- The SI unit of mass is:
a. Joule b. Newton
c. Kilogram d. Gram
- Force applied will be 1 Newton if:
a. A body of mass 10 kg is pushed and its speed is increasing at the rate of 1 m/s
b. A body of mass 2 kg is pushed and its speed is increasing at the rate of 1 m/s
c. A body of mass 1 kg is pushed and its speed is increasing at the rate of 1 m/s
d. A body of mass 5 kg is pushed and its speed is increasing at the rate of 1 m/s
- Gravitational Force is:
a. Contact force
b. Non-Contact force
c. Electromagnetic force
d. None of these
- Drag force between aeroplane and air is:
a. Contact force
b. Non-Contact force
c. Electromagnetic force
d. None of these
- Frictional force is:
a. Contact force
b. Non-Contact force
c. Electromagnetic force
d. None of these
- By dividing distance of a moving body its speed, we obtain:
a. Mass b. Time
c. Gravity d. Force

Q. 14. Expansion and contraction can be helpful in many areas of life. Explain.

Ans: Uses of Expansion and Contraction in Everyday Life:

i. **Expansion gaps in concrete road:**

Concrete in roads and paths expands in the summer because of high temperature. This makes the roads ruptured. To avoid such loss, small gaps are left after every few meters in the concrete roads and paths (Figure).



Gaps in concrete surface of road

ii. **Railway Tracks:**

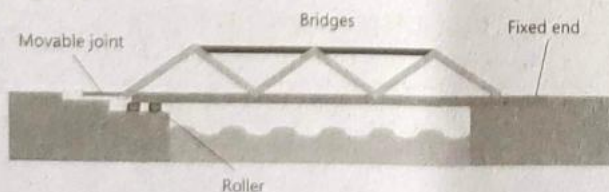
Railway tracks expand in hot days. If there is no gap, this is very dangerous for trains. Train can derail and endanger passengers.



Railway Track

iii. **Expansion of Bridges:**

In building bridges, engineers must account for expansion in their design. This is because gaps are left at one end, and that end is supported by rollers (Figure).

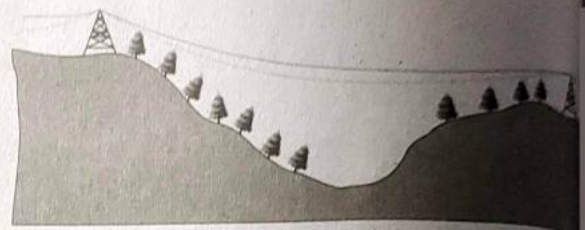


Iron bridge

Rollers allow bridge to slide over smoothly when expanded. Otherwise, large stress would arise and the concrete would crack.

iv. **Overhead Power and Telephone Wires:**

Overhead cables and telephone wires on poles expand during hot summer days. They contract in cold weather and become tight (Figure). They may even snap. Allowance is made for the expansion or contraction so that the wires do not sag too much during the day or snap at night. To prevent this, they are strung loosely from pole to pole to allow for contraction.



Overhead power and telephone wires

v. **Large Bends in Pipes:**

Water pipes and pipelines can expand during hot weather and may burst. The bends in pipes allow them to expand or contract without cracking.

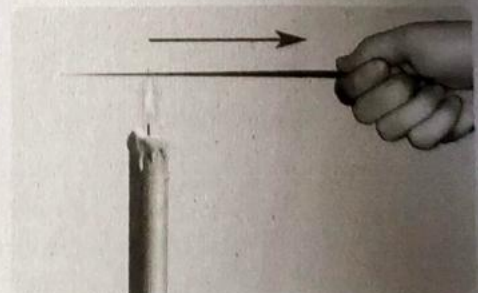
vi. **Mercury or Alcohol in Thermometer:**

Mercury and alcohol are used in thermometers. These liquids expand and rise up in the capillary tube of the thermometer when they get hotter. They contract and fall down in the tube on becoming cooler.

Q. 15. Define and explain the process of conduction. Name some good and poor conductors of heat.

Ans: Conduction:

The transfer of heat from one part of the solid to its other parts by vibrations and collisions of particles (atoms or molecules) is called conduction of heat (Figure). In this process, the particles do not move from place to another place.



Conduction of Heat

In solids, atoms or molecules are tightly held together. They vibrate constantly about their mean positions. When one part of a solid object is heated, its atoms or molecules gain heat energy, due to which their vibrations become stronger. They collide with the neighbouring atoms or molecules and cause them to vibrate strongly. In this way, they transfer their heat energy to the neighbouring atoms or molecules and onwards.

Good and Poor Conductors of Heat:

The materials that allow heat to travel through them faster are called **good conductors of heat**. Metals and their alloys are good conductors of heat. Because, in metals heat is not only conducted by vibrating atoms but also by the free electrons.

Examples:

Iron, copper, silver and aluminium metals are the examples of good conductors of heat.

The materials which do not allow heat to pass through them easily, are called **bad conductors of heat**. Non metals are bad conductors of heat as they do not have free electrons in them.

Examples:

Wood, rubber, cork, plastic and glass, etc., are the examples of bad conductors of heat.

Q. 16. Define and explain the process of convection.

Ans: **Convection:**

The transfer of heat from one place to another by actual movement of liquid or gaseous particles is called **convection of heat** (Figure). In this method, molecules of liquid or gasses which are in contact with a hotter part of the container get hot.



Convection of heat

These hot molecules being lighter, rise up and cold molecules come down to fill the place. In this way, molecules of liquids and gases transfer heat by their actual movement.

Q. 17. Define and explain the radiation.

Ans: **Radiation:**

The transfer of heat in the form of rays is called **radiation**. It is the third method of heat transfer is radiation. In this method, heat spreads out directly from the source in the form of heat rays (Figure). Radiation process does not require any material medium for heat transfer. Like light, heat rays can pass through transparent material such as air, glass, water, etc. Heat from the Sun reaches the Earth through the radiation process.



Radiation of heat

Q. 18. Which materials are used for thermal insulation in building?

Ans: **Thermal Insulation in Buildings:**

Material objects such as cork, foam, wool, cotton, timber, ceramic tiles, and some plastic products, etc., are non conductors of heat. These are used for thermal insulation in buildings. Entrance of heat through windows can be reduced using **double glazing** panes, i.e., two joined glass panes having air in between them. There are special paints whose coating is also helpful in thermal insulation.

Q. 19. What is the principle and function of the vacuum flask?

Ans: **The Vacuum Flask:**

A vacuum flask is a double walled vessel (Figure). It is designed such that it hardly allows heat to enter into the flask or to come out of it. Therefore, it keeps the temperature of its contents for several hours. As a result, the liquids placed in it remain hot or cold for a longer period.

- The number of people whose drinking water is provided by desalination plants:
- 200 million
 - 300 million
 - 400 million
 - 500 million
- Percentage of Earth's surface covered by land:
- 30%
 - 70%
 - 50%
 - 60%
- Pickling causes:
- Discoloration
 - Change of taste
 - Change of flavour
 - All of these
- It is used in pickling:
- Sodium carbonate
 - Vinegar
 - Sodium chloride
 - None of these
- The percentage of Earth covered by water
- 50%
 - 80%
 - 70%
 - 25%
- In many areas in Pakistan people have to travel for a long distance to reach a _____ sources.
- energy
 - gas
 - water
 - food
- The percentage of natural disasters caused by water is _____.
- 48%
 - 90%
 - 30%
 - 70%
- The increases in water consumption from now to 2050 is:
- 70%
 - 50%
 - 75%
 - 30%
- _____ is the process of dehydrating foods.
- Drying
 - Canning
 - Curing
 - Dry salting
- Aloe vera gel is good for
- teeth
 - bones
 - skin
 - heart
- The Percentage of fresh water on earth is not more than only
- 2%
 - 30%
 - 20%
 - 25%
30. Drip irrigation system is useful for agriculture
- Spread equally
 - Reach roots directly
 - Sprinkles
 - Evaporates
31. Given below from the list is not a way to preserve food.
- Freezing
 - Pickling
 - Curing
 - Garnishing
32. The best way to preserve vegetables is
- Salting
 - Drying
 - Curing
 - Pickling
33. The instrument used by doctors for listening to heart beats is called
- Stethoscope
 - Microscope
 - Periscope
 - Ophthalmoscope
34. Which of the following is used for making a working model of a stethoscope
- Funnels, plastic tube, balloons and duct taps
 - Funnels and duct tape only
 - Tubing and duct tape only
 - Balloons and duct tape only
35. Use of hand sanitizer helps in
- Killing germs from the skin and keeping it safe
 - Removing germs
 - Keeping skin safe
 - Keeping skin moisturized
36. In pickling food is soaked in
- Water
 - Oil
 - Solution of salt and acid
 - Solution of sugar and acid
37. The process of food preservation in which bacteria is allowed to grow against the harmful bacteria is called
- Fermentation
 - Dry Salting
 - Pickling
 - Canning
38. Pasteurization means
- Freezing at a certain temperature to keep food microbe free
 - Heating at a certain temperature to keep food microbe free
 - Drying at a certain temperature to keep

PAST PAPERS

Model Paper English 1 – MCJ

Military College Jhelum Entrance Exam – 8th Class

Time: 1 hour

Total Marks: 100

Instructions:

- All questions are COMPULSORY.
- Paper will be attempted with blue colour ink pen. Black marker can be used for headings only. Ball point is not allowed.
- No mark will be awarded for cutting, overwriting or use of led pencil in Q4 and 5.
- Roll No. will not be written in any place, including continuation sheet and rough work sheet, other than the first page of the sheet.
- Exam centre will not be mentioned on the answer sheet. No identification sign e.g. drawing, sticker etc. will be marked on the answer sheet. Failure to abide by these instructions will result in candidate's disqualification.
- All questions will be attempted only on the answer sheet.
- Question papers will not be attached with the answer sheet.

Q.1. Write a paragraph of about 150 words on any ONE of following topics:

- Unemployment
- Faith, Unity, Discipline
- Self Discipline

Q.2. Write five sentences on any TWO of the following:

- Life is not a bed of roses
- Smoking
- Honesty is the best policy.

Q.3. (a) Use the following words in meaningful sentences:

Regime, Heritage, Agony, Scared, Extraordinary.

(b) Correct the spellings of the following words:

Purpoze, Streggle, Forist, Exsel, Maganetic.

Q.4. Do as directed

a. Use the correct preposition:

- The king sentenced him _____ death.
- The medicine is beneficial _____ the patients.
- The hunter loaded his gun and took his aim _____ the bird.

- I cannot agree _____ you.
- Have you learnt this poem _____ heart?

b.

- He said to me, "Work hard." (Change into indirect Speech)
- I used to visit my uncle. (Change into negative)
- Birds fly in the air. (Change into past indefinite)
- People respected him for his honesty. (Change into passive voice)
- The bell is rung regularly by him. (Change the voice)

Q.5. a. Fill in the blanks using correct form of the verbs given in brackets:

- The poet is _____ the feeling of the young boy. (talk)
- If they go to Lahore, they will _____ a sports kit for use. (bring)
- She _____ thankful to the bee for saving her life. (be)
- The boy has been _____ for the last ten minutes. (weep)
- The Chief Guest _____ away the prizes (give)

b. Change into interrogative:

- Mosquito stings the baby.
- On dusty hot summer day the rain looks very good.
- Etiquette means the rules of correct behaviour.
- Travelling is a good hobby for the students.
- My horse runs very fast.

c. Correct the following sentences:

- He is senior than me.
- Higher you go cooler it is.
- Did you pl _____ the flower?
- All is well _____ at end well.
- It has been raining from morning.

Q.6. a. Translate into Urdu:

- Waris Shah wrote legendary tale of Heer Ranjha.
- Rain is welcomed everywhere.
- As you sow so shall you reap.
- I shall defend my country at any cost.
- Nobody cares whether the likes it or not.

(b) Translate into English:

تم کب تک ادھر قیام کرو گے؟ (1)

- (۲) اب بچھتائے کیا ہوت جب چڑیاں چل گئیں کھیت۔
 (۳) کیا آپ کو کھیلوں میں بھی کوئی دلچسپی رہی ہے؟
 (۴) وہ اچھے لڑکوں کی مٹھل میں اٹھتا بیٹھتا ہے۔
 (۵) یہ سڑک ملٹری کالج کو جاتی ہے۔
 (۶) حامد نے زلزلے میں پورا خاندان کھو دیا۔
 (۷) سورج کبھی بھی مغرب سے طلوع نہیں ہوتا۔
 (۸) کیا آپ دلچسپ کتابیں پڑھتے ہیں؟
 (۹) انسان کی ہر خواہش پوری نہیں ہو سکتی۔
 (۱۰) پاکستان کو دہشت گردی کے سنگین خطرے کا سامنا ہے۔

Solution Model Paper English 1

- Q. 1. Creative task. For support see Section A
 Q. 2. Creative task. For support see Section A
 Q. 3. (a) Use the following words in meaningful sentences: (10)

a.	Regime	نظام حکومت	The regime of Aurangzeb was famous for justice.
b.	Heritage	ورثہ	Urdu language is our national heritage.
c.	Agony	اذیت	The flood brought a serious agony for the residents of low areas.
d.	Scared	ڈرا ہوا	The baby was scared when the swing was at full speed.
e.	Extraordinary	غیر معمولی	An extraordinary meeting was held to discuss the problem.

- (b) Correct the spellings of the following words: (5)

- | | | | |
|----|-----------|----------|----------|
| a. | Purpoze | Purpose | مقصد |
| b. | Streggle | Struggle | کوشش |
| c. | Forist | Forest | جنگل |
| d. | Exsel | Excel | برتری |
| e. | Maganetic | Magnetic | مقناطیسی |

- Q. 4. Do as directed

- a. Use the correct preposition:

- The king sentenced him to death.
- The medicine is beneficial to the patients.
- The hunter loaded his gun and took his

aim at the bird.

- I cannot agree with you.
 - Have you learnt this poem by heart?
- b.
- He said to me, "Work hard."
(Change into indirect Speech)
He asked me to work hard.
 - I used to visit my uncle. (Change into negative)
I did not use to visit my uncle.
 - Birds fly in the air. (Change into past indefinite)
Birds flew in the air.
 - People respected him for his honesty. (Change into passive voice)
He was respected by the people for his honesty.
 - The bell is rung regularly by him. (Change the voice)
He rings the bell regularly.

- Q. 5. a. Fill in the blanks using correct form of the verbs given in brackets:

- The poet is talking the feeling of the young boy. (talk)
- If they go to Lahore, they will bring a sports kit for us. (bring)
- She is thankful to the bee for saving her life. (be)
- The boy has been weeping for the last ten minutes. (weep)
- The Chief Guest gave away the prizes. (give)

- b. Change into interrogative:

- Mosquito stings the baby.
Does the mosquito sting the baby?
 - On dusty hot summer day the rain looks very good.
Does the rain look very good on dusty hot summer day?
 - Etiquette means the rules of correct behaviour.
Does etiquette mean the rules of correct behaviour?
 - Travelling is a good hobby for the students.
Is travelling a good hobby for the students?
 - My horse runs very fast.
Does my horse run very fast?
- c. Correct the following sentences:
- He is senior than me.
He is senior to me.

- (2) Higher you go cooler it is.
The higher you go, the cooler it is.
- (3) Did you plucked the flower?
Did you pluck the flower?
- (4) All is well that end well.
All is well that ends well.
- (5) It has been raining from morning.
It has been raining since morning.

a. Translate into Urdu:

- (1) Waris Shah wrote legendary tale of Heer Ranjha.

وارث شاہ نے ہیر رانجھا کی افسانوی کہانی (روایتی داستان) لکھی۔

- (2) Rain is welcomed everywhere.

ہر جگہ بارش کا استقبال کیا جاتا ہے۔

- (3) As you sow, so shall you reap.

جیسا بوئے گے ویسا کاٹو گے۔

- (4) I shall defend my country at any cost.

میں ہر قیمت پر وطن کا دفاع کروں گا۔

- (5) Nobody cares whether he likes it or not.

کوئی بھی خیال نہ رکھتا کہ یہ اسے پسند ہے یا نہیں۔

(b) Translate into English:

- (1) تم کب تک ادھر قیام کرو گے؟

Till how long will you stay here?

- (2) اب بچھٹائے کیا ہوت جب چیزیاں چگ گئیں کھیت۔

It is useless to cry over spilt milk.

- (3) کیا آپ کو کھیلوں میں کبھی کوئی دلچسپی رہی ہے؟

Have you ever been interested in games?

- (4) وہ اچھے لڑکوں کی محفل میں اٹھتا بیٹھا ہے۔

He keeps company of good boys.

- (5) یہ سڑک ملٹری کالج کو جاتی ہے۔

This road leads to Military College.

- (6) حامد نے زلزلے میں پورا خاندان کھو دیا۔

Hamid lost the whole his family during earthquake.

- (7) سورج کبھی بھی مغرب سے طلوع نہیں ہوتا۔

The sun does never rise in the west?

- (8) کیا آپ دلچسپ کتابیں پڑھتے ہیں؟

Do you read interesting books?

- (9) انسان کی ہر خواہش پوری نہیں ہو سکتی۔

Not every human desire can be fulfilled.

- (10) پاکستان کو دہشت گردی کے سنگین خطرے کا سامنا ہے۔

Pakistan is facing a serious threat of terrorism.

Model Paper English 2 – MCJ

Military College Jhelum

Entrance Exam – 8th Class

Time: 1 hour

Total Marks: 100

- Q. 1. Write a paragraph of about 150 words on any ONE of following topics: (20)

- Importance of Media
- Population Explosion
- The Value of Education

- Q. 2. Write five sentences on any TWO of the following: (10)

- Mobile Phones
- Pakistan Comes First
- Courtesy
- Unity, Faith, Discipline

- Q. 3. Use the following words in meaningful sentences: (10)

Etiquette, Fascinated, Confused, Gratitude, Endure.

- Q. 4. Correct the spellings of the following words: (5)

Edvant, Resites, Environment, Communcation, Homaje.

- Q. 5. Use correct preposition: (5)

- What do you wish _____.
- I called him but he ran _____.
- He ruled _____ a great empire.
- He is loyal _____ the country.
- Do not be jealous _____ others.

- Q. 6. Fill in the blanks using correct form of the verbs given in brackets: (5)

- You _____ it. (not understand)
- He _____ home after he _____. (go, finish)
- I was _____ by the roar of the lion. (awake)
- He has been _____ since morning. (sleep)
- They _____ to school an hour ago. (go)

- Q. 7. Change into interrogative sentences: (5)

- The teacher was helping the students.
- He took away my books.
- The rabbit lived in a town.
- The best method of verbal communication has been the telephone.

- e. He learns English.
- Q. 8. Correct the following sentences: (5)
- He loves with beautiful flowers.
 - She called him as a great fool.
 - He comes here seldom.
 - He threw the balls in the room.
 - This man is senior than that.
- Q. 9. Do as directed: (5)
- She has learnt her lesson. (Change into negative)
 - They gave us a gift. (Change into negative)
 - They come to school in time. (Change into past indefinite)
 - Open the door. (Change into passive voice)
 - She was teaching the students. (Change into passive voice)
- Q. 10. Translate the following sentences into Urdu: (10)
- His courage is worthy of highest praise.
 - What cannot be cured must be endured.
 - We got training in riding, swimming and shooting.
 - Why are such rumours spread?
 - All that glitters is not gold.

- Q. 11. Translate the following sentences into English: (20)

- اگر تم محنت کرو گے تو کامیاب ہو جاؤ گے۔
- والدین کی عزت کرنا ہمارا اخلاقی فرض ہے۔
- آدمی اپنی قسمت خود بناتا ہے۔
- لاہور ایک قدیم اور تاریخی شہر ہے۔
- میری اس سے بول چال نہیں ہے۔
- قائد اعظم جمہوری ذہن کے مالک تھے۔
- وہ بڑا ادبی ذوق رکھتا ہے۔
- تم نے اپنا وعدہ پورا نہ کیا۔
- کیا سورج نہیں ڈوب چکا ہے؟
- وہ کسی سے نفرت نہیں کرتا ہے۔

Solution Model Paper English 2

- Q. 1. Creative task. For support see Section A
- Q. 2. Creative task. For support see Section A
- Q. 3. Use the following words in meaningful sentences: (10)

a. Etiquette	آداب
His etiquettes are not recommended in the society.	
b. Fascinated	دلکش
He told me a fascinating story.	
c. Confused	پریشانی
A confused person cannot do anything.	
d. Gratitude	شکر گزار
Pay my gratitude to your father for his kindness.	
e. Endure	برداشت کرنا
What cannot be cured, must be endured.	

- Q. 4. Correct the spellings of the following words: (5)

- Edvant Advent
- Resites Recites
- Enviranment Environment
- Communcation Communication
- Homaje Homage

- Q. 5. Use correct preposition: (5)

- What do you wish for.
- I called him but he ran away.
- He ruled over a great empire.
- He is loyal to the country.
- Do not be jealous of others.

- Q. 6. Fill in the blanks using correct form of the verbs given in brackets: (5)

- You did not understand it. (not understand)
- He went home after he had finished (go, finish)
- I was awoken by the roar of the lion. (awake)
- He has been sleeping since morning (sleep)
- They went to school an hour ago. (go)

- Q. 7. Change into interrogative sentences: (5)

- The teacher was helping the students.
Was the teacher helping the students?
- He took away my books.
Did he take away my books?
- The rabbit lived in a town.
Did the rabbit live in a town?
- The best method of verbal communication has been the telephone.

Has the telephone been the best method of verbal communication?

c. **He learns English.**

Does he learn English?

Correct the following sentences: (5)

a. **He loves with beautiful flowers.**

He loves beautiful flowers.

b. **She called him as a great fool.**

She called him a great fool.

c. **He comes here seldom.**

He seldom comes here.

d. **He threw the balls in the room.**

He threw the balls into the room.

e. **This man is senior than that.**

This man is senior to me.

Do as directed: (5)

a. **She has learnt her lesson. (Change into negative)**

She has not learnt her lesson.

b. **They gave us a gift. (Change into negative)**

They did not give us a gift.

c. **They come to school in time. (Change into past indefinite)**

They came to school in time.

d. **Open the door. (Change into passive voice)**

Let the door be opened.

e. **She was teaching the students. (Change into passive voice)**

The students were being taught by her.

10. Translate the following sentences into Urdu: (10)

a. His courage is worthy of highest praise.

اس کی جرأت بہت قابل تعریف ہے۔

b. What cannot be cured must be endured.

جان درویش بر جان درویش۔

c. We got training in riding, swimming and shooting.

ہم نے گھڑ سواری، تیراکی اور نیزہ بازی میں تربیت حاصل کی۔

d. Why are such rumours spread?

ایسی افواہیں کیوں پھیلائی جاتی ہیں؟

e. All that glitters is not gold.

ہر چمکتی چیز سونا نہیں ہوتی۔

11. Translate the following sentences into English: (20)

(1) اگر تم محنت کرو گے تو کامیاب ہو جاؤ گے۔

You will get success, if you work hard.

(2) والدین کی عزت کرنا ہمارا اخلاقی فرض ہے۔

It is our moral duty to respect our parents.

(3) آدمی اپنی قسمت خود بناتا ہے۔

Man is the architect of his fate.

(4) لاہور ایک قدیم اور تاریخی شہر ہے۔

Lahore is an ancient and historical city.

(5) میری اس سے بول چال نہیں ہے۔

I am not on speaking terms with him.

(6) قائد اعظم جمہوری ذہن کے مالک تھے۔

Quaid-e-Azam was a democratic-minded person.

(7) وہ بڑا ادبی ذوق رکھتا ہے۔

He has a great literary taste.

OR

He is very fond of literature.

(8) تم نے اپنا وعدہ پورا نہ کیا۔

You did not fulfill your promise.

(9) کیا سورج نہیں ڈوب چکا ہے؟

Has the sun not set?

(10) وہ کسی سے نفرت نہیں کرتا ہے۔

He does not hate anyone.

Model Paper English 3 – CCK

Cadet College Kohat Entrance Exam – 8th Class

Time: 1 hour

Total Marks: 100

Note: All questions are compulsory.

Q. 1. (a) Fill in the blanks with correct prepositions: (15)

i. After listening to my arguments he agreed _____ me.

ii. He amused himself _____ sweet songs.

iii. He succeeded _____ the property of his father.

iv. The king's forces put _____ the rebellions.

v. She did not put _____ anything for the rainy days.

vi. The Principal had to intervene _____ the dispute affair.

vii. He exulted _____ his success in the examination.

viii. I am very much indebted _____ my friends who helped me in my poverty.

widower though he was an old bachelor. (Change the Gender)
She took the old lady for a widow though she was an old maid.

- iii. "Many" (Write the comparative and superlative degrees)

Many — More — Most (Comparative degrees)

- iv. "Always", "Freedom" (Write the opposite of the given words.

Always — Seldom.

Freedom — Confinement (آزادی)

- v. He was so prudent that he never attempted to do what he knew he could not do. (Change the Verbs in the Present Tense)

He is so prudent that he never attempts to do what he knows he cannot do.



Model Paper English 4 – CCK

Cadet College Kohat

Entrance Exam – 8th Class

Time: 1 hour

Total Marks: 100

Note: All questions are compulsory.

- Q. 1. (a) Fill in the blanks with correct prepositions: (20)**

- Aurangzeb succeeded _____ the throne of Shah Jehan.
- He died _____ cancer.
- I am aware _____ his weaknesses.
- Our Headmaster has been relieved _____ his duties.
- He rejoiced _____ my success.
- He presented me _____ a fine wrist watch.
- I take pride _____ my son.
- You must profit _____ my advice.
- Every boarder is provided _____ a bedding in the hostel.
- This scheme is open _____ many objections.

- (b) Change the Voice: (04)**

- Somebody stole my pen.
- You bade him goodbye.

- (c) Change the Narration: (06)**

- "Look at the blackboard, I shall send you out if you do not pay attention." Said the teacher to a student.
- He shouted, "What a fantastic shot he

has played!"

- (d) Use correct form of verb:**

- The tyre finally _____ (Burst)
- Ali had _____ for many miles before he reached the canal. (Ride)
- He _____ too much air into the balloon. (blow)
- But soon the well _____ dry. (Run)

- Q. 2. Do as directed:**

- A gentleman is known by the company he keeps. (Rewrite after changing the gender)
- A monkey is fond of mischief (Rewrite after changing the number)
- Trust (Add Prefix), Hope (Add suffix)
- The waiter _____ the fable nicely. (Use "sat" or "set")
- As soon as he saw the robber, he informed the police. (Begin with "No sooner")
- I have done this work yesterday. (Correct this sentence)
- _____ being abused, he was beaten. (Fill the blank with "Beside or Besides")
- _____ higher you go _____ more tired you feel. (Insert appropriate articles)
- Analysis, Virtue (Write the opposite)
- "Up" (Write the other two degrees of this adjective)

- Q. 3. Use the following words in your own sentences: (10)**

- Bled
- Hung
- Boast
- Idol
- Conceal

- Q. 4. Write a letter to your pen friend living in England describing the two Eids celebrated by the Muslims.: (15)**

- Q. 5. Write an essay of about 100 to 150 words describing the important cities of Pakistan. (15)**

- Q. 6. (a) Translate into English: (6)**

میرا دل باغِ باغ ہو گیا۔ (1)

کیا عرب کے لوگ عرصہ دراز سے بتوں کی پوجا کرتے رہے تھے؟ (2)

مجھے آج ضرور اپنے کپڑے بدلنے ہیں۔ (3)

Solution Model Paper English 4

- Q. 1. (a) Fill in the blanks with correct prepositions: (20)**

- (۶) اگر وہ چور ہوتا تو پولیس اسے گرفتار کر لیتی۔
The police had arrested him, if he had been a thief.
- (۷) کیا اسے سگریٹ نوشی چھوڑنی پڑے گی؟
Will he have to quit (stop) smoking?
- (۸) میں اپنے کپڑے دھو بی سے دھلاؤں گا۔
I shall get my clothes washed by the washerman.
- (۹) کیا پھل فروش صبح سے پھل بیچ رہا ہو گا؟
Will the fruitseller have been selling fruits since morning?
- (۱۰) ہمیں محنت سے جی نہیں چراتا چاہیے۔
We should not shirk work.

Model Paper English 6 – WCCT

Wapda Cadet College, Tarbela Entrance Exam – 8th Class

Time: 1 Hour

Total Marks: 100

Part-I

Note: Pick the correct answer and write it down on the answer sheet.

- Q. 1. (A) Pick the correct preposition. (10)
- Our team lost the match (for, by, at) ten runs.
 - The old man is blind (from, of, to) one eye.
 - Their uncle died (by, of, from) blood cancer.
 - She comes (from, of, to) a respectable family.
 - Don't boast (at, of, to) your riches.
 - They prefer cricket (at, over, to) hockey.
 - A stitch (at, on, in) time saves nine.
 - Shoaib Akhtar is famous (with, to, for) fast bowling.
 - Please put (on, off, out) the candle.
 - An aeroplane was flying (on, at, over) our heads.
- (B) Pick the correct opposite. (08)
- Throw (Grip, Clutch, Catch)
 - Dear (Mean, Valueless, Cheap)
 - Pleasant (Noisy, Disorder, Disturbing)
 - Danger (Security, Safety, Pain)
 - Compulsory (Voluntary, Surely, Optional)
 - Pace (Lazy, Tired, Slow)
 - Affection (Courage, Hatred, Disunity)

- viii. Obedient (Insincere, Disrespectful, Uncivilized)

(C) Pick the correct plural. (08)

- Mouse (Mouses, Mice, Mousess)
- Gulf (Gulf, Culves, Gulfs)
- Knife (Knives, Knifes, Knifess)
- Bench (Benchs, Benchess, Benches)
- Monkey (Monkies, Monkeys, Monkeyies)
- Sun-glass (Sun-glasses, Sun-glassis, Sun-glassess)

Part-II

Q. 2. Write an essay on any of the followings: (20)

- What Makes a Good Student?
- Value of games

Q. 3. Write a letter to your father telling him about your progress in your studies. (10)

Q. 4. Use the following words in your own meaningful sentences: (10)

- | | |
|--------------|-------------|
| a. Adventure | b. Gigantic |
| c. Creature | d. Rage |
| e. Discover | f. Behave |
| g. Daring | h. Protect |
| i. Tough | j. Mean |

Q. 5. (A) Change the voice. (05)

- Have you supported him?
- Fill in the blanks.
- Why did you steal my book?
- The father warned the children.
- The people are casting votes.

(B) Change the narration. (05)

- He says to me, "What are you doing now?"
- Ali said to us, "Have you taken tea?"
- The beggar said to the children, "May you succeed in your life!"
- The teacher said to them, "Don't waste your time."
- Nasir said to him, "Thank you."

Q. 6. Read the following passage and answer the given questions: (05)

Simple life is free from worries and cares. It is really a happy life. It gives strength to man. Everyone wants to lead a life of pleasure and pleasure lives in simplicity. It is but a dull life if we are so absorbed in worldly cares and material. We must find time to muse upon the beauties of nature.

- x. The people protested against price-hike.

لوگوں نے بڑھتی ہوئی قیمتوں کے خلاف احتجاج کیا۔

Q. 8. Translate into English: (10)

(۱) کرکٹ میچ ہار جیت کے بغیر ختم ہوا۔

Cricket match ended in a draw.

(۲) چلتی کانام گاڑی۔

A vehicle is that which is in working order.

(۳) اگر وہ محنت کریں گے تو کامیاب ہوں گے۔

If they work hard they will succeed.

(۴) کیا تم پچھلے دو سال سے اس سکول میں پڑھ رہے ہو؟

Have you been studying in this school for the last two years?

(۵) وقت ایک عظیم استاد ہے۔

Time is a great teacher.

(۶) احمد ریاضی میں بہت اچھا ہے۔

Ahmad is very good in Mathematics.

(۷) جب ہم سٹیڈیم پہنچے تو میچ شروع ہو چکا تھا۔

Match had started when we reached the stadium.

(۸) وہ کل بخار میں مبتلا نہیں تھا۔

He was not suffering from fever yesterday.

(۹) اسلام ہمیں امن اور بھائی چارے کا درس دیتا ہے۔

Islam gives us the lesson of peace and brotherhood.

(۱۰) دوست وہ جو مصیبت میں کام آئے۔

A friend in need is a friend indeed.



Model Paper English 7 – CCP

Cadet College, Petaro
Entrance Exam – 8th Class

Time: 1.5 Hour

Total Marks: 100

Q. 1. Read the following passage and answer the given questions: (20)

The fourteenth of August is a great day for us. It is our Independence Day. It is a day of great joy and happiness. Quaid-i-Azam Muhammad Ali Jinnah got independence for us on 14th August, 1947. He is the founder of Pakistan. He is the father of the nation. He won Pakistan for us by means of his hard work and able leadership.

Now answer these questions:

- Why is the fourteenth of August a great day for us?
- Who is the founder of Pakistan?

- Why is he called the founder of Pakistan?

- How did he win Pakistan?

Q. 2. Write a paragraph of about ten sentences on any one of the following topics: (20)

- A Visit to a City
- My Favourite Game
- Motor Car
- The Horse
- A Postman

Q. 3. (A) Change the following into question form. (3)

- He can write French.
- They know English.
- My brother will come home soon.

(B) Change into negative form. (3)

- He plays football.
- I can hear your voice now.
- I shall take the test.

(C) Fill in the blanks by using suitable articles. (3)

He is _____ boy. _____ boy sitting in the classroom is my brother. Aslam is _____ best boy in the class. Ahmed has _____ inkpot.

Q. 4. Fill in the blanks with suitable prepositions (i.e. to, of, on, up, etc): (5)

- He must have reached home by now, for I saw him _____ the station two hours ago.
- He met me _____ his way _____ the city.
- He climbed _____ the tree.
- Put _____ the light.

Q. 5. Use the correct tense of the verb given at the end of each sentence. The word in brackets are the verb: (10)

- Our school _____ on a hill overlooking the city. (stand)
- It _____ since morning. (rain)
- He _____ a letter to his friend. (write)
- The child _____ his toy yesterday. (break)
- I _____ my cow tomorrow. (sell)

Q. 6. Write opposite words to the following: (9)

Explanation: Word Opposite
Strong Weak

- Fast
- Bad
- High

Model Paper Mathematics & General Science 1

Military College Sul Entrance Exam – 8th Class

Time: 1 hour

Total Marks: 100

Instructions:

- 1) Attempt all questions.
- 2) All candidates to abide by the following instructions to avoid disqualification:-
 - Roll number will only be written on the first page of answer sheet. Attempt all questions on answer sheet only.
 - Writing of Roll number at any other place (including continuation sheets and rough-work sheet) is strictly forbidden.
 - No identification mark e.g., drawing, sticker, signature etc will be marked on the answer sheet.
 - All questions will be attempted on the answer sheet only.
 - Examination centre will not be mentioned on the answer sheet.
 - Question paper will not be attached with the answer sheet.
 - Paper will be attempted with blue ink and use marker for heading only.

Mathematics

- Q.1. a. If x = Set of whole Numbers less than 100
 y = Set of odd numbers less than 100
 Then verify commutative property w.r.t intersection. (10)
- b. Athar, Nayer, Azhar and Asad invested Rs. 6000/-, Rs. 8000/-, Rs. 12000/- and Rs. 14000/- respectively in a business. Find the %age share of each. (10)
- Q.2. a. If $x = 4$, $y = 2$, $z = 1$, $p = 3$ and $q = 0$. Then find the value of $\frac{1}{2}xz + \frac{1}{3}py + \frac{1}{8}zx$ (10)
- b. A TV set was sold at 9% profit with cost price Rs. 18000/- Calculate sale price of TV. (10)
- Q.3. a. Subtract $4x^2 - x + 2$ from the sum of $2x^2 + 3x - 6$ and $3x^2 + 8x + 1$. (10)
- b. If $A = x - 2y + z$, $B = -2x + y + x$ and $C = x + y - 2z$ then find $A + B - C$ (10)
- Q.4. a. Simplify: $32 \times 8 \div (-4) - 5 + 7$ (10)
- b. The sum of 6 and double of any number is 24. Find the number. (10)

General Science

- Q.1. a. Write down types of impurities present in water with suitable examples. (5)
- b. Write down five uses of CO_2 . (5)
- Q.2. a. Define the following: (4)
- (i) Convection of Heat
- (ii) Wavelength
- b. Write down few precautions for safe use of electricity. (6)

Solution Model Paper Mathematics & General Science 1

Mathematics

Q. 1. a. If X = Set of whole Numbers less than 100

Y = Set of odd numbers less than 100

Then verify commutative property w.r.t intersection.

Sol: $X = \{0, 1, 2, 3, \dots, 99\}$

$Y = \{1, 3, 5, 7, \dots, 99\}$

$$X \cap Y = \{0, 1, 2, 3, \dots, 99\} \cap \{1, 3, 5, 7, \dots, 99\}$$

$$X \cap Y = \{1, 3, 5, \dots, 99\}$$

$$Y \cap X = \{1, 3, 5, 7, \dots, 99\} \cap \{0, 1, 2, 3, \dots, 99\}$$

$$Y \cap X = \{1, 3, 5, \dots, 99\}$$

Hence, $X \cap Y = Y \cap X$ Proved.

b. Athar, Nayer, Azhar and Asad invested Rs. 6000/-, Rs. 8000/-, Rs. 12000/- and Rs. 14000/- respectively in a business. Find the %age share of each.

Sol: Athar : Nayer : Azhar : Asad
6000 : 8000 : 12000 : 14000

$$3 : 8 : 12 : 14$$

$$3 : 4 : 6 : 7$$

$$\text{Sum of ratio} = 3+4+6+7 = 20$$

$$\text{Athar's percentage share} = \frac{3 \times 100}{20} = 15\%$$

$$\text{Nayer's percentage share} = \frac{4 \times 100}{20} = 20\%$$

$$\text{Azhar percentage share} = \frac{6 \times 100}{20} = 30\%$$

$$\text{Asad's percentage share} = \frac{7 \times 100}{20} = 35\%$$

Q. 2. a. If $x = 4$, $y = 2$, $z = 1$, $p = 3$ and $q = 0$. Then find the value of

$$\frac{1}{2}xz + \frac{1}{3}py + \frac{1}{8}zx$$

Sol: $x = 4$, $y = 2$, $z = 1$, $p = 3$ and $q = 0$

$$\frac{1}{2}xz + \frac{1}{3}py + \frac{1}{8}zx$$

Putting values,

$$= \left(\frac{1}{2} \times 4 \times 1\right) + \left(\frac{1 \times 3 \times 2}{3}\right) + \left(\frac{1 \times 1 \times 4}{8}\right)$$

$$= 2 + 2 + \frac{1}{2} = 4\frac{1}{2} \text{ Ans.}$$

b. A TV set was sold at 9% profit with cost price Rs. 18000/- Calculate sale price of TV.

Sol: Profit = 9%

CP = Rs. 18000

SP = ?

If CP is 100 then SP = 109

$$\text{If CP is 1 then SP} = \frac{109}{100}$$

$$\text{If CP is 18000 then SP} = \frac{109}{100} \times 18000$$

$$= 109 \times 180 = \text{Rs. 19620 Ans.}$$

Q. 3. a. Subtract $4x^2 - x + 2$ from the sum of $2x^2 + 3x - 6$ and $3x^2 + 8x + 1$.

$$2x^2 + 3x - 6$$

$$3x^2 + 8x + 1$$

Sol: $5x^2 + 11x - 5$

$$\pm 4x^2 \mp x \pm 2$$

$$x^2 + 12x - 7$$

b. If $A = x - 2y + z$, $B = -2x + y + z$ and $C = x + y - 2z$ then find $A + B - C$

Sol: $A = x - 2y + z$

$$B = -2x + y + z$$

$$C = x + y - 2z$$

$$A + B - C = ?$$

$$A + B = x - 2y + z$$

$$-2x + y + z$$

$$-x - y + 2z$$

$$\text{Sub "C"} \pm x \pm y \mp 2z$$

$$-2x - 2y + 4z$$

$$2(-x - y + 2z) \text{ Ans.}$$

a. Simplify: $32 \times 8 \div (-4) - 5 + 7$

$$= 32 \times (-2) - 5 + 7$$

$$= -64 - 5 + 7$$

$$= -69 + 7 = -62 \text{ Ans.}$$

b. The sum of 6 and double of any number is 24. Find the number.

Suppose no = x

$$\text{Double} = 2x$$

$$2x + 6 = 24$$

$$\frac{2x}{2} = \frac{18}{2} = 9$$

$$x = 9 \text{ Ans.}$$

Model Paper Mathematics & General Science 2

Military College Sui Entrance Exam – 8th Class

Time: 1 hour

Total Marks: 100

Instructions:

- All questions are compulsory and are to be attempted at the answer sheet.
- Failing to abide by the following instructions will result in disqualification of the candidate:-
- Roll number will only be written on the first page of the answer sheet. Writing of roll no at any other place (including continuation sheet and rough-work sheet) is strictly forbidden.
- No identification mark, e.g., drawing, sticker, signature, etc will be marked on answer sheet.
- Exam centre will not be mentioned on the answer sheet.
- All questions will be attempted on the answer sheet only.
- Question paper will not be attached with the answer sheet.
- Paper will be attempted with a fountain pen using blue ink. Black marker may be used for headings only. Ball points are not allowed.

Mathematics

Q.1. a. Find the union and intersection (20)

$$A = \{1, 3, 5, 7, 9, 11, 13, 15\}, B = \{3, 6, 9, 12, 15\}$$

b. Solve: $-\frac{4}{15} + \left(-\frac{2}{3}\right)$

Q.2. a. Find the square root of 1089. (20)

b. Find the sale price if purchase price is Rs. 60,500 and loss is 12%.

Q.3. a. Multiply: $x^2 + 2x + 3$ by $x - 2$ (20)

b. Solve the equation: $8x - 10 = 7x - 3(x + 2)$

Q.4. a. The circumference of circular region is 264cm. Find its diameter and radius when $\pi = \frac{22}{7}$. (20)

b. Find the area of a round bed of roses whose radius is 3.5 cm. (When $\pi = \frac{22}{7}$)

General Science

Q.1. a. State and explain the types of Hard water. (5)

b. How Oxygen gas is prepared in Laboratory? (5)

- Q. 7. A number when added to 5, gives the same result as when $\frac{2}{3}$ of it is subtracted from 6. What is number?

Sol: Suppose number = x

$$x + 5 = 6 - \frac{2}{3}x$$

$$x + 5 = 6 - \frac{2}{3}x$$

$$\frac{1}{1}x + \frac{2}{3}x = 6 - 5$$

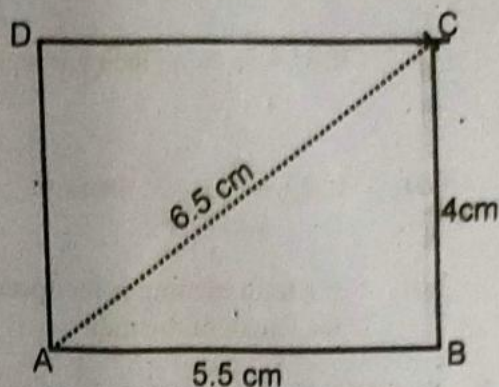
$$\frac{3x + 2x}{3} = 1$$

$$\frac{3}{5} \times \frac{5}{3}x = 1 \times \frac{3}{5}$$

$$x = \frac{3}{5} \text{ Ans.}$$

- Q. 8. Construct a Parallelogram whose length of the sides are 5.5cm and 4cm, and length of the diagonal is 6.5cm. Write step of construction.

Sol:



Steps of Construction:

1. Draw $\overline{AB} = 5.5\text{cm}$
2. Draw an arc of radius = 4cm, making centre at point B.
3. Draw an arc of radius = 6.5cm, making centre at point A. Both arcs will join at C. Join point C to A and B.
4. Draw an arc of radius 5.5cm = $\overline{AB}$, making centre at point C.
5. Draw an arc of radius = 4cm = $\overline{BC}$, making centre at point A. Both will join at point D. Join point D to point C and A.
6. Required parallelogram is prepared.

Model Paper Mathematics 4

Cadet College Kohat Entrance Exam – 8th Class

Time: 1 Hour

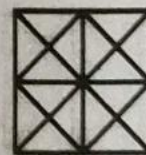
Total Marks: 100

Note: Use of calculator is not allowed.

- Q. 1. Fill in the blanks.

(36)

- (i) Square root of 0.36 is _____
- (ii) Prime number between 1741 and 6300 is _____
- (iii) LCM of 2940, 5040 and 6300 is _____
- (iv) Total number of triangles in the figure are _____
- (v) _____ is the smallest fraction among $\frac{22}{7}$, $\frac{35}{43}$ and $\frac{43}{53}$.
- (vi) If $17 \times 3 = 2$, $27 \times 4 = 3$ and $34 \times 6 = 4$ then $56 \times 12 =$ _____
- (vii) Diagonals of a parallelogram _____ each other.
- (viii) $(2a^2 - 3b)^2$ is equal to _____
- (ix) The measurement of the angle between the hour-hand and the minute hand at the time 6 : 20 will be _____

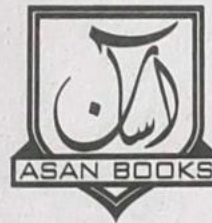


ASAN

Intelligence Tests

By:
Engr. Khawar Mahmood

Published by



Academic Solutions & Assessment Network
Lahore – Islamabad – Quetta

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Intelligence Test #1

What comes next?

1. 2, 4, 6, 8,

2. 1, 3, 5, 7,

3. 3, 6, 9, 12,

4. 4, 8, 12, 16,

5. 5, 10, 15, 20,

6. 6, 12, 18, 24,

7. 7, 14, 21, 28,

8. 8, 16, 24, 32,

9. 9, 18, 27, 36,

10. 10, 20, 30, 40,

11. 3, 9, 4, 16, 5,

12. 4, 16, 5, 25, 6,

13. 6, 36, 7, 49, 8

14. 8, 64, 9, 81, 10,

15. 1, 11, 2, 21, 3,

16. 3, 13, 4, 14, 5,

17. 2, 5, 3, 8, 4,

18. 2, 3, 5, 7,

19. 4, 6, 8, 9,

20. 1, 2, 5, 9, 14,

Solution:

1. 10,12	2. 9,11	3. 15,18	4. 20,24	5. 25,30
6. 30,36	7. 35,42	8. 40,48	9. 45,54	10. 50,60
11. 25	12. 36	13. 64	14. 100	15. 31
16. 15	17. 11	18. 11,13	19. 10,12	20. 20,27



Intelligence Test # 2

comes next?

1. 3, 6, 10, 15,

2. 4, 7, 11, 16,

3. 5, 8, 12, 17,

4. 6, 9, 13, 18,

5. 7, 10, 14, 19,

6. 8, 11, 15, 20,

7. 6, 5, 4, 3,

8. 20, 18, 16, 14, 12,

9. 21, 18, 15, 12, 9,

10. 20, 16, 12, 8,

11. 14, 9, 11, 14, 18,

12. 9, 10, 12, 15, 19,

13. 2, 12, 3, 23, 4,

14. 4, 14, 5, 25, 6,

15. 2, 2, 4, 3, 3,

16. 2, 3, 6, 4, 3,

17. 3, 4, 12, 4, 5,

18. 4, 5, 20, 5, 6,

19. 5, 6, 30, 6, 7,

20. 3, 3, 9, 4, 4,

21. 5, 5, 25, 6, 6,

22. 1, 4, 8, 13,

1. 21	2. 22	3. 23	4. 24	5. 25
6. 26	7. 2	8. 10	9. 6	10. 4
11. 23	12. 24	13. 34	14. 36	15. 9
16. 12	17. 20	18. 30	19. 42	20. 16
21. 36	22. 19			



Intelligence Test #13: About Number Sequence

Identify a rule and complete the following number sequence:

- a. 2, 5, 8, 11, ____
- b. 0, 10, 20, 30, ____
- c. 52, 59, 66, 73, ____
- d. 80, 72, 64, 56, ____
- e. 37, __, 55, 64, __
- f. 59, __, 51, 47, __

a. 2, 5, 8, 11, ____

Sol: Each term after the first term is obtained by adding "3" in the preceding term. Hence we write the next three terms as:

$$11 + 3 = 14$$

$$14 + 3 = 17$$

And $17 + 3 = 20$

Therefore extended sequence is:

2, 5, 8, 11, 14, 17, 20

b. 0, 10, 20, 30, ____

Sol: In this sequence each term after the first term is obtained by adding "10" in the preceding term. Hence extended sequence is:

0, 10, 20, 30, 40, 50, 60

c. 52, 59, 66, 73, ____

Sol: In this sequence each term after the first term is obtained by adding "7" in the preceding term. Hence extended sequence is:

52, 59, 66, 73, 80, 87

d. 80, 72, 64, 56, ____

Sol: In this sequence each term after the first term is obtained by subtracting "8" in the preceding term. Hence extended sequence is:

80, 72, 64, 56, 48, 40, 32

e. 37, __, 55, 64, __

Sol: Each term after the first term is obtained by adding "9" in the preceding term:

$$2^{\text{nd}} \text{ term} = 37 + 9 = 46$$

$$5^{\text{th}} \text{ term} = 64 + 9 = 73$$

$$6^{\text{th}} \text{ term} = 73 + 9 = 82$$

The complete sequence is:

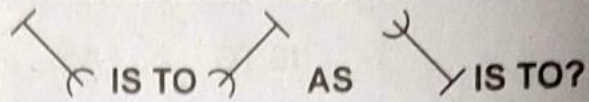
37, 46, 55, 64, 73, 82

f. 59, __, 51, 47, __

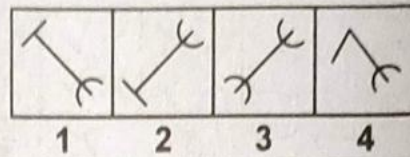
Sol: In the sequence each term after the first term is obtained by subtracting "4" from the preceding term:

$$2^{\text{nd}} \text{ term} = 59 - 4 = 55$$

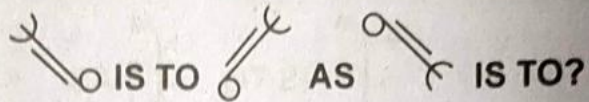
48.



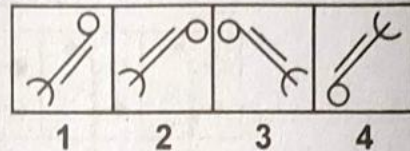
Answer Patterns:



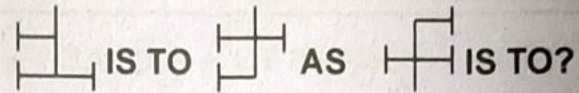
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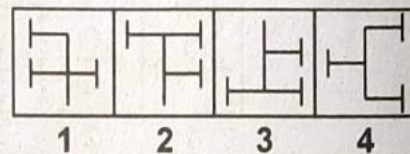
Answer Patterns:



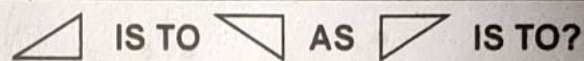
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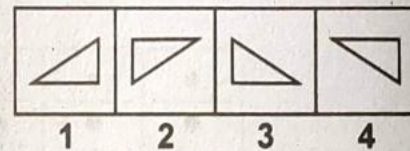
Answer Patterns:



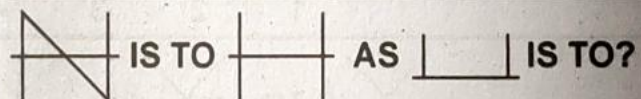
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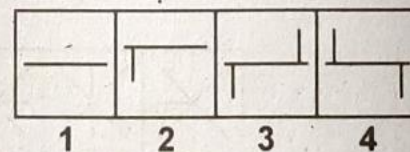
Answer Patterns:



52.



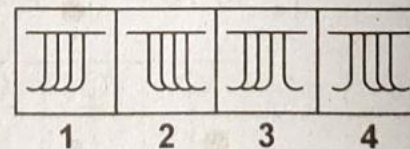
Answer Patterns:



53.



Answer Patterns:



ASAN

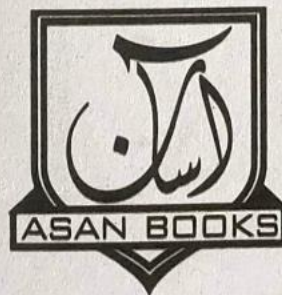
Interview

By:

Dr. Mahmood Hussain

☆ **Engr. Khawar Mahmood**

Published by



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ASAN Interviews (Questions with Answers)

Interview # 1

- Q 1. Introduce Yourself.**
Ans: Self explanatory
- Q 2. Who was the last viceroy of India?**
Ans: Lord Mountbatten
- Q 3. Who read out the Pakistan Resolution?**
Ans: A.K. Fazlul Haq presented the Lahore Resolution in 1940.
- Q 4. What are two main seasonal crops in Pakistan?**
Ans: Rabi crops and Khareef crops.
- Q 5. A group of 30 people Race.....10% qualified each got 5000. How much amount was distributed?**
Ans: Rs.15,000.
- Q 6. $7083 - 10 + 2020$**
Ans: 9093
- Q 7. Square of 23?**
Ans: 529
- Q 8. Solar year of many days? and lunar year?**
Ans: Solar year 365 days, Lunar Year is of 354 days.
- Q 9. VP means?**
Ans: VP means vice president.
- Q 10. LCM and HCF of 8 & 10**
Ans: HCF = 2 and LCM = 40
- Q 11. 11% of a number is 132, what is the number?**
Ans: 1200
- Q 12. Difference between mass & weight**
Ans: Mass is the measure of amount of matter in an object. Weight is the gravitational force with which the earth attracts the masses towards its centre.
- Q 13. If pay is \$500 per month than one day earning will be?**
Ans: \$16.67 per day.
- Q 14. 8% of 500?**
Ans: 40
- Q 15. 12% of 500 achieved targets**
Ans: 60
- Q 16. When did Quaid-e-Azam become member of Congress?**
Ans: In 1906.
- Q 17. LCM & HCF of 6 & 15.**
Ans: HCF = 3 and LCM is 30.
- Q 18. 12% of a number is 144, what is the number?**
Ans: 1200
- Q 19. 30 labourers can load 1500 bricks. How many labourers will pick how many bricks?**
Ans: 2500 bricks.
- Q 20. What does gravity depend on?**
Ans: Gravity (g) depends directly upon the mass of the objects and is inversely proportional upon the distance between the objects required.
- Q 21. Name the ways of heat transfer.**
Ans: Conduction, convection and radiation.
- Q 22. What is speed of light in vacuum?**
Ans: 3×10^8 m/s
- Q 23. $287 - 902 = ?$**
Ans: -615
- Q 24. $362 + 368 = ?$**
Ans: 730
- Q 25. What is 7% of 730 = ?**
Ans: 51.1
- Q 26. $2x^3 + 3x^3 + 19 = 59$**
Ans: $5x^3 = 59 - 19$
So $5x^3 = 40$, $x^3 = 8$ So $x = 2$
- Q 27. $5x^3 = 59 + 19 + 42$**
Ans: $5x^3 = 120/5 = 24$
- Q 28. $5x^3 = 40$; $x^3 = ?$, $x = ?$**
Ans: $x^3 = 8$ & $x = 2$
- Q 29. If $x = 2$ then $3x^2 + 2x^3 = ?$**
Ans: 28
- Q 30. Bordering countries of Pakistan?**
Ans: China, Afghanistan, Iran, India.
- Q 31. Why city of Tehran is famous?**
Ans: Capital of Iran.

- Q 32. Distance between sun & earth?
147.99 million km = 150 million km (approx).
- Q 33. Light reaches on earth in ?
8 minutes + 20 seconds.
- Q 34. Speed of light in Km/s?
 3×10^5 km/sec.
- Q 35. Our Galaxy name?
Milky way Galaxy
- Q 36. 23rd March 1940, what happened?
Pakistan Resolution was presented in Lahore.
- Q 37. LCM & HCF of 8 & 12?
HCF = 4 and LCM = 24
- Q 38. 25 men can construct a building in 120 days. How many men are required to construct a building in 100 days?
30 men
- Q 39. Circle area $169 \pi \text{cm}^2$ = what is the radius?
13 cm
- Q 40. Define unit of weight?
Newton is the unit of weight. One Newton is the force which gives a mass of 1 kg and acceleration of 1 metre per second² (1m/s^2)
- Q 41. In a swimming pool the speed of torch light will increase or decrease?
Speed of light in water is 225000 km/s and it is less than speed in air.
- Q 42. $497/7 = ?$
71
- Q 43. $2x + 29 = 25$
-2
- Q 44. $x^2 + 2x^2 + 28 = 76$
Ans: $3x^2 = 76 - 28 = 48$ So $x = \sqrt{16} = 4$
- Q 45. $3x = 28 + 28 + 28$
Ans: $x = 28$
- Q 46. $x^2 = 48/3 = 16$, then $x^3 = ?$
Ans: 64
- Q 47. $x = ?$, When $3x^2 = 75$
Ans: $x = 5$
- Q 48. Carps..... Corps Council.....Counsel. Describe the meaning?
Ans: Carps means find faults, corpse means dead body, Council means administrative body, counsel means consult.
- Q 49. LCM & HCF of 9 & 12?
Ans: HCF = 3, LCM = 36

- Q 50. Rectangle = 90 cm, L = 25cm, w = 45 - 25 = 20cm. Find Area.

Ans: Area = length $\times$ width
Area = $20 \times 25 = 500\text{cm}^2$

Interview # 2

- Q 1. Introduce Yourself.
Ans: Self explanatory
- Q 2. 25 men can construct a building in 120 days. How many men are required to construct a building in 75 days?
Ans: 40 men.
- Q 3. How long earth takes to revolve around the sun?
Ans: One year.
- Q 4. Unit of weight?
Ans: Newton
- Q 5. $3x^2 + 2x^2 + 18 = 68$, then $x^2 = ?$
Ans: $x^2 = 10$
- Q 6. $4x^2 = 100$, then $x = ?$
Ans: $x = 5$
- Q 7. $x^2 = 10$, then $3x^2 + 2x^2$
Ans: $5 \times 10 = 50$
- Q 8. $376 \times 5 = ?$
Ans: 1880
- Q 9. Some important personalities in Pakistan history?
Ans: Quaid-e-Azam, Allama Iqbal, Chaudhry Rehmat Ali, Liaquat Ali Khan.
- Q 10. Who is American President now?
Ans: Joe Biden (46th).
- Q 11. Where is Iceland located?
Ans: Its neighbours are Norway, Greenland and U.K.
- Q 12. What reaction is happening at sun, right now?
Ans: Nuclear fusion reactions.
- Q 13. LCM & HCF of 9 & 15 ?
Ans: HCF = 3, LCM = 45
- Q 14. Mass & Weight.....Difference?
Ans: Mass is the measure of amount of matter in an object. Weight is the gravitational force with which the earth attracts the masses towards its centre.

Q 15. Rectangle Perimetre = 110 cm, L = 35, W = ?

Ans: $P = 2(\text{length} + \text{width})$
So $W = 20$ cm.

Q 16. If light falls on shiny surface? What will happen to it?

Ans: The light reflects back from the shiny surface in the same medium.

Q 17. $x + 2x + 33 = 141$. Then $x = ?$

Ans: 36 ($3x = 141 - 33 = 108$)

Q 18. If $3x^3 = 108$ then $x^3 = ?$

Ans: $x^3 = 36$ Ans

Q 19. If $x^2 = 36$ then $4x^2 = ?$

Ans: $x^2 = 36$ then $4x^2 = 4 \times 36 = 144$ Ans.

Q 20. 30 boys are in a class. 30% boys are absent on a day. How many boys present?

Ans: $30 - 9 = 21$ Ans.

Q 21. 20 boys proceed on picnic. Each one's contribution is Rs.250. How much amount is collected?

Ans: Rs.5000/-

Q 22. 39×20

Ans: = 780

Q 23. Oman's Capital? Russia's Capital? Brazil's capital?

Ans: Oman-Muscat, Russia-Moscow, Brazil-Brasilla.

Q 24. $21 \times 750 = ?$

Ans: =15750

Q 25. Where are located Swiss canal and Panama Canal?

Ans: Swiss canal in Egypt and Panama canal in North America (Panama).

Q 26. LCM & HCF of 12 & 18 ?

Ans: LCM = 36 and HCF = 6

Q 27. A Square has area = 225 cm^2 . Its dimension is _____.

Ans: $\sqrt{225} = \sqrt{15 \times 15} = 15$ cm

Q 28. $18 - 3 \times 1 / 3 + 5 = ?$

Ans: $18 - 1 + 5 = 22$

Q 29. Group of 30 people attended a test. 30% qualified. Prize of each Rs. 5200/-. How much total amount?

Ans: $\frac{30}{100} \times 30 = 9 \times 5200 = \text{Rs.}46800$

Q 30. Light takes how much time between earth?

Ans: 8 minutes and 20 seconds = 500 seconds

Q 31. How many natural elements are found?

Ans: 94 (4 from natural decay of elements)

Q 32. How many total elements are found nature.

Ans: 118

Q 33. What is the weight of 8 kg gold?

Ans: $8 \times 9.81 = 78.48$ Newton.

Q 34. Name man made elements?

Ans: Cuium, Plytonium, Feronium.

Q 35. 40 Labourers can make 1600 bricks. labourers will make bricks?

Ans: $\frac{1600}{40} \times 60 = 2400$

Q 36. 720 skipping in one hour then 180 skipping in how much time?

Ans: 15 minutes.

Q 37. Heat transfer methods?

Ans: Conduction, Convection, Radiation.

Q 38. Removal of air from a pot is done by which instrument?

Ans: Vacuum pump.

Q 39. Countries of South America?

Ans: Brazil, Argentina, Colombia, Chile.

Q 40. Do you like Maths or English?

Ans: Self explanatory

Q 41. Effect.... affect. What is difference?

Ans: Effect means change (noun). Affect is verb means to impact.

Q 42. $85 / 1000 = ?$

Ans: 0.085

Q 43. $5.4 / .9 = ?$

Ans: 6

Q 44. Light need timing to travel 5000 km?

Ans: $\frac{5000}{3 \times 100000} \text{ Sec} = \frac{5000}{300000} = 0.016$ second

Q 45. What is $\frac{12}{17}$ of 850

Ans: $\frac{12 \times 850}{17} = 15 \times 50 = 600$

Q 46. Which are bordering countries of Turkey

Ans: Iran, Russia, Georgia, Armenia, Greece

Q 47. LCM & HCF of 6 & 15?

HCF = 3, LCM = 30

Q 48. 25 men complete a building in 120 days. How many men are required to complete a building in 100 days?

30 men.

Q 49. What is mass for weight of 15 Newton?

$15 \div 9.81 = 1.47 \text{ kg}$.

Q 50. Name the parts of General Science.

Physics, Biology, Chemistry.

Interview # 3

Q 1. Introduce Yourself.

Self explanatory

Q 2. Why does sun rise from the east?

Earth rotates/spins towards the East.

Q 3. $329 \div 7 = ?$

47

Q 4. What did Quaid-e-Azam say about Kashmir?

Kashmir, with the massive Muslim majority, belongs to Pakistan, as an essential element.

Q 5. How many oceans are there?

There are five oceans.

Q 6. Five countries in Europe?

UK, France, Germany, Norway, Holland.

Q 7. LCM & HCF of 8 & 10?

HCF = 2, LCM = 40.

Q 8. 30 Labourers can make 1500 Bricks. 50 Labourers can make bricks?

2500

Q 9. If weight is 10 Newton, then mass?

1 Kg.

Q 10. Speed of light in water?

$2.25 \times 10^8 \text{ m/s}$

Q 11. Volume of air in room 5 m long 4 m high and 4m wide.

$5 \times 4 \times 4 = 80\text{m}^3$

Q 12. Word Urdu belongs to which language.

Turkish word means Army Camp.

Q 13. Physics means?

Physics is the branch of science that deals with matter and energy and their interaction.

Q 14. Why does sun set in the West?

Earth rotates towards the East.

Q 15. $2019 + 8101 = ?$

Ans: 10120

Q 16. $52 \times 13 = ?$

Ans: 676

Q 17. Coup. Tell the meaning.

Ans: Coup means overthrow, accomplishment.

Q 18. Adopt & Adapt. Tell the difference.

Ans: Adopt means acquire and adapt means to make suitable.

Q 19. $85 \div 1000 = ?$

Ans: 0.085

Q 20. HCF & LCM of 6 & 15?

Ans: HCF = 3 and LCM = 30

Q 21. Skipping 720 times in 1 hour....how much in 30 minutes?

Ans: 360 times

Q 22. Weight & Mass at Jupiter if on Earth it is 100 kg?

Ans: Mass will remain same. Weight will be 252.8kg.

Q 23. $39 \times 19 = ?$

Ans: 741

Q 24. Why moon rises from the east?

Ans: It is the Earth's rotation on its axis that makes the moon rise in the East and sets in the west and Sun, all stars, but we cannot see moon rise at daytime.

Q 25. What is meant by stationary?

Ans: Still, not moving.

Q 26. LCM & HCF OF 8 & 12

Ans: HCF = 4 and LCM = 24

Q 27. 12% of a number is 144, what is the number?

Ans: 1200

Q 28. $x^2 + 3x^2 + 43 = 79$, $x = ?$

Ans: $4x^2 = 36$, so $x^2 = 9$ and $x = 3$

Q 29. 30% of a number is 150. What is that number?

Ans: 500

Q 30. Name largest country?

Ans: Russia (USSR)

Q 31. Name industrial cities of Pakistan?

Ans: Lahore, Karachi, Faisalabad, Gujranwala.

Q 32. How do we measure electric resistance?

Ans: Volts.

Q 33. Metals expand when heated; when cool what happened?

Ans: Contract

Q 34. Any metal when put in water, floats?

Ans: Sodium, lithium, potassium.

Q 35. Why do sun & moon rise at the same time?

Ans: It is because of the rotation of the Earth.

Q 36. What is the importance of 5 February?

Ans: World Nutella Day and Kashmir Solidarity Day.

Q 37. What is HAMA?

Ans: Central Syria.

Q 38. LCM & HCF of 9 & 12?

Ans: HCF = 3 and LCM = 36.

Q 39. A rectangle has L= 25cm and W= 20. Find perimeter.

Ans: $2(\text{Length} + \text{Width}) = 2(25 + 20) = 90\text{cm}$.

Q 40. 200 Men can consume a ration in 50 days, then 250 men will consume ration in how many days?

Ans: 40 days

Q 41. $85 / 1000 = ?$

Ans: 0.085

Q 42. $5.4 / .09 = ?$

Ans: 60

Q 43. $3x = 48$ so $x^2 = ?$

Ans: $x = 16$ so $x^2 = 16 \times 16 = 256$

Q 44. $x^2 + 2x^2 + 28 = 76$ $x^2 = ?$

Ans: $3x^2 = 48$, $x^2 = 16$

Q 45. $x^2 = 16$ then $x = ?$

Ans: 4 Ans.

Q 46. Compliment, complement. Describe.

Ans: Compliment means admiration and complement means complete the difference.

Q 47. Where metals lie in periodic table?

Ans: Sodium and Potassium are in Group 1A.

Q 48. Groups identification means.

Ans: A group (in periodic table) contains elements with same number of electrons in outermost shells.

Q 49. Name countries of Africa.

Ans: Libiya, Egypt.

Q 50. A shop selling 100 pieces of carbon of \$90000 and the second shop sells carbon 100 pieces for \$100000. Find discount percentage on first shop?

Ans: 10%.

Interview # 4

Q 1. Introduce Yourself.

Ans: Self explanatory

Q 2. LCM & HCF of 9 & 15 ?

Ans: HCF = 3 and LCM = 45

Q 3. 25 men complete a building in 60 days. How many men are required to complete a building in 50 days?

Ans: 30 men.

Q 4. Name four caliphs

Ans: Hazrat Abu Bakar, Hazrat Umar, Hazrat Usman, Hazrat Ali.

Q 5. Four countries in Africa

Ans: Somalia, Egypt, Cameroon, Angola

Q 6. Why do we have a leap year?

Ans: Our planet, earth takes approximately 365.25 days to orbit the Sun once. So after every four years 0.25 days are adjusted by making year of 366 days.

Q 7. Speed of light in air?

Ans: 300000 km/s.

Q 8. Gravity depends on what?

Ans: Masses of the objects and the distance between them.

Q 9. Contribution question ? Out of 30 boys 20% boys turn up. How many boys turned up?

Ans: 6

Q 10. $24 \times 750 = ?$

Ans: 18000

Q 11. How many continents are there?

Ans: 7

Q 12. Islamic calendar days?

Ans: 354

Q 13. What is meant by AD? BC?

Ans: B.C. Before coming of Hazrat Essa (a). AD stands for Anno Domini (After the birth of Hazrat Essa (a)).

Q 14. What is the use of vitamin D?

Ans: Vitamin D strengthens the bones and teeth.

Q 15. Why does the season change?

Ans: As the earth spins on its axis, producing night and day, it also moves about the sun in an elliptical (elongated circle) orbit that requires about 365 1/4 days to complete. The earth

spin axis is tilted with respect to its orbital plane. This is what causes the seasons.

16. LCM & HCF of 12 & 18...?

HCF = 6 and LCM = 36

17. 200 men have rationed for 60 days. 240 men will have the rationed for how many days?

50 days.

18. Weight on Planet Jupiter if it is 100 pounds on Earth.

253 pounds.

19. If it is hot out side, which colour clothes you will wear?

white colours are bad absorbers of heat.

20. 6% of a number 144. What is the Number?

2400

21. Which are prime numbers?

2,3,5,7,11,13....

22. How many months having 31 days in a year?

7 months.

23. Plural of handkerchief _____?

Handkerchiefs.

24. Singular of Data

Datum

25. $1.4 \times .4 = ?$

0.56

26. $12000 - 2.5 / 100 \times 1000 = ?$

11975

27. Area of square is 196 cm^2 What are sides?

14

28. 30 labourers can make 1500 bricks. 50 Labour will make how many bricks?

2500

29. $408 + 804 = ?$

1212

30. Why 5th February is important day for Pakistan.

Kashmir Solidarity Day

31. LCM and HCF of 8 & 10 = ?

LCM = 40 and HCF = 2

32. Multiples of 8 = ?

8, 16, 24, 32,.....

33. Energy transfer = ?

PE $\rightarrow$ Kinetic Energy $\rightarrow$ Electrical energy

Q 34. 21 Square meter = _____ cm^2

Ans: 210000 cm^2

Q 35. What is H_2SO_4 and HCl?

Ans: Sulphuric acid and Hydrochloric acid

Q 36. $\text{C}_6\text{H}_{12}\text{O}_6$

Ans: Sugar/Glucose

Q 37. Name forms of energy.

Ans: Potential energy and kinetic, mechanical, electrical.

Q 38. Group of 40 had a race. 10% qualified. Qualified persons are awarded @ Rs.2000 each. Find total award money?

Ans: $\frac{4 \times 10}{100} = 4$ So, $4 \times 2000 = \text{Rs.}8000$

Q 39. Traffic signals lights. What does red signal mean?

Ans: Red signal means to stop.

Q 40. Why yellow colour is used?

Ans: This signal is to be ready.

Q 41. Rivers of Pakistan?

Ans: Indus, Jhelum, Chanab, Sutlej and Ravi

Q 42. HCF & LCM of 8 and 12.

Ans: HCF = 4 and LCM 24

Q 43. If 110cm is the perimeter of a rectangle whose L= 35cm. find its width.

Ans: 20 cm.

Q 44. 25 men can build a building in 90 days. How many men are required to complete a building in 75 days.

Ans: 30 men

Q 45. $x^2 + 4x^2 + 37 = 57$. Find x= ?

Ans: 2

Q 46. $5x^2 = 20$, then x^2 .

Ans: $20 \div 5 = 4$

Q 47. $x^2 = 4$ x = ?

Ans: $\sqrt{4} = 2$

Q 48. What is weight on planet mercury, if on Earth its weight is 100N?

Ans: 38% of that of on Earth.

Q 49. It is very cold our side, which colour clothes you will prefer?

Ans: Black colours absorb more heat.

Q 50. Name the heat transfer ways.

Ans: Conduction/convection/radiation.

ماڈل پیپر اردو #2 (کیڈٹ کالج کوہاٹ)

پرچہ اردو / اسلامیات 60 واں انٹرمیڈیٹ 2023ء

﴿ حصہ اردو ﴾

نوٹس نمبر: 50

وقت: _____

سوال نمبر 1: دیے گئے عنوان پر مضمون لکھیں جو میں (20) سطور سے کم نہ ہو۔

”قومی زندگی میں نظم و ضبط کی اہمیت“ (20)

سوال نمبر 2: مندرجہ ذیل نظم و غزل کے اشعار کی تشریح کریں۔ (5+5)

حصہ نظم: چین و عرب ہمارا، ہندوستان ہمارا

مسلم ہیں ہم وطن ہے سارا جہاں ہمارا

حصہ غزل: کوئی ویرانی سی ویرانی ہے

دشت کو دیکھ کے گھر یاد آیا

سوال نمبر 3: اپنے والد صاحب کو خط کے ذریعہ یقین دہانی کرائیں کہ آئندہ سالانہ

امتحان میں آپ کی کارکردگی بہتر ہوگی۔ (15)

سوال نمبر 4: دی گئی ہدایات کے مطابق جواب دیں۔ (05)

i- لکڑہارا (اسم مشتق کی کونسی قسم ہے)

ii- باغیچہ (اسم مکروہ کی کونسی قسم ہے)

iii- اس نے خط لکھا ہوگا۔ (ماضی کی کونسی قسم ہے)

iv- ابوتراب (اسم علم کی کونسی قسم ہے)

v- وہ نہ لکھے (فعل کی کونسی قسم ہے)

سوال نمبر 5: (الف) واحد کے جمع لکھیں۔ (05)

خَد	وَرَق	نَمَلْک	بَاغ	یَوْم
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(ب) الفاظ کے متضاد لکھیں۔ (05)

خَرِیف	دِبا	سیاہ	عالم	صدق
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سوال نمبر 6: (الف) جملوں میں استعمال کریں۔ (05)

دردناک	خون بہا	ستھم گتھا ہونا
جو تیاں پٹھانا	پیٹ کا ہلکا ہونا	

(ب) مذکر اور مؤنث الگ الگ لکھیے۔ (05)

خواب	چھت	قلم	علم	اخبار
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﴿ حصہ اسلامیات ﴾

سوال نمبر 7: سورۃ فاتحہ کا ترجمہ تحریر کریں۔ (10)

حقیقی کام۔ معاونت کے لیے دیکھیے حصہ سوم

درج ذیل الفاظ و محاورات کو اپنے جملوں میں اس طرح استعمال کریں

کہ ان کا ملبوم واضح ہو جائے۔ (10)

بہشت و عذاب	کچھ لوگ بحث و تکرار میں وقت ضائع کرتے ہیں۔
نظم و ضبط	ہمیں ہر جگہ نظم و ضبط کا مظاہرہ کرنا چاہیے۔
برق و قند	برق رفتار گاڑیاں اور جہاز جدید دور کی ایجاد ہیں۔
پرکھ جانا	سلیم کو کیڈٹ کالج میں داخلہ ملا تو گویا اس کو پرکھ گئے۔
کمر کستا	کمر کس لو۔ امتحان قریب ہے۔

سوال نمبر 8: گرامر کی رو سے دی گئی ہدایات کے مطابق جواب لکھیں۔ (10)

ایجادات (جمع لکھیں)

تغیلات (واحد لکھیں)

سنورنا (متضاد لکھیں)

مجت (متضاد لکھیں)

اونٹ (مؤنث لکھیں)

حصہ دوم اسلامیات

الف۔ زکوٰۃ کی اہمیت و فضیلت لکھیں۔ نیز مصارفِ زکوٰۃ پر بھی

روشنی ڈالیں۔ (15)

ب۔ قرآن پاک اور حدیث مبارکہ کی روشنی میں سخاوت کی

فضیلت و اہمیت تحریر کریں۔ نیز اسلامی تاریخ سے سخاوت

کی چند مثالیں لکھیں۔ (10)

دیکھیے درسی کتاب اسلامیات۔

حصہ دوم معاشرتی علوم (برائے غیر مسلم طلباء)

الف۔ گندم اور چاول کی کاشت اور افادیت پر نوٹ لکھیں۔ (15)

ب۔ پاکستان کے حصول کے لیے قائد اعظم کی خدمات پر نوٹ

لکھیں۔ (10)

حقیقی کام۔

ماڈل پیپر # 1 (ملٹری کالج سوئی)

پرچہ اردو برائے داخلہ امتحان جماعت ہفتم سال 2021ء

کل نمبر: 100 وقت: ایک گھنٹہ

نوٹ: تمام سوالات حل کریں۔ پرچہ حل کرنے کے لیے نیلی روشنائی استعمال کریں۔
رول نمبر جوابی کاپی کے فقط ابتدائی صفحہ پر تحریر کریں۔ جوابی کاپی پر امتحانی مرکز کا نام
تحریر نہ کریں۔ مسلم طلباء اسلامیات کے جوابات لکھیں۔ غیر مسلم طلباء اسلامیات
کی بجائے حصہ معاشرتی علوم حل کریں۔

سوال نمبر 1: مندرجہ ذیل میں سے کسی ایک عنوان پر کم از کم دو سو الفاظ پر مشتمل
مضمون لکھیں۔ (20)

- (1) صحت و تندرست (2) دیہی اور شہری زندگی
- (3) میری پسندیدہ شخصیت

سوال نمبر 2: مندرجہ ذیل اشعار کی تشریح کریں۔ (20)

(الف) گھٹا اک پہاڑوں سے بٹھا کے اٹھی
پڑی چار سو یک بیک دھوم اس کی
رہے اس سے محروم آبی نہ خاکی
ہری ہو گئی ساری کھیتی خدا کی
(ب) جس دیس کی دھرتی میں خوشبو ہے بہاروں کی
جس دیس کے ذروں میں رونق ہے ستاروں کی
وہ دیس ہمارا ہے وہ دیس ہمارا ہے

سوال نمبر 3: پچا کے نام خط لکھیے جس میں سکول کے جلسہ تقسیم انعامات کا
تذکرہ ہو۔ (15)

سوال نمبر 4: درج ذیل الفاظ و محاورات کو اپنے جملوں میں اس طرح استعمال کریں
کہ ان کا مفہوم واضح ہو جائے۔ (10)

- الف۔ بحث و تکرار ب۔ نظم و ضبط
- ج۔ برق رفتار د۔ پرلگ جانا
- و۔ کمر کشا

سوال نمبر 5: گرامر کی رو سے دی گئی ہدایات کے مطابق جواب لکھیں۔ (10)

- الف۔ ایجاد (جمع لکھیں)
- ب۔ تعطیلات (واحد لکھیں)
- ج۔ سنورنا (متضاد لکھیں)

- د۔ پیار (متضاد لکھیں)
- ہ۔ اونٹ (مؤنٹ لکھیں)

حصہ دوم اسلامیات

سوال نمبر 6: الف۔ زکوٰۃ کی اہمیت و فضیلت لکھیں۔ نیز مصارف زکوٰۃ پر بھی
روشنی ڈالیں۔ (15)

ب۔ قرآن پاک اور حدیث مبارکہ کی روشنی میں سلامت کی
فضیلت و اہمیت تحریر کریں۔ نیز اسلامی تاریخ سے صحت
کی چند مثالیں لکھیں۔ (10)

حصہ دوم معاشرتی علوم (برائے غیر مسلم طلباء)

سوال نمبر 7: الف۔ گندم اور چاول کی کاشت اور افادیت پر نوٹ لکھیں۔ (15)
(ب) پاکستان کے حصول کے لیے قائد اعظم کی خدمات پر نوٹ
لکھیں۔ (10)

حل ماڈل پیپر # 1

سوال نمبر 1: مندرجہ ذیل میں سے کسی ایک عنوان پر کم از کم دو سو الفاظ پر مشتمل
مضمون لکھیں۔ (20)

- (1) صحت و تندرست
- (2) دیہی اور شہری زندگی
- (3) میری پسندیدہ شخصیت

تخلیقی کام۔ معاونت کے لیے دیکھیے حصہ الف

سوال نمبر 2: مندرجہ ذیل اشعار کی تشریح کریں۔ (20)

(الف) گھٹا اک پہاڑوں سے بٹھا کے اٹھی
پڑی چار سو یک بیک دھوم اس کی
رہے اس سے محروم آبی نہ خاکی
ہری ہو گئی ساری کھیتی خدا کی
(ب) جس دیس کی دھرتی میں خوشبو ہے بہاروں کی
جس دیس کے ذروں میں رونق ہے ستاروں کی
وہ دیس ہمارا ہے وہ دیس ہمارا ہے

تخلیقی کام۔ معاونت کے لیے دیکھیے حصہ دوم

سوال نمبر 3: پچا کے نام خط لکھیے جس میں سکول کے جلسہ تقسیم انعامات کا
تذکرہ ہو۔ (15)

نظموں کی تشریحات

مرکزی خیال

تمام مظاہر فطرت اور کائنات کا مربوط نظام خدائے واحد یعنی اللہ تعالیٰ کے خالق اور مالک ہونے پر دلالت کرتا ہے۔

خلاصہ

کائنات کا مربوط نظام اللہ تعالیٰ کی قدرت کاملہ کا مظہر ہے۔ اللہ تعالیٰ کا ہر طور پر نظر نہیں آتا لیکن کائنات کی ہر چیز جو اس کی تخلیق ہے اس کی کارگیری کا باعث ہے۔ موسموں کا بدلنا، رات دن کا آنا جانا۔ دنیا میں انسانی اختیار سے سوا چیزوں کا واقع ہونا سب اللہ تعالیٰ کی نشانیاں ہیں۔ ہمیں عزت یا ذلت دینے والی ذات صرف اور صرف اللہ تعالیٰ کی ذات ہے۔ وہی ہماری قسمت پر قدرت رکھتا ہے اور ہمارے لیے جو چاہے انتخاب کرتا ہے زندگی اور موت اس کے قبضہ قدرت میں ہے۔

اشعار کی تشریح

شعر نمبر ۱۔

کوئی تو ہے جو نظام ہستی چلا رہا ہے، وہی خدا ہے
وہائی بھی جو نہ دے، نظر بھی جو آ رہا ہے، وہی خدا ہے۔
تشریح: شاعر مظفر وارثی اللہ تعالیٰ کی حمد و ثناء بیان کرتے ہوئے اس شعر میں کہتے ہیں کہ کئی طاقت کا سرچشمہ کوئی خالق اور کوئی مالک تو ہے جو اس دنیا اور کائنات کے نظام کو چلا رہا ہے۔ اس کائنات کا سارا نظام باہم مربوط ہے اور یہ تمام مظاہر فطرت اور کائنات کا مربوط نظام خدائے واحد یعنی اللہ تعالیٰ کے خالق اور مالک ہونے پر دلالت کرتا ہے۔ اللہ تعالیٰ ظاہری طور پر دکھائی نہیں دیتا لیکن کارخانہ قدرت اس کی نشانیاں سے بھرپور ہے۔ ہر چیز میں اس کی قدرت اور طاقت ظاہر ہوتی ہے۔ ”گویا دنیا اس کی ہر چیز اس کے مالک اور خالق ہونے کی گواہی دیتی ہے۔“

بقول شاعر

ہر شے کے جھلکتے ہوئے فن اور کلا سے
ہم نے تجھے جانا ہے فقط تیری عطا سے

شعر نمبر ۲۔

حاصل اس کو نہ کر ہوں میں، وہ ہے بدلتی ہوئی رتوں میں
جو دن کو رات اور رات کو دن بنا رہا ہے، وہی خدا ہے
تشریح: شاعر مظفر وارثی اللہ تعالیٰ کی حمد و ثناء بیان کرتے ہوئے کہتے ہیں کہ اللہ ایک ہے۔ وہ واحد خالق و رازق اور مالک ہے۔ اسے بتوں میں تلاش نہ کرو یعنی شرک نہ کرو۔ انسان کی صفات میں کسی کو شریک نہ ٹھہراؤ۔ موسموں کا بدلنا اور دن رات کا آنا جانا سب اس کی قدرت اور طاقت کے شاہکار ہیں۔ صبح سویرے سورج اسی کے حکم سے اُٹھتا ہے اور رات کے اندھیروں کو ختم کرتا ہے۔ یہ دن سے رات اور رات سے

دن کی تخلیق اللہ تعالیٰ کی نشانیوں میں سے ایک ہے۔

بقول شاعر

سورج کے اہالوں سے، لہاؤں سے خلا سے
چاند اور ستاروں کی چمک اور فضا سے
ہم نے تجھے جانا ہے فقط تیری عطا سے

شعر نمبر ۳۔

کسی کو سوچوں نے کب مرا، وہی ہوا جو خدا نے چاہا
جو اختیار بشر پہ پہرے لگا رہا ہے، وہی خدا ہے
تشریح: شاعر مظفر وارثی اللہ تعالیٰ کی قدرت کاملہ اور اس کے اوصاف بیان کرتے ہوئے کہتے ہیں کہ انسان اپنی زندگی میں بڑے بڑے منصوبے بناتا ہے لیکن ان منصوبوں اور خواہشوں کی تکمیل اس وقت تک ناممکن ہے جب تک کہ اللہ تعالیٰ کو منظور نہ ہو۔ دنیا میں انسانی اختیار سے سوا چیزوں کا واقع ہونا اس بات کی دلیل ہے کہ کارخانہ قدرت میں کلی اختیار اللہ تعالیٰ کو حاصل ہے۔ وہی ہماری قسمت پر قدرت رکھتا ہے اور ہمارے لیے جو چاہے اس کا انتخاب کرتا ہے۔ انسان کی سوچ اور عمل محدود ہے اور اللہ تعالیٰ کی منظوری کے بغیر اس کی سوچ اور عمل کا دائرہ محدود ہے۔

بقول شاعر

کہیں ظلمت، کہیں اجالا ہے
اس کی حکمت سمجھ سے بالا ہے

شعر نمبر ۴۔

نظر بھی رکھے، سماعتیں بھی، وہ جان لیتا ہے نیتیں بھی
جو خانہ لاشعور میں جگمگا رہا ہے، وہی خدا ہے۔
تشریح: شاعر مظفر وارثی اللہ تعالیٰ کی حمد و ثناء بیان کرتے ہوئے کہتے ہیں کہ اللہ تعالیٰ کی ذات ”البصیر“ سب کچھ دیکھنے والا ہے۔ ”السمیع“ سب کچھ سننے والا ہے اور ”الخبیر“ باخبر اور آگاہ ہے اپنے علم اور شمار میں سب کچھ رکھنے والا ہے۔ اللہ تعالیٰ نیتوں کو بھی جان لیتا ہے۔ لاشعور سے شعور میں لانا یعنی اچھی سوچ کا پیدا کرنا اور کسی چیز کو پیدا کرنا جس کا وجود پہلے نہ تھا، اللہ تعالیٰ ہی کی قدرت اور طاقت کا مظہر ہے۔

بقول شاعر

تیرے ہاتھ ہے ہر اک کام مولا
ہیں سب تیرے بندے تو مالک ہے سب کا

شعر نمبر ۵۔

کسی کو تاج و تار بخشنے، کسی کو ذلت کے غار بخشنے
جو سب کے ماتھے پہ مہر قدرت لگا رہا ہے، وہی خدا ہے
تشریح: شاعر مظفر وارثی اللہ تعالیٰ کی حمد و ثناء بیان کرتے ہوئے کہتے ہیں کہ اللہ تعالیٰ جسے چاہے دنیا جہاں کی بادشاہت عطا کر دے۔ اور جسے چاہے ذلت اور رسوائی اُس کا مقدر کر دے ہمیں عزت اور ذلت دینے والی اللہ کی ذات ہے۔ صرف اللہ تعالیٰ ہی ہماری قسمت پر قدرت رکھتا ہے وہ جسے چاہے شہنشاہ بنادے اور تاج سلطانی عطا کر دے اور جسے چاہے در در پر بھیک مانگنے کے لیے مجبور ہو جائے۔

-vi- اسم جمع

وہ اسم ہے جو ساخت کے لحاظ سے تو واحد معلوم ہو لیکن معنوں کے لحاظ سے جمع ہو اور ایک ہی جنس کی بہت سی چیزوں کو ظاہر کرے۔ جیسے: فوج، لشکر، جماعت، گروہ، ہجوم، ریوڑ، گلہ، جھنڈ، کارواں، قافلہ، گلدستہ، وغیرہ۔

-2- اسم صفت:

وہ اسم ہے جو کسی دوسرے اسم کی اچھائی یا برائی ظاہر کرے۔ مثلاً: نیک، بد، وغیرہ۔

-3- اسم استفہام:

وہ اسم ہے جو سوال کرنے کے لئے استعمال کیا جائے، مثلاً: کونسا، کس کا، کتنا، کون، کیا، کب، کدھر، کہاں، کیسی، کہاں سے، وغیرہ۔

-4- اسم مصدر:

وہ اسم ہے جس میں وقت کی قید کے بغیر کسی کام کا کرنا، ہونا یا سہنا پایا جائے، مثلاً: اٹھنا، بیٹھنا، آنا، جانا، وغیرہ ہونے کی تعریف میں آئیں گے، لٹنا، مارا جانا، سہنا اور پڑھنا، لکھنا، کھانا، کھینا اور دوڑنا، وغیرہ "کرنا" کی تعریف میں۔ مصدر کی علامت یہ ہے کہ اس کے آخر میں ہمیشہ "نا" آتا ہے۔ جیسے آنا، پڑھنا، کھانا پینا، وغیرہ۔ کچھ کلمے ایسے بھی ہیں جن کے آخر میں "نا" ہوتا ہے لیکن وہ مصدر نہیں ہوتے۔ مثلاً: نانا، گنا، چونا، سونا اور پرانا، وغیرہ۔ مصدر کی پہچان اس طرح کی جاسکتی ہے کہ "نا" کے گرانے سے باقی لفظ میں کسی کام کے کرنے کا حکم پایا جائے مثلاً دوڑنا سے دوڑ وغیرہ اور جو مصدر نہیں ہوتے ان کے "نا" گرانے سے باقی لفظ حکم کے معنی نہیں دیتا۔ مثلاً: چونا سے چو، نانا سے نا، وغیرہ۔

-iii- اسم حاصل مصدر/ اسم کیفیت:

وہ اسم ہے جس سے مصدر کی کیفیت یا اثر سمجھ میں آجائے، مثلاً: لڑنا سے لڑائی، لکھنا سے لکھائی، اٹھنا سے اٹھان، چھکنا سے چھکان، جلنا سے جلن، ملنا سے ملاوٹ، اترنا سے اترائی وغیرہ۔ فارسی کے حاصل مصدر اردو میں بھی حاصل مصدر ہی ہوں گے۔ جیسے: گفتگو، جستجو، آمد و رفت، آزمائش، پیمائش وغیرہ۔

عربی کے حاصل مصدر جیسے: شرافت، جہالت، حماقت، علم، عمل، وغیرہ بھی اردو میں استعمال ہوتے ہیں۔

-6- اسم فاعل

وہ اسم ہے جو اس کے کام کرنے والے کو ظاہر کرے جو مصدر میں پایا جاتا ہے مثلاً: تیراگ (تیرنے والا)، کھلاڑی (کھیلنے والا)، خدمت گار (خدمت کرنے والا) وغیرہ۔ اسم فاعل کی دو اقسام ہیں:

-i- اسم فاعل سماعی

وہ اسم ہے جو سمیٹنے کے لحاظ سے اسم فاعل نہ ہو لیکن اسم فاعل کے معنی دے۔ ان کے بنانے کا کوئی قاعدہ نہیں ہے۔ جیسے: تیراگ، ہونہار یعنی تیرنے والا، ہونے والا۔

-ii- اسم فاعل قیاسی

وہ اسم ہے جو قاعدے کی رو سے بنایا گیا ہو۔ جیسے: لکھنے والا، پڑھنے والا، سیکھنے والا، وغیرہ۔

فارسی کے اسم فاعل بھی اردو میں مستعمل ہیں۔ مثلاً: راہ برد، راہ نما، سرمایہ دار، کتب فروش، خیر خواہ، باغبان، توپچی، طلب گار، باشندہ، دانش ور، چادوگر، گھڑی ساز، خدمت گار، پرہیز گار۔

عربی کے اسم فاعل اردو میں بھی استعمال کئے جاتے ہیں جیسے:

فاعل کے وزن پر آنے والے:	خادم، حاکم، عادل، رازو، خالق
مفاعیل کے وزن پر آنے والے:	ملازم، محافظ، مجاہد، مسافر، مناظر
مفعول کے وزن پر آنے والے:	مولس، محسن، موجد، مشفق۔

اسم فاعل اور فاعل میں فرق

- i- اسم فاعل بنایا جاتا ہے لیکن فاعل بنایا نہیں جاتا بلکہ اس سے تو صرف فعل واقع ہوتا ہے۔
- ii- اسم فاعل وہ ہے جو فاعل کو ظاہر کرے۔ جب کہ فاعل کام کرنے والے کو کہتے ہیں۔
- iii- اسم فاعل کو فاعل کی جگہ استعمال کر سکتے ہیں لیکن فاعل کبھی اسم فاعل کی جگہ استعمال نہیں ہو سکتا۔ جیسے: لکھنے والے نے خط لکھا۔ یہاں لکھنے والا اگرچہ اسم فاعل ہے لیکن فاعل بنا ہوا ہے۔

-7- اسم مفعول

وہ اسم ہے جو اس آدمی یا چیز کو ظاہر کرے جس پر کوئی کام واقع ہوا اور مصدر سے بنا ہوا۔ مثلاً: مظلوم جس پر ظلم کیا گیا ہو، مقتول جس کو قتل کیا گیا ہو۔ اسم مفعول کی دو اقسام ہیں۔

-i- اسم مفعول اصولی

وہ اسم ہے جو قاعدے کے مطابق بنا ہوا۔ مثلاً: لکھا ہوا، مرا ہوا۔

-ii- اسم مفعول قیاسی

وہ اسم جو محض مفعول کے معنی دے اور وہ قاعدے کے مطابق نہ بنا ہو۔ جیسے: بیاہتا سے بیاہی ہوئی عورت۔