



**EDUCATION & LITERACY DEPARTMENT
GOVERNMENT OF SINDH**



**STUDENTS LEARNING OUTCOMES (SLOs)
GRADE VI TO VIII**

**Bureau of Curriculum & Extension Wing Sindh
Jamshoro**

STUDENTS LEARNING OUTCOMES (SLOs)

GRADE VI - VIII

SUBJECT: ENGLISH

| Grade | Student Learning Outcomes (SLOs) |
|-------|---|
| VI | <ul style="list-style-type: none"> ▪ Read and analyze a paragraph as a larger meaningful unit of expression to ▪ identify that the main idea in a paragraph is carried in a sentence, called a topic sentence. ▪ recognize that other sentences in the paragraph support the topic sentence. ▪ Analyze a text to recognize each paragraph as a separate meaningful unit of expression with its own topic sentence and supporting details. ▪ Analyze features of an effective topic sentence such as <ul style="list-style-type: none"> ▪ specific words ▪ vivid verbs ▪ modifiers ▪ Analyze paragraphs to identify sentences that support the main idea through <ul style="list-style-type: none"> ▪ definition ▪ example <p>evidence</p> <ul style="list-style-type: none"> ▪ Recognize the functions of ▪ pronoun - antecedent relationships. <p>transitional devices used for coherence and cohesion within and beyond a paragraph.</p> <p>Recognize chronological order of arranging paragraph details.</p> <ul style="list-style-type: none"> ▪ Use pre-reading strategies to ▪ predict the content of a text from topic / picture, title / headings etc. by using prior knowledge, asking questions and contextual clues. ▪ Skim text to ▪ have a general idea of the text. ▪ infer theme/ main idea. ▪ Apply critical thinking to interact with text, and use intensive reading strategies (while-reading): ▪ Scan to answer short questions. ▪ Make simple inferences using context of the text and prior knowledge. ▪ Distinguish between what is clearly stated and what is implied. ▪ Deduce meaning of difficult words from context. ▪ Use context to infer missing words. ▪ Read Silently with comprehension and extract main idea and supporting detail. ▪ Scan to locate an opinion. ▪ Distinguish fact from opinion. ▪ Follow instructions in simple forms requiring personal information. ▪ Comprehend/interpret text by applying critical thinking. <p>Generate questions to understand text.</p> <ul style="list-style-type: none"> ▪ Use summary skills to ▪ extract salient points and develop a mind map to summarize a text. ▪ transfer the written text to a diagram flow chart or cloze paragraph. |

- Use critical thinking to respond to the text (**post-reading**) :
- Apply world knowledge and own feelings / opinion to the text read.
- Explore causes and consequences of a problem and propose various solutions.
- Apply strategies to comprehend questions by marking key words, verbs and tenses in a variety of question types:
 - Literal/ textual/ factual
 - Interpretive
 - Inferential
 - Evaluative
 - Personal response
 - Open ended

Respond orally or in writing.

- Interpret vocabulary and structures given in a mind map to write a short description of a person, place, object, and animal using basic connectors.
- Follow the direction and understand the position on a map or a picture, to give directions and explain position orally or in writing.
- Analyze information in a flow chart or diagram to describe a process through guided writing tasks.
- Organize information using sequential pattern.

Recognize and use appropriate transitional words within and beyond paragraphs for better coherence and cohesion.

- Use dictionary to
- locate **guide words**.
- locate **entry word**.
- choose appropriate word definition.
- identify pronunciation of a word with the help of pronunciation key.
- identify **syllable** division, and **stress** pattern.
- identify part of speech of a word through abbreviation used.
- identify correct spellings.
- identify phrases through **key words**.
- Locate synonyms and antonyms in children's thesaurus.
- Use library skills to
- alphabetize book titles, words and names.
- locate fiction and non fiction books / books by subject.
- understand card catalogue.
- locate and use card catalogue.
- identify three kinds of catalogue cards i.e. author card, title card, subject card.
- use case and shelf labels in the library.

locate and use the reference section in the library.

- Identify and utilize effective study skills e.g. note-taking / writing an outline, making a **mind map, brainstorming** for generating and developing ideas.
- Use **textual aids** such as title page (author, publishing detail), **blurbs**, table of content, index, glossary of texts to
- comprehend texts.

identify and select relevant information **in** a book.

- Make predictions about story line/ content, characters, using contextual clues and prior knowledge.
- Recognize and describe story elements: characters, events, setting, plot, and theme.
- Read a story to

- retell it sequentially.
- summarize (through gapped summary exercises).
- Recognize the author's purpose.
- Identify the speaker or narrator in a selection.
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- Describe characters orally and in writing.
-
- Express preferences about characters giving reasons.
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Recognize **genres** of literature e.g. fiction, poetry.

- Read a poem and give orally or in writing:
- Main idea
- Summary (through **gapped summary** exercises)

Identify line and stanza.

- Understand how a writer/ poet uses language to
- appeal to the senses through use of **figurative language** including **similes**.
- Develop focus to write a paragraph for a given purpose and **audience**.

Use a variety of **pre-writing** strategies such as **brainstorming**, **mind mapping**, outlining etc.

- Analyze various paragraphs to recognize that a paragraph comprises a group of sentences that develop a single idea.
- Write a simple unified paragraph on a given topic:
- Write a clear **topic sentence** using specific words, vivid verbs, **modifiers**, etc.
- Add adequate supporting detail (example, definition or evidence) to develop the main idea.
- Use appropriate pronoun - antecedent relationship and **transitional devices** within a paragraph.
- Use chronological/sequential order of arranging detail.
- Write a composition of three or more paragraphs following conventions of essay writing:
- Introductory paragraph
- Body paragraphs
- Concluding paragraphs
- Recognize that
- introductory paragraph carries the main idea of the essay.
- each one of the body paragraphs develops the main idea through key ideas. These key ideas are developed through supporting details.
- the concluding paragraph contains a summary of the body paragraphs, and a general concluding statement.

paragraphs are linked through various transitional devices.

- Analyze written texts to use in their own writing, features of a simple **expository** composition showing a process or a procedure:
- Correct verb form (present passive tense) for general descriptions of a process or a procedure.
- Correct verb form (past passive tense) for reporting a particular procedure in the past.
- Sequential order of ideas. Appropriate **sequence markers** e.g. *first, next, then* etc.
- Analyze written texts to use in their own writing, features of a simple descriptive composition about people, Objects and places

PRONOUNS

Physical description and personality traits (habits, etc.) of a person, moving from general to specific.

OBJECTS AND PLACES

- Physical description and characteristics of an object/place, moving from general to specific.
- Correct verb form.
- Appropriate adjectives and adverbs for vivid effect.

Details in appropriate order.

- Write a short narrative in the first person which describes events:
- Use sequential order.
- Use specific adjectives and adverbs.
- Use appropriate tense.
- Use appropriate transitional devices.
- Analyze to use in their own writing, the elements of a story:
- Beginning, middle and end.
- Plot.
- Human/animal, imaginary characters and their roles.
- Dialogues.
- Setting.
- Write a paragraph of **free writing** for **fluency**, creativity and pleasure.
- Analyze questions to write effective and focused answers of required length by
- marking **key words**
- identifying verbs and tenses
- recognizing **question types** such as
- Literal/ textual/ factual
- Interpretive
- **Inferential**
- Evaluative

Personal response

- Comprehend and use summary skills to
- write summary/ précis of simple passages.

summarize poems.

- Analyze and compare various informal letters to write short letters to people in immediate social and academic environment:
- Identify parts of a letter.
- Follow conventions of informal letter with respect to layout, salutations etc.
- Recognize and demonstrate use of appropriate vocabulary, style and tone in informal letters.
- Write the address on the envelope clearly and in proper format.
- Write short texts in speech bubbles and cartoon strips using vocabulary, tone, style of expression appropriate to the communicative purpose and context.

Fill in correctly and legibly, simple forms requiring personal information.

- Plan their own writing:
- Identify audience and purpose.
- Develop focus for their own writing.
- Use a variety of pre-writing strategies such as brainstorming, mind- mapping, outlining etc.
- Draft and revise a paragraph to ensure that it
- has a main idea stated in the topic sentence.
- provides relevant, specific and substantial supporting detail for the main idea.

- uses transition words that contribute to a sense of cohesiveness.
 - has clear, specific sentences that use exact names, lively verbs, **modifiers** and words that relate to senses.
 - has an effective introductory and closing sentence.
- gives a title based on the main idea.
- Proof read and edit texts for errors of
 - word order, verb form, articles etc.
 - **reference words**, connectives.
 - adverbs and adjectives.
 - punctuations and spelling.
 - Use various functions to
 - ask and answer simple questions of personal relevance.
 - engage in conversation.
 - express reasons for likes and dislikes.
 - seek and respond to permission.
 - request and respond to requests.
 - show willingness and unwillingness to do something.
 - give and follow directions/instructions.
 - express ability/inability to do something.
 - express personal needs.
 - Use conventions and dynamics of group discussion and interaction to
 - offer and respond to greetings, compliments, invitations, introductions and farewells.
 - follow directions to form groups.
 - take turns.
 - lead and follow.
 - engage in conversation.
 - get personal needs met.
 - use polite expressions to seek attention.
 - Agree/ disagree politely.
 - show and accept apology.
 - ask and restate directions.
 - express regret.
 - relate what they have to say to what has been said before.
 - take into account different view points.
 - Recognize and articulate English sounds given in the pronunciation key in the dictionary.
 - Identify and pronounce in minimal pairs common problem consonants including *tv/, Iw/, Iya/, Ith/, Il/, /r/, etc.*
 - Identify and correctly pronounce diphthongs and diphthongs in words.
 - Identify and correctly pronounce diphthongs and diphthongs in words.
 - Identify and pronounce consonant clusters with developing accuracy in initial and final positions.
 - Recognize and pronounce silent letters in words.
 - Recognize syllable division of words in aural and written text.
 - Demarcate words into syllables with the help of a dictionary.
 - Comprehend and apply in speech the word **stress** rules for example **stress** shift for emphasis and change in meaning in parts of speech.
 - Pronounce weak form of personal pronouns, **modal verbs**, their negatives, prepositions, articles and conjunctions.
 - Recognize and use varying intonation patterns to show attitude.

- Articulate complex tongue twisters.
- Build and use appropriate vocabulary and correct spelling for effective communication:
- Illustrate the use of dictionary for finding appropriate meaning and correct spellings.
- Use a simple thesaurus to locate synonyms.
- Examine and interpret **transitional devices** that show comparison, sequence, result, and conclusion.
- Utilize comparison clues, synonyms to deduce the meaning of unfamiliar words.
- Understand and utilize **similes** given in the text.
- Comprehend the role of **compound words** in vocabulary building, and create **compound words**.

NOUNS

- Demonstrate use of common and proper nouns. Differentiate between collective, countable and uncountable nouns.
- Change the number of regular and irregular nouns, and nouns with no change in number.
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- Recognize and demonstrate use of nouns that are written in plural form but are in fact singular e.g. *scissors*.
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- Recognize and demonstrate use of words that have only plural form.
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- Change the gender of nouns.
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- Differentiate between, and demonstrate use of possessive forms of animate and inanimate nouns.

PRONOUNS

- Demonstrate use of pronouns as subject and object. Recognize function of, and use possessive and reflexive pronouns.
- Demonstrate use of question words.
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- Use few indefinite pronouns.
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- Demonstrate use of pronoun-antecedent agreement recognizing their relationship.

ARTICLES

- Recall and apply rules for use of a and an in speech and writing.
- Demonstrate use of definite article, the, when noun is particularized.

VERBS

- Demonstrate use of be, have, do and need as main or helping verbs in sentences.
- Recognize and demonstrate function and use of linking verbs.
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- Recognize and demonstrate function and use of modal verbs can/ cannot, may/ may not and should! should not to express ability, inability, permission, prohibition, doubt, and obligation, etc.
- Recognize and demonstrate function and use of could, might, shall, must, and ought in affirmative, negative and interrogative sentences.
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- Illustrate use of regular and irregular verbs in speech and writing.
- Illustrate use of transitive and intransitive verbs.

TENSES

- Recognize the form and various functions; and illustrate use of Simple Present, Present Continuous, Simple Past, Past Continuous and Future Simple tenses.

ADJECTIVES

- Classify adjectives of quantity, quality, size, shape, colour, and origin.
- Change and use degrees of regular and irregular adjectives.
- Recognize and use absolute adjectives.

ADVERBS

- Use adverbs of manner, time, place, frequency, degree and reason.

PREPOSITIONS

- Illustrate use of prepositions of position, time, movement and direction.
- Use compound prepositions.

TRANSITIONAL DEVICES

- Use in speech and writing, transitional devices of addition, alternative, comparison, contrast, illustrations, sequence, conclusion, cause and effect.
- Apply rules of capitalization wherever applicable.
- Use full stop, question mark and exclamation mark wherever applicable.
- Recognize and rectify faulty punctuation in given passages and own work.
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- Recognize and use comma:
 - for a series of items.
 - before a short quotation.
- Recognize and use colon to
 - introduce a list of items.
- Recognize and use quotation marks to
 - enclose a direct quotation
- Recognize and use hyphen to
 - join a single letter to another word.
- Recognize and use dash as
 - a separator to indicate that a sentence has been broken off.
- Recognize and use parenthesis (Round Brackets) to
 - enclose numbers or letters in enumerations in the text.
 - express an amount in numbers previously expressed in words

SENTENCE STRUCTURE

- Use simple SVO pattern sentences with direct and indirect Objects.

TYPES OF SENTENCES

- Classify, use, and make declarative (affirmative and negative), interrogative, exclamatory and imperative sentences.
- Use first conditional sentences.
- Identify active and passive voice in simple sentences.
- Recognize and use passive **voice** to write short notices and instructions.
- Identify function of direct and indirect speech in simple texts.
- Recognize the rules of, and change the **narration** of simple statements

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| VII | <ul style="list-style-type: none"> ➤ Analyze a paragraph to <ul style="list-style-type: none"> ▪ identify a topic sentence. ▪ identify sentences carrying supporting details ➤ Recognize that text comprises a group of paragraphs that develop a single theme or idea. ➤ Analyze a larger text to <ul style="list-style-type: none"> ▪ recognize each paragraph as a separate meaningful unit of expression with its own topic sentence and supporting details. ➤ Analyze features of an effective topic <ul style="list-style-type: none"> ▪ sentence such as ▪ specific words ▪ vivid verbs ▪ modifiers ➤ Analyze paragraphs to identify sentences that support the main idea through <ul style="list-style-type: none"> ▪ definition ▪ example ▪ evidence ▪ illustration ▪ evidence <p>cause and effect</p> <ul style="list-style-type: none"> ➤ Recognize the functions of <ul style="list-style-type: none"> ▪ pronoun - antecedent relationships. ▪ anaphoric and cataphoric references. <p>transitional devices used for coherence and cohesion within a text. Recognize chronological and spatial order of arranging paragraph details.</p> <ul style="list-style-type: none"> ➤ Use pre-reading strategies to <ul style="list-style-type: none"> ▪ predict the content of a text from topic / picture, title / headings, key words and visuals etc. by using prior knowledge, asking questions and contextual clues. ➤ Skim text to <ul style="list-style-type: none"> ▪ have a general idea of the text. ▪ infer theme/ main idea. ➤ Apply critical thinking to interact with text, and use intensive reading strategies (while-reading) : <ul style="list-style-type: none"> ▪ Scan to answer short questions. ▪ Make simple inferences using context of the text and prior knowledge. ▪ Distinguish between what is clearly stated and what is implied. ▪ Deduce meaning of difficult words from context. ▪ Use context to infer missing words. ▪ Read silently with comprehension and extract main idea and supporting detail. ▪ Scan to locate an opinion. ▪ Distinguish fact from opinion. ▪ Locate examples to support an opinion. ▪ Follow instructions in forms requiring information about school. ▪ Comprehend/interpret text by applying critical thinking. ▪ Generate questions to understand text. |
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- Use summary skills to
 - extract salient points and develop a **mind map** to summarize a text.
 - transfer the written text to a diagram
 - flow chart or **cloze** paragraph
- Use critical thinking to respond to the text (**post-reading**) :
 - Apply world knowledge and own feelings / opinion to the text read.
 - Explore causes and consequences of a problem and propose various solutions.
- Apply strategies to comprehend questions by marking key words, verbs and tenses in a variety of question types:
 - Literal/ textual/ factual
 - Interpretive
 - Inferential
 - Evaluative
 - Personal response
 - Open ended

Respond orally or in writing

- Interpret ideas, vocabulary and structures given in a mind map to compare people, object, places, animals, using connectors of comparison.

Analyze information in a variety of tables, flow charts or diagrams to describe processes, cause and effect relationships through guided writing tasks.

- Organize information using sequential pattern.

Recognize and use appropriate transitional words within and beyond paragraphs for better **coherence** and **cohesion**.

- Use dictionary to
 - locate **guide words**.
 - locate **entry word**.
 - choose appropriate word definition.
 - identify pronunciation with the pronunciation key.
 - identify **syllable** division, and **stress** pattern.
 - identify part of speech of a word through abbreviation used.
 - identify correct spellings.

identify phrases through **key words**.

- Locate synonyms and antonyms in children's thesaurus.
- Use library skills to
 - alphabetize book titles, words and names.
 - locate fiction and non fiction books / books by subject.
 - understand card catalogue.
 - locate and use card catalogue.
 - identify three kinds of catalogue cards i.e. author card, title card, subject card.
 - use case and shelf labels in the library.

locate and use the reference section in the library.

Identify and utilize effective study skills e.g. note-taking / writing an outline, making a **mind map**, **brainstorming** for generating and developing ideas.

- Use **textual aids** such as title page (author, publishing detail), **blurbs**, table of content, index, glossary of texts to
 - comprehend texts.

identify and select relevant information **in** a book.

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| | <ul style="list-style-type: none"> ➤ Make predictions about story line/ content, characters, using contextual clues and prior knowledge. ➤ Recognize and describe story elements: characters, events, setting, plot, theme, tone. ➤ Read a story to <ul style="list-style-type: none"> ▪ retell it sequentially . ▪ summarize (through gapped summary exercises). ➤ Recognize the author's purpose. ➤ Identify the speaker or narrator in a selection. ➤ Read a text to describe orally and in writing, character traits using evidence from the text. ➤ Express preferences about characters giving reasons. <p>Recognize genres of literature e.g. fiction, poetry, legend, myth.</p> |
| | <ul style="list-style-type: none"> ➤ Read a poem and give orally or in writing: <ul style="list-style-type: none"> ➤ Main idea ➤ Summary (through gapped summary exercises ➤ Personal response ➤ Identify line and stanza. ➤ Recognize literary techniques such as personification and alliteration. ➤ Understand how a writer/ poet uses language to appeal to the senses through use of figurative language including similes. <p>Develop focus to write a paragraph for a given purpose and audience.</p> <ul style="list-style-type: none"> ➤ Use a variety of pre-writing strategies such as brainstorming, mind mapping, outlining etc. ➤ Write a simple unified paragraph on a given topic: ➤ Write a clear topic sentence using specific words, vivid verbs, modifiers, etc. ➤ Add adequate supporting detail (example, illustration, definition, evidence, or cause and effect) to develop the main idea. ➤ Use appropriate pronoun-antecedent relationship and transitional devices within a paragraph. ➤ Use chronological/sequential/ spatial order of arranging detail. ➤ Write a composition of three or more paragraphs following conventions of essay writing: <ul style="list-style-type: none"> ➤ Introductory paragraph ➤ Body paragraphs ➤ Concluding paragraphs ➤ Recognize that <ul style="list-style-type: none"> ➤ introductory paragraph carries the main idea of the essay. ➤ each one of the body paragraphs develops the main idea through key ideas. These key ideas are developed through supporting details. ➤ the concluding paragraph contains a summary of the body paragraphs, and a general concluding statement. <p>paragraphs are linked through various transitional devices.</p> <ul style="list-style-type: none"> ➤ Analyze written texts to use in their own writing, features of a simple expository composition showing cause and effect of an event or an action: <ul style="list-style-type: none"> ➤ Logical order of events or action. <p>Appropriate connectives of cause and effect.</p> |

- Analyze written texts to use in their own writing, features of a simple descriptive composition about people, Objects and places:

PRONOUNS

- Detailed physical description of face, build, clothes etc. of a person.

Personality traits e.g. habits, attitudes etc.

OBJECTS AND PLACES

- Sufficient general details and finer details of size, color, shape and texture.
- Defining characteristics of an object/place.
- Correct verb form.
- Appropriate adjectives and adverbs for vivid effect.
- Details in appropriate order.
- Write two paragraphs of comparison between persons, objects or places:
- Use appropriate similes for comparison.
- Use correct connectors of comparison.
- Write a short narrative in the first person which describes events:
- Use sequential order.
- Use specific adjectives and adverbs.
- Use appropriate tense.

Use appropriate transitional devices.

- Write a paragraph of **free writing** for **fluency**, creativity and pleasure.
- Analyze questions to write effective and focused answers of required length by marking **key words**
- identifying verbs and tenses
- recognizing **question types** such as
- Literal/ textual/ factual
- Interpretive
- **Inferential**
- Evaluative
- Personal response
- **Open ended**
- Use summary skills to
- write summary/ précis of simple passages.

summarize poems.

- Write short informal letters to people in extended social and academic environment for various purposes:
- Use correct conventions, appropriate vocabulary, tone and style.
- Revise for
- correct format, layout.
- appropriate vocabulary, style, tone
- Analyze and compare various informal dialogues to write short informal dialogues:
- Identify characters and their relationships.
- Identify context.
- Identify vocabulary, tone and style appropriate to context and relationship between addresser and addressee.
- Recognize language forms depicting features of oral speech.

Fill in correctly and legibly, simple forms requiring information about school.

- Plan their own writing:
- Identify audience and purpose.
- Develop focus for their own writing.
- Use a variety of pre-writing strategies such as brainstorming, mind- mapping, outlining etc.

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| | <ul style="list-style-type: none"> ➤ Draft and revise writing to ensure that it ➤ has a main idea stated in the topic sentence. ➤ has relevant, specific, and substantial supporting detail for each paragraph. ➤ has reference and transition words that contribute to a sense of cohesion and cohesiveness. ➤ has varied sentence structure and length. <p>has an effective introduction and conclusion</p> <ul style="list-style-type: none"> ➤ Proof read and edit texts for errors of ➤ sentence structure. ➤ subject / verb agreement. ➤ noun / pronoun agreement. ➤ reference words, connectives. ➤ punctuation and spelling. ➤ Use various functions to ➤ ask and answer questions of personal interest and general every day aspects. ➤ express surprise. ➤ express pleasure and displeasure. ➤ express anger and impatience. ➤ express disappointment. ➤ give reasons for expressing ability/inability to do something. <p>express personal needs.</p> <ul style="list-style-type: none"> ➤ Use conventions and dynamics of group discussion and interaction to ➤ offer and respond to greetings, compliments, invitations. ➤ introductions and farewells. ➤ show gratitude apologize, express anger or impatience. ➤ ask and restate directions and instructions. ➤ take turns. ➤ relate what they have to say to what has been said before. ➤ take into account different viewpoints. ➤ extend their ideas in the light of discussion. ➤ give reasons for opinions and actions. ➤ identify a problem and propose a solution. <p>join in a group response at the appropriate time.</p> <ul style="list-style-type: none"> ➤ Recognize and demonstrate appropriate expressions and etiquettes for a telephonic conversation to ➤ make polite introductions. ➤ ask someone to say something again. ➤ check understanding of message. ➤ take and leave a message. ➤ infer and draw conclusions about meaning, intention and feeling communicated by the speaker. ➤ recognize and respond to moods showing appreciation, pleasure, displeasure, surprise, disappointment. ➤ make and respond to inquiries. ➤ make and respond to requests. ➤ Recognize and articulate English sounds given in the pronunciation key in the dictionary. <p>Identify and pronounce in minimal pairs common problem consonants including /v/, /w/, /y/, /n/, /l/, /r/, etc.</p> <p>Identify and correctly pronounce diphthongs and diphthongs in words</p> |
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- Differentiate between long and short vowel sounds and recognize how vowel length can change the meaning.

Identify and pronounce consonant clusters with developing accuracy in initial and final positions.

Recognize and pronounce silent letters in words.

- Recognize syllable division of words in aural and written text.

➤ Demarcate words into syllables with the help of a dictionary.

- Comprehend and apply in speech the word **stress** rules for example **stress** shift for emphasis and change in meaning in parts of speech.

Pronounce weak form of personal pronouns, **modal verbs**, their negatives, prepositions, articles and conjunctions.

Recognize and use varying intonation patterns to show attitude and emotions.

Articulate complex tongue twisters

- Build and use appropriate vocabulary and correct spelling for effective communication:
- Illustrate the use of dictionary for finding appropriate meaning and correct spellings.
- Use a simple thesaurus to locate synonyms and antonyms.
- Examine and interpret **transitional devices** that show comparison, sequence, cause and effect.
- Utilize comparison, appositive phrases, and synonyms to deduce the meaning of unfamiliar words.
- Understand and utilize **similes** given in the text.
- Analyze analogies; complete analogies correctly.

Understand and use correctly, **phrasal verbs** given in the text / glossary.

NOUNS, NOUN PHRASES AND CLAUSES

- Demonstrate use of common and proper, collective, countable and uncountable nouns.
- Apply the rules of change of number of nouns learnt earlier.
- Change the number of compound nouns. Differentiate between plurals and possessive forms of compound nouns.
- Change the number of some foreign words e.g. *basis-bases*.
- Change the gender of nouns.
- Recognize, differentiate and demonstrate use of possessive forms of more animate and inanimate nouns.

PRONOUNS

- Demonstrate use of pronouns as subject and object. Recognize function of, and use possessive and reflexive pronouns.
- Demonstrate extended use of question words.
- Use some indefinite pronouns.

Demonstrate use of pronoun- antecedent agreement recognizing their relationship.

ARTICLES

Apply rules of a, an, and the wherever applicable in speech and writing.

VERBS

- Illustrate use of helping verbs in speech and writing.
- Illustrate use of linking verbs.
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- Recognize and demonstrate function and use of modal verbs learnt earlier.
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- Recognize and demonstrate function and use of would, need and dare in affirmative, negative and interrogative sentences.
-
- Illustrate use of regular and irregular verbs in speech and writing.
-

Illustrate use of transitive and intransitive verbs.

TENSES

- Illustrate use of tenses learnt earlier.

Recognize the form and various functions; and illustrate use of Present Perfect Tense.

ADJECTIVES

- Classify adjectives into different types. Change and use degrees of adjectives with reference to than and the.
-
- Recognize and use absolute adjectives.
-
- Locate the varying position of adjectives in sentences.
-
- Form adjectives from nouns.

ADVERBS AND ADVERBIALS

- Classify and use different kinds of adverbs learnt earlier.

Recognize varying positions of adverbs in sentences according to their kinds and importance.

PREPOSITIONS

- Illustrate use of prepositions of position, time, movement and direction.
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- Illustrate use of compound prepositions.
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- Illustrate use of since and for.

TRANSITIONAL DEVICES

Use in speech and writing, transitional devices of addition, alternative, comparison, contrast, illustrations, sequence, conclusion, cause and effect.

- Apply rules of capitalization wherever applicable.

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| | <ul style="list-style-type: none"> ➤ Illustrate use of, punctuation marks learnt earlier. ➤ ➤ Recognize and rectify faulty punctuation in given passages and own work. ➤ ➤ Recognize and use comma: ➤ for a series of items. ➤ before a short quotation ➤ Recognize and use colon to ➤ introduce a list of items. ➤ introduce a long quotation. ➤ Recognize and use quotation marks to ➤ enclose a direct quotation ➤ Recognize and use hyphen to ➤ join words and to avoid ambiguity. ➤ Recognize and use dash as <p>a separator to indicate that a sentence has been broken off.</p> <ul style="list-style-type: none"> ➤ Recognize and use parenthesis (Round Brackets) to ➤ enclose numbers or letters in enumerations in the text <p>express an amount in numbers previously expressed in words.</p> <p>SENTENCE STRUCTURE</p> <p>Use sentences with direct and indirect Objects.</p> <p>TYPES OF SENTENCES</p> <p>Classify, use, convert and make declarative (affirmative and negative), interrogative, exclamatory and imperative sentences.</p> <p>Use first and second conditional sentences.</p> <p>Identify active and passive voice in sentences.</p> <ul style="list-style-type: none"> ➤ Recognize and use passive voice to write sentences in which action is more important than the doer of the action. ➤ Identify function of direct and indirect speech in texts. ➤ Recognize the rules of, and change the narration of statements and requests/orders. |
| VIII | <ul style="list-style-type: none"> ➤ Analyze a paragraph to ➤ identify a topic sentence . ➤ identify sentences carrying supporting details. <p>Recognize that text comprises a group of paragraphs that develop a single theme or idea.</p> <ul style="list-style-type: none"> ➤ Analyze features of an effective topic ➤ sentence such as ➤ specific words ➤ vivid verbs ➤ modifiers ➤ Analyze paragraphs to identify sentences that support the main idea through |

- definition
- example
- evidence
- illustration
- evidence
- cause and effect
- comparison and contrast
- Recognize the functions of
- pronoun - antecedent relationships.
- anaphoric and cataphoric references.
- **transitional devices** used for **coherence** and **cohesion** at **discourse** level.
- Analyze the order of arranging paragraphs:
- Chronological or spatial.
- General to specific, specific to general.
- Most important to least important and vice versa.
- Use pre-reading strategies to
- predict the content of a text from topic / picture, title / headings, key words and visuals etc. by using prior knowledge, asking questions and contextual clues.
- Skim text to
- have a general idea of the text.
- infer theme/ main idea.
- Apply critical thinking to interact with text, and use intensive reading strategies (while-reading) :
- Scan to answer short questions.
- Make simple inferences using context of the text and prior knowledge.
- Distinguish between what is clearly stated and what is implied.
- Deduce meaning of difficult words from context.
- Use context to infer missing words.
- Read silently with comprehension and extract main idea and supporting detail.
- **Scan** to locate an opinion.
- Distinguish fact from opinion.
- Locate examples to support an opinion.
- Follow instructions in maps or user instruction manuals and simple forms requiring information about school.
- Comprehend/interpret text by applying **critical thinking**.
- **Generate questions** to understand text
- Use summary skills to
- extract salient points and develop a **mind map** to summarize a text.
- transfer the written text to a diagram flow chart or **cloze** paragraph
- Use critical thinking to respond to the text (**post-reading**) :
- Apply world knowledge and own feelings / opinion to the text read.
- Explore causes and consequences of a problem or an issue and propose various solutions.
- Evaluate material read.
- Apply strategies to comprehend questions by marking key words, verbs and tenses in a variety of question types:
- Literal/ textual/ factual
- Interpretive
- Inferential
- Evaluative
- Personal response

- Open ended
- Respond orally or in writing.
- Interpret ideas, vocabulary and structures given in a mind map to compare events using connectors of sequence and comparison.

Analyze information in a flow chart or diagram to describe procedures and processes, make comparisons, show cause and effect relations in a brief written report.

- Organize information using various organizational patterns: sequence, comparison, classification, cause and effect.
- Recognize and use appropriate transitional words within and beyond paragraphs for better **coherence** and **cohesion**.
- Recognize and use appropriate conventions (**format, style, expression**) of a brief written report
- Use dictionary to
- locate **guide words**.
- locate **entry word**.
- choose appropriate word definition.
- identify pronunciation with the pronunciation key.
- identify **syllable** division, and **stress** pattern.
- identify part of speech of a word through abbreviation used.
- identify correct spellings identify phrases through **key words**.
- understand various abbreviations used in a dictionary.

Use children's encyclopedias to obtain information.

Choose appropriate synonyms and antonyms from thesaurus

- Use library skills to
- alphabetize book titles, words and names.
- locate fiction and non fiction books / books by subject.
- understand card catalogue.
- locate and use card catalogue.
- identify three kinds of catalogue cards i.e. author card, title card, subject card.
- use case and shelf labels in the library.

locate and use the reference section in the library.

Identify and utilize effective study skills e.g. note-taking / writing an outline, making a **mind map, brainstorming** for generating and developing ideas.

- Use **textual aids** such as title page (author, publishing detail), **blurbs**, table of content, index, glossary of texts to
- comprehend texts.
- identify and select relevant information in a book..
- Make predictions about story line/ content, characters, using contextual clues and prior knowledge.
- Analyze story elements: characters, events, setting, plot, theme, tone.
-
- Read a story to
- retell it sequentially.
- summarize.
- Recognize the author's purpose.
- Identify the speaker or narrator in a selection.
-
- Read a text to analyze characters, their motives, actions and emotional responses.
-
- Present a character sketch orally and in writing.

- Give a personal response about the characters giving reasons to support the response.

Recognize **genres** of literature e.g. fiction, poetry, **legend, myth**.

- Read a poem and give orally or in writing:
 - Main idea
 - Theme and its development
 - Summary
 - Personal response with justification Paraphrase
- Recognize literary techniques such as personification and **alliteration**.
- Analyze how a writer/ poet uses language to appeal to the senses through use of **figurative language** including **similes** and **metaphors**.
- affect meaning through use of synonyms with different **connotations**.

Develop focus to write a paragraph for a given purpose and **audience**

Use a variety of **pre-writing** strategies such as **brainstorming, mind mapping**, outlining etc.

- Write a simple unified paragraph on a given topic:
- Write a clear **topic sentence** using specific words, vivid verbs, **modifiers**, etc.
- Add adequate supporting detail (example, illustration, definition, evidence, comparison, contrast, cause and effect) to develop the main idea.
- Use appropriate **pronoun- antecedent relationship** and **transitional devices** within a paragraph.
- Use chronological/sequential/ spatial order of arranging detail.

By order of importance (most important to least important and vice versa, general to specific and vice versa).

- Write a composition of three or more paragraphs following conventions of essay writing:
 - Introductory paragraph
 - Body paragraphs
 - Concluding paragraphs
- Recognize that
 - introductory paragraph carries the main idea of the essay.
 - each one of the body paragraphs develops the main idea through key ideas. These key ideas are developed through supporting details.
 - the concluding paragraph contains a summary of the body paragraphs, and a general concluding statement.
- paragraphs are linked through various transitional devices.
- Analyze written texts to use in their own writing, features of a simple **expository** composition showing cause and effect of an event or an action:
 - Logical order of events or action.
 - Appropriate connectives of cause and effect.

Analyze to use in their own writing, criteria for classification in a simple **expository** composition.

- Analyze written texts to use in their own writing, features of a simple descriptive composition about people, objects and places:

PRONOUNS

- Finer details of physical description of face, build, clothes etc. of a person. Personality traits e.g. habits, attitudes, values etc.

OBJECTS AND PLACES

- Sufficient general details and finer details of size, color, shape and texture.

- Defining characteristics of an object/place.
- Atmosphere of a place
- Correct verb form.
- Appropriate adjectives and adverbs for vivid effect.
- Details in appropriate order.

- Write three paragraphs of comparison between persons, objects or places:
- Use appropriate similes for comparison.

Use correct connectors of comparison.

- Write a narrative in the first or third person which describes events / incidents:
- Use sequential order.
- Use specific adjectives and adverbs.
- Use appropriate tense.
- Use appropriate transitional devices.

Include quotations (actual words spoken) and thoughts and emotions of the participants in the incident

- Write a paragraph of **free writing** for **fluency**, creativity and pleasure.
- Analyze questions to write effective and focused answers of required length by marking **key words**
- identifying verbs and tenses
- recognizing **question types** such as
- Literal/ textual/ factual
- Interpretive
- **Inferential**
- Evaluative
- Personal response
- **Open ended**
- Apply summary skills to familiar / unseen passages and poems to write summary/ précis of simple passages.
- summarize poems.
- Mark thought groups in the stanza.
- Restate the message in simple prose.
- Replace poetic words with simple ones.
- Analyze and compare various informal and formal letters to note differences of conventions, vocabulary, style and tone.

- Write formal letters to people in immediate and extended social and academic environment for various purposes:
- Follow conventions of formal letter with respect to layout, salutations etc.
- Recognize and demonstrate use of appropriate vocabulary, style and tone in formal letters.
- Write the address on the envelope clearly and in proper format.
- Write applications to people in extended environment.
- Revise for
- correct format, layout.
- appropriate vocabulary, style, tone .
- Analyze and compare various informal and formal dialogues to note differences of features, vocabulary, style and tone.

Write and revise short formal dialogues.

- Fill in correctly and legibly, forms requiring various kinds of simple information.
- Plan their own writing:

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| | <ul style="list-style-type: none"> ➤ Identify audience and purpose. ➤ Develop focus for their own writing. ➤ Use a variety of pre-writing strategies such as brainstorming, mind- mapping, outlining etc. ➤ Draft and revise writing to ensure that it <ul style="list-style-type: none"> ➤ has a main idea stated in the topic sentence. ➤ has relevant, specific, and substantial supporting detail for each paragraph. ➤ has reference and transition words that contribute to a sense of cohesion and cohesiveness. ➤ has varied sentence structure and length. <p>has an effective introduction and conclusion.</p> <ul style="list-style-type: none"> ➤ Proof read and edit texts for errors of <ul style="list-style-type: none"> ➤ sentence structure. ➤ subject / verb agreement. ➤ noun / pronoun agreement. ➤ reference words, connectives. <p>punctuation and spelling.</p> <ul style="list-style-type: none"> ➤ Use various functions to <ul style="list-style-type: none"> ➤ ask and respond to questions of personal interest and general every day aspects. ➤ ask and express opinions, emotions, wishes needs and requirements by giving reasons. ➤ express dissatisfaction, disapproval, and disagreement politely. ➤ agree/ disagree partially make plans. <p>express personal needs.</p> <ul style="list-style-type: none"> ➤ Use conventions and dynamics of group discussion and interaction to <ul style="list-style-type: none"> ➤ offer and respond to greetings, compliments, invitations, introductions and farewells. ➤ demonstrate an understanding of ways to show gratitude, apologize, express anger or impatience. ➤ ask, restate and simplify directions and instructions. ➤ present and explain one's point of view clearly. ➤ support or modify one's opinions with reasons. ➤ acknowledge others' contributions. ➤ agree and disagree politely at appropriate times. ➤ share ideas. ➤ clarify ideas. ➤ modify a statement made by a peer. ➤ identify problem, propose solution. ➤ summarize the main points of discussion for the benefit of the whole group. ➤ join in a group response at the appropriate time. ➤ use polite forms to negotiate and reach consensus. ➤ Recognize and demonstrate appropriate expressions and etiquettes for a telephonic conversation to <ul style="list-style-type: none"> ➤ make polite introductions. ➤ ask someone to say something again. ➤ check understanding of message. ➤ take and leave a message. ➤ infer and draw conclusions about meaning, intention and feeling communicated by the speaker. |
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- recognize and respond to moods showing appreciation, pleasure, displeasure, surprise, disappointment.
- make and respond to inquiries.
- make and respond to requests.

Recognize and articulate English sounds given in the pronunciation key in the dictionary.

Identify and pronounce in minimal pairs common problem consonants including /v/, /w/

/y/, /th/, /l/, /r/, etc

Identify and correctly pronounce diphthongs and diphthongs in words.

Differentiate between long and short vowel sounds and recognize how vowel length can change the meaning.

Identify and pronounce consonant clusters with developing accuracy in initial and final positions.

Recognize and pronounce silent letters in words.

- Recognize syllable division of words in aural and written text.

Demarcate words into syllables with the help of a dictionary.

Comprehend and apply in speech the word **stress** rules for example **stress** shift for emphasis and change in meaning in parts of speech.

- Recognize, pronounce and represent primary and secondary **stress** in words with the help of a dictionary.

Pronounce weak form of personal pronouns, **modal verbs**, their negatives, prepositions, articles and conjunctions

Recognize and use varying intonation patterns to show attitude and emotions.

Articulate complex tongue twisters.

- Build and use appropriate vocabulary and correct spelling for effective communication:
- Illustrate the use of dictionary for finding appropriate meaning and correct spellings.
- Use a simple thesaurus to locate synonyms and antonyms.
- Examine and interpret **transitional devices** that show comparison, sequence, result, conclusion, cause and effect, addition, reason.
- Utilize comparison, appositive phrases, and synonyms to deduce the meaning of unfamiliar words.
- Understand and utilize **similes** and **metaphors** given in the text.
- Analyze analogies; complete analogies correctly.
- Understand and use correctly, **phrasal verbs** given in the text / glossary.

NOUNS, NOUN PHRASES AND CLAUSES

- Demonstrate use of more common and proper, collective, countable and uncountable nouns.
- Differentiate between, and demonstrate use of material and abstract nouns.
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- Apply the rules of change of number of nouns learnt earlier.
-
- Recognize and demonstrate use of certain nouns whose plural form has two meanings in some cases e.g. *arm-arms; (limbs), weapons*.
-
- Some nouns change their meaning in the plural form e.g. *air- atmosphere, airs- pride*.
-
- Change the gender of nouns.
-
- Recognize, differentiate and demonstrate use of possessive forms of more animate and inanimate nouns.

PRONOUNS

- Demonstrate use of pronouns as subject and object. Recognize function of, and use possessive, reflexive and emphatic pronouns.
- Demonstrate extended use of question words.
- Identify, and demonstrate function and use of relative pronouns which, who and that.
- Use more indefinite pronouns.
- Demonstrate use of pronoun- antecedent agreement recognizing their relationship.

ARTICLES

Apply rules of a, an, and the wherever applicable in speech and writing.

VERBS

- Illustrate use of helping verbs in speech and writing.
- Illustrate use of linking verbs.
- Recognize and demonstrate function and use of modal verbs learnt earlier.
- Illustrate use of regular and irregular verbs in speech and writing.
- Illustrate use of transitive and intransitive verbs.
- Convert and use present and past participles.

Recognize and demonstrate function and use of infinitives.

TENSES

- Illustrate use of tenses learnt earlier.

Recognize the form and various functions; and illustrate use of Past Perfect Tense.

ADJECTIVES AND ADJECTIVE PHRASES

- Classify adjectives into different types.
- Change and use degrees of adjectives with reference to than and the.
- Recognize and use absolute adjectives.
- Locate the varying position of adjectives in sentences.
- Form adjectives from nouns and verbs.
- Identify and use adjective phrases.

ADVERBS AND ADVERBIALS

- Classify and use different kinds of adverbs learnt earlier.
- Recognize varying positions of adverbs in sentences according to their kinds and importance.
-
- Identify and use degrees of comparison of adverbs.
-
- Use some adverbial phrases.

PREPOSITIONS AND PREPOSITIONAL PHRASES

- Illustrate use of prepositions of position, time, movement and direction.
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- Illustrate use of compound prepositions.
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- Illustrate use of since and for.
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- Use some prepositional phrases.

TRANSITIONAL DEVICES

- Use in speech and writing, transitional devices of addition, alternative, comparison, contrast, illustrations, means of, consequence, sequence, conclusion, cause, effect and extent.
- Apply rules of capitalization wherever applicable.
- Illustrate use of punctuation marks learnt earlier.
-
- Recognize and rectify faulty punctuation in given passages and own work.
-
- Recognize and use comma to
- separate an introductory phrase containing a verb from the main sentence.
- Recognize and use colon to
- introduce a list of items.
- introduce a long quotation.
- Recognize and use semicolon to
- emphasize parts of a series of clearly defined units.
- Recognize and use quotation marks to
- enclose a direct quotation.
- Recognize and use hyphen to
- indicate the division of a word at the end of a line
- Recognize and use dash as
- a separator to indicate that a sentence has been broken off.
- an indicator of a new direction of thought.
- Recognize and use parenthesis (Round Brackets) to
- enclose numbers or letters in enumerations in the text.
- express an amount in numbers previously expressed in words.
- mark off explanatory or supplementary material.
-
- Recognize and use omission marks or **ellipses** to signify the omission or deletion of letters or words in sentences.

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| | <p>SENTENCE STRUCTURE</p> <ul style="list-style-type: none"> ➤ Analyze and use sentences with direct and indirect objects. ➤ Identify and differentiate between a sentence, clause and a phrase. Identify and differentiate between main and subordinate clause. <p>TYPES OF SENTENCES</p> <ul style="list-style-type: none"> ➤ Classify, use, convert and make declarative (affirmative and negative), interrogative, exclamatory, and imperative sentences. ➤ Identify and differentiate between simple and compound sentences. ➤ Use first and second conditional sentences. ➤ Recognize and use the variant form of first conditional to express automatic or habitual results. ➤ Identify active and passive voice in sentences. <p>Recognize and use passive voice for various purposes.</p> <ul style="list-style-type: none"> ➤ Identify function of direct and indirect speech in texts. <p>Recognize the rules of, and change the narration of statements, requests/ orders and Questions.</p> |
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SUBJECT: SINDHI

| Student Learning Outcomes (SLOs) | Grade |
|---|-------|
| <ul style="list-style-type: none"> ▪ بُڌي معلومات جو ادراڪ ڪري سگهي ۽ ان جي جواب لاءِ پاڻ کي ذهني طرح تيار ڪري سگهي. ▪ سڌ سماءَ جي سمورن ذريعن ۾ خبرن، ڊرامن، فيچرن، تبصرن، تجزيين ۽ اشتهارن وغيره کي سمجهي سگهي. ▪ بُڌي، مخاطب ٿيندڙ جي مقصد کي پنهنجيءَ ڄاڻ، علم، مشاهدي ۽ تجربي جي آڌار تي سمجهي، ڪم آڻي سگهي. ▪ لهجي، اُچار ۽ ادائگيءَ جي روانيءَ سان موضوع بابت حوالن ذريعي اندازو لڳائي سگهي. ▪ پنهنجي معلومات کي بيان ڪري سگهي. ▪ ڪنهن به ڳالهه بولهي يا تحرير ۾ موجود ڪوٽ يا اوڻيءَ کي بيان ڪري سگهي. ▪ تقرير يا نظر جو مرڪزي نُڪتو يا خيال بيان ڪري سگهي. ▪ ڪنهن به شيءِ کي اُچار، آهنگ، لئه ۽ ادائگيءَ سان ورجائي سگهي. ▪ عبارت کي روانيءَ ۽ سٺيءَ رفتار سان پڙهي سگهي. ▪ ڪهاڻي، ڊرامي ۽ مضمون لکڻ جي ڏانهن/انداز ۾ فرق ڪري پڙهي سگهي. ▪ روزمره جي مهاوري جو فهم سمجهي، عبارت پڙهي سگهي. ▪ مختصر سماجي ۽ پيشورائين ضرورتن بابت لکڻيون/تحررون پڙهي سگهي. ▪ سبق پڙهي، سوالن جو هڪ تفصيلي جواب لکي سگهي. ▪ سبق پڙهي، سوالن جي روشنيءَ ۾ نت/خلاصو لکي سگهي. | VI |

- مضمون جي شروعات، مواد (حاصل مطلب) پڄاڻي ۽ ڪهاڻي جي نتيجي وغيره کي پنهنجن لفظن ۾ لکي سگهي.
- خبرن، فيچرن وغيره جو خلاصو يا اهم نقطا لکي سگهي.
- ڪتابن 7 رسالن جي مدد سان ڪنهن به موضوع تي مختصر مضمون لکي سگهي.
- اسڪول مان موڪل وٺڻ، في معاف ڪرڻ جي درخواست لکي سگهي.
- اسڪول جو داخلا فارم پري سگهي.
- اسلپڪ کي تقريبن/پروگرامن جا دعوتناما لکي سگهي.
- اخبارن، رسالن ۽ ڪتابن مان لکايلا صورتخطي ۽ (املا) کي درست ۽ مناسب فتار سان لکي سگهي.
- ڪنهن به فطري، اخلاقي يا قومي موضوع تي پنهنجي اندر جي ڳالهه کي گهٽ ۾ گهٽ ڪلاس اندر درست اُچار ۽ لب لهجي سان زباني طره پيش ڪري سگهي يا لکيل تقرير ڪري سگهي.
- اشارن جي مدد سان پنهنجن مشاهدن، خيالن ۽ ڄاڻ کا آڏو رکي، ڪنهن فطري، اخلاقي يا قومي موضوع تي تن پٿرائڻ جو هڪ مضمون لکي سگهي، جيڪو ٻن سون لفظن کان وڌيڪ نه هجي.
- مضمون نويسيءَ ۾ ڪنهن به لکن جي ڏانءَ مطابق لفظن جو مناسب ۽ موقع محل مطابق استعمال ۽ پٿرابندي ڪري سگهي.
- سادن ۽ مرڪب جملن ۾ فرق سمجهي سگهي ۽ مرڪب جملن کي سادن جملن ۾ بدلائي سگهي.
- ساڳيءَ معنيٰ وارن لفظن جو مهل موقعي تي جوڳو استعمال، سنڌيءَ ٻوليءَ جي بنيادي لفظن جي حوالي سان سکي سگهي.
- غلط جملا درست ڪري سگهي.
- لغت جو استعمال، جملن جو جوڙڻ سکي سگهي.
- متشابه لفظن، تجنيس حرفيءَ وارن لفظن ۾ فرق ڪري سگهي.
- ٻٽن ۽ هم آواز لفظن کي سمجهي ۽ ٿيسارس جو استعمال ڪري سگهي.
- اسمن ۽ ضميرن جي مذڪر ۽ مؤنث صورتن کي سمجهي سگهي.
- ندائي، سواليه ۽ امري صيغن کي سکي سگهي.
- اسم جي مختلف قسمن جي جملن ۾ سڃاڻپ ڪري سگهي.
- روزمره زندگيءَ جي مسئلن ۽ واقعن تي پنهنجي ڄاڻ، مشاهدن ۽ تجربن بابت ڳالهائي سگهي.
- پنهنجي ذات ۽ ماحول سان لاڳاپيل مسئلن ۽ ڪمن بابت درخواست ۽ خط وغيره لکي سگهي.

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| <ul style="list-style-type: none"> ▪ نصابي ڪتابن کان سواءِ ٻيا ڪتاب پڙهي، انهن جي حاصل مطلب جو فهم سمجهي سگهي. ▪ ٻارن جون اخبارون ۽ رسالا وغيره پڙهي، پاڻ به لکڻ جي ڪوشش ڪري سگهي. ▪ ڊرامن ۽ مختلف پروگرامن ۾ عملي طره شريڪ ٿي سگهي. ▪ ڪنهن سفر، ماڳ مڪان، ڏڻ وغيره جا تفصيل ترتيب ڏئي سگهي. ▪ سڌ سماءَ جي حوالي سان مختلف پروگرامن بابت پنهنجي نقطه نظر جو بچاءَ ڪري سگهي. ▪ سنڌي ۾ اي - ميل وغيره پڙهي سگهي. ▪ اسڪول ۽ علائقي ۾ موجود لائبرريءَ ۾ وڃي ڪتابن جو مطالعو ڪري، معلومات ڪڍي سگهي. ▪ روزانو اخبار پڙهن کي معمول بڻائي سگهي. | |
| <ul style="list-style-type: none"> ▪ ٻڌي معلومات پرائي سگهي ۽ ان جي جواب لاءِ پاڻ کي ذهني طور تيار ڪري سگهي. ▪ سڌ سماءَ جي سمورن ذريعن وسيلي خبرن، ڊرامن، فيچرن، تبصرن، تجزيين ۽ استهارن جا اهم نُڪتا سمجهي سگهي. ▪ ٻڌي، پنهنجي علم، مشاهدي ۽ تجربي جي روشنيءَ ۾ مخاطب جي لڪل مقصد يا ڪهاڻيڪار جي مقصد جا اهم نُڪتا سمجهي سگهي. ▪ ٻڌي، نه ٻڌايل ڳالهين جو حوالن سان اندازو لڳائي سگهي. ▪ پنهنجي معلومات کي بيان ڪندي، پنهنجي ردعمل کي گفتگوءَ ۾ شامل ڪري سگهي. ▪ سڌ سماءَ جي ذريعن وسيلي بيان ڪيل ڳالهين تي پنهنجي فهم جو اظهار ڪري سگهي. ▪ مقرر يا ليکڪ جي مقصد کي پنهنجن لفظن ۾ بيان ڪري سگهي. ▪ ڪنهن به ڳالهه کي خاص اُچار، لڏاڻگيءَ، لهجي ۽ لئه سان بيهڪ جي نشانين کي خيال ۾ رکندي ورجائي سگهي. ▪ عبارت کي روانيءَ، لاهه چاڙهه (جهيلار) لهجي، شدت ۽ فتار سان سلسليوار پڙهي سگهي. ▪ ڪهاڻي، ڊرامي ۽ مضمون جي شروعات، پيچائي، حاصل مطلب يا واقعن جي لاهه چاڙهه کي سمجهي، پڙهي سگهي. ▪ چوڻين ۽ پهڪن کي فهم موجب پڙهي سگهي. ▪ فرمانن، سرڪيولرن کي سمجهي، پڙهي سگهي. ▪ سبق پڙهي، سوالن جا تفصيلي جواب لکي سگهي. ▪ سبق پڙهي، اهم نُڪتا، خالصي جي صورت ۾ لکي سگهي. | VII |

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| <ul style="list-style-type: none"> ▪ مضمون يا ڪهانيءَ جا جزا، ترتيب سان لکي سگهي. ▪ غير رسمي خط لکي سگهي. ▪ درخواستون وغيره لکي سگهي. ▪ اخبارن ۽ رسالن جي طرز تي مواد لکي سگهي ۽ ”چو، ڇا، ڪيئن، ڪڏهن“ جهڙن سوالن جا جواب لکي سگهي. ▪ اسڪول جي ڪنهن سرگرميءَ يا تقريب جي ڪاروائي يا اڪين ڏنو احوال لکي سگهي. ▪ شاديءَ غميءَ جي تقريب جا دعوتناما لکي سگهي. ▪ ان ڏنل عبارت کي ٻڌي / پڙهي، ان جي جواب لکي سگهي. ▪ ڪنهن به فطري، اخلاقي يا قومي موضوع تي پنهنجي ڄاڻ ۽ مشاهدي جي روشنيءَ ۾ ٻڌندڙن آڏو درست اُچارن ۽ لب لهجي ۾ گهٽ ۾ گهٽ ٽن منٽن تائين تقرير ڪري سگهي. ▪ ڪنهن به فطري، اخلاقي يا قومي موضوع تي پنهنجي ڄاڻ، مشاهدي جي روشنيءَ ۾ ڪاغذ تي لکيل ٽن چئن منٽن جي تقرير پڙهي سگهي. ▪ گهٽ ۾ گهٽ ڪلاس جي حد تائين بحث مباحثن ۾ پنهنجو مخصوص نقطو نظر، ڏانءَ ۽ آڊابن سان پيش ڪري سگهي. ▪ پنهنجي مشاهدن، تجربن، خيالن ۽ ڄاڻ کي آڏو رکي، ڪنهن فطري، اخلاقي ۽ قومي موضوع تي ٽن چئن پٿرائن جو مضمون ٻوليءَ جي صحت سان گڏوگڏ ٽن سؤ لفظن تائين پيش ڪري سگهي. ▪ مضمون نگاريءَ جي ڪنهن به ڏانءَ هيٺ لفظن جو مناسب ۽ موقعي مهل آهر استعمال، مناسب پيرابنديءَ ۽ ٻوليءَ جي صحت سان پيش ڪري سگهي. ▪ معروف (active) جملن کي مجهول (passive) جملن ۾ بدلائي سگهي. ▪ متضاد لفظن کي وچين لفظن جي حوالي سان سمجهي سگهي (جهڙوڪ صبح ۽ شام جي وچ ۾ منجهند) _ ٿيسارس (Thesaurus) جو استعمال سگهي. ▪ لغت جو استعمال، عبارت کي سمجهي، استعمال ڪري سگهي. ▪ ڪاروهنوار ۾ ڪم ايندڙ لفظن ۽ محاورن ۾ فرق ڪري سگهي. ▪ روزمره جي لحاظ سان درست جملا سگهي. ▪ متضاد، هم معنيٰ ۽ ٻٽن لفظن کي جملن ۾ استعمال ڪرڻ سگهي. ▪ روزاني زندگيءَ جي مسئلن ۽ واقعن بابت پنهنجي تجربن ۽ مشاهدن جي روشنيءَ ۾ ڳالهه ٻولهه ۾ حصو وٺي سگهي. ▪ پنهنجي مسئلن جو خطن ۾ اظهار ڪري سگهي. ▪ عام نوعيت جا ڪتاب ۽ معلومات مواد پڙهي، سمجهي سگهي. ▪ ٻارن جا رسالا ۽ ڪتاب پڙهي، پاڻ به تخليقي اظهار ڪري سگهي. ▪ ڊرامي وغيره ۾ حصو وٺي پنهنجو ڪردار حوالي طور نڀائي سگهي. | |
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| <ul style="list-style-type: none"> ▪ مختلف واقعن، سير سفر، تقريرن ۽ ڏٺن جا احوال، تفصيلي طور بيان ڪري سگهي. ▪ سڌ سماءَ جي مختلف پروگرام ۾ سماجي ۽ ثقافتي حوالن سان ڳالهائي سگهي. ▪ سنڌيءَ ۾ اي _ ميل وغيره پڙهي سگهي. ▪ اسڪول ۽ اسپاس جي لائبرري ۽ ڪتبخاني ۾ وڃي ڪتابن جو مطالعو ڪري، معلومات حاصل ڪري سگهي. ▪ اخبارن ۽ رسالن پڙهڻ جي معمول تي تبصرو ڪري سگهي. | |
| <ul style="list-style-type: none"> ▪ ٻڌي، معلومات کي ترتيب سان حاصل ۽ اخذ ڪري سگهي ۽ ان جي جواب لاءِ پاڻ کي ذهني طور تيار ڪري سگهي. ▪ سڌ سماءَ جي ذريعن وسيلي خبرن، ڊرامن، فيچرن، تبصرن وغيره ۾ اٿاريل نُڪتن جو تجزيو ڪري سگهي. ▪ ٻڌي، پنهنجي علم، مشاهدي ۽ تجربن جي روشنيءَ ۾ مخاطب يا ڪهاڻيڪار جي مراد ۽ مقصد جي اهم نُڪتن جو تجزيو ڪري سگهي. ▪ ٻڌي، رهجي ويل ڳالهين جو حوالن سان ڌار ڌار ادراڪ ڪري سگهي. ▪ معلومات کي بيان ڪندي پنهنجو ردعمل ۽ تجزيو به گفتگوءَ ۾ شامل ڪري سگهي. ▪ سڌ سماءَ جي ذريعن رستي بيان ڪيل ڳالهين تي پنهنجي فهم، تجزيي ۽ راءِ جي حوالي سان اظهار ڪري سگهي. ▪ مقرر يا ليکڪ جي نقطه نظر (point of view) کي پنهنجي تجزيي ۽ راءِ سان پيش ڪري سگهي. ▪ ڪنهن به ڳالهه کي خاص اُچار، لهجي، آهنگ ۽ ادڱيءَ سان، بيھڪ جي نشانين ۽ آواز جي لاهه چاڙهه ۽ جهيلار (intonation) سان ورجائي سگهي. ▪ عبارت کي جزن، سببن، نتيجن، واڳاپي ۽ مطالعي جي رفتار (خاموش ۽ ڏاڍيان) ، بنيادي خيال ۽ بيان جي حوالي کي آڏو رکي پڙهي سگهي. ▪ ڪهاڻي، ڊرامي، مضمون وغيره ۾ ليکڪ جي تيڪنڪ، مقصد ۽ بيان جي ڏانءَ کي سمجهي، پڙهي سگهي. ▪ اخبارن، رسالن، مخزنن ۾ ڇپيل خبرن، فيچرن، ايڊيٽوريلن، رپورٽن، اشتهارن، دطن، ڪالمن ۽ ايڊيٽر ڏانهن لکيل خطن کي سمجهي پڙهي سگهي. ▪ درخواستن، فيصلن، رسيدن، فارمن، دعوتنامن/ڪارڊن، حڪمنامن، رپورٽن، سرڪيولرن وغيره کي سمجهي، پڙهي سگهي. ▪ نثر يا نظم کي پنهنجن لفظن ۾ لکي سگهي. | VIII |

- ڪو مضمون لکڻ وقت، پنهنجي مشاهدي، تجربي، ڄاڻ، معاملن ۽ سوچ فڪر کي سادو لفظن ۾ مضمون جو حصو بنائي سگهجي ۽ گهٽ ۾ گهٽ ٽي پٿراگراف لکي سگهجي.
- تحرير ۾ گهٽ ۾ گهٽ ٽئين حصي جيترو نت (خلاصو) لکي سگهجي.
- اخبارن ۽ رسالن جي طرز تي ڪنهن متن جو خلاصو پنهنجي لفظن ۾ لکي سگهجي.
- ڪنهن واقعي جو اطلاع، اخبار، ٿاڻي يا ڪنهن ذميواري عملدار کي لکي موڪلي سگهجي.
- اسڪول جي ڪجهه ضرورتن بابت اعليٰ اختيارين ۽ وارن يا ضلعي عملدارن کي لکي سگهجي.
- مني آرڊر ۽ داخلا فارم پري سگهجي.
- ڪنهن عام موضوع تي مڪالمو لکي سگهجي.
- ڪنهن ڪهاڻيءَ جي موڙ تي ايندڙ ڪن ٻن واڌو ردمن يا پهلوئن مان ڪنهن هڪ جي چونڊ ڪري سگهجي.
- ڪنهن به عام متن کي اڏو رکي، سوالن جي جواب ڏئي سگهجي.
- ڪنهن اڻ ڇپيل يا ٽيڪنيڪي (ڪمپيوٽر) متن کي لکي سگهجي.
- ڪنهن به فطري، اخلاقي يا قومي موضوع تي پنهنجي ڄاڻ ۽ مشاهدي جي روشنيءَ ۾ بددندڙن اڏو درست اُچارڻ ۽ لب لهجي ۾ گهٽ ۾ گهٽ چار منٽ تقرير ڪري سگهجي.
- ڪنهن به فطري، اخلاقي يا قومي موضوع تي پنهنجي ڄاڻ ۽ مشاهدي جي روشنيءَ ۾ ڪاغذ تي لکيل گهٽ ۾ گهٽ پنج منٽ تقرير ڪري سگهجي.
- بحث مباحثن ۾ پنهنجو مخصوص نقطو نظر، ڏانءَ ۽ آڊابن سان پيش ڪري سگهجي.
- ٽن سون کان مٿي لفظن تي آڌاريل مضمون، انشائيءَ، رپورٽ تاج ۽ رپورٽ وغيره تيار ڪري پيش ڪري سگهجي.
- ٻين جي لکڻين کي سڌاري سگهجي.
- (ايڊيٽنگ ۽ ترتيب)
- مجهول جملن کي معروف جملن ۾ بدلائي سگهجي.
- تجنيس معنويءَ ۾ فرق سڃاڻي سگهجي.
- معنائن کان لفظن ڏانهن ذهني سفر ڪري. (ٿيسارس (Thesaurus) جي مدد سان)
- محاورن، چوڻين ۽ پهاڪن جو استعمال سڃاڻي سگهجي.
- روزمره جي ڪاروهنواري لفظن ۽ محاورن جي خيال کان غلط جملن کي درست ڪري سگهجي.
- قولن ۽ چوڻين جو لکڻيءَ/تحرير ۾ استعمال سڃاڻي سگهجي.

- اڳياڙين ۽ پڇاڙين جي مدد سان لفظ جوڙي سگهجي.
- رديف جي حوالي سان لفظن کي ترتيب ڏئي سگهجي.
- پسنديدگيءَ ۽ تنقيدي لحاظ لاءِ ڪنهن تحرير (نظم ۽ نثر) جو خلاصو لکي سگهجي، سمجهاڻي ڏئي سگهجي ۽ اهم نُڪتا بيان ڪري سگهجي.
- روزاني زندگيءَ جي تجربن، مشاهدن جو زباني ۽ تحريري اظهار ڪري سگهجي.
- اخبارن ۽ رسالن جي متن کي روزاني زندگيءَ جي حوالي سان سمجهي سگهجي ۽ انهن بابت ٻين سان ڳالهه ٻولهه ڪري سگهجي.
- ڪنهن واقعي جو اطلاع، اخبار، ٿاڻي يا ڪنهن ذميواري عملدار کي لکي موڪلي سگهجي.
- عام فارم، مني آرڊر، داخلا فارم وغيره پوري سگهجي.

| Student Learning Outcomes (SLOs) | Grade |
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| <ul style="list-style-type: none"> • سن کر معلومات کا ادراک کر سکے اور ان کے جواب کے لیے خود کو ذہنی طور پر تیار کر سکے۔ • ذرائع ابلاغ میں خبروں، ڈراموں، فیچروں کو سمجھ سکے۔ • سن کر مخاطب کے پوشیدہ مدعا کو اپنے علم اور تجربے کو استعمال میں لا کر سمجھ سکے۔ • لہجے، تلفظ، ادائیگی کے روانی سے نفس مضمون کے سیاق و سباق کا اندازہ لگا سکے۔ • اپنی معلومات کا بیان کر سکے۔ • کسی بھی گفتگو یا تحریر میں موجود کوئی سقم یا کمی بیان کر سکے۔ • تقریر یا نظم کا مرکزی نکتہ یا خیال بیان کر سکے۔ • کسی بھی چیز کو تلفظ، آہنگ، لے، ادائیگی کے ساتھ دہرا سکے۔ • عبارت کو روانی اور عمدہ رفتار کے ساتھ پڑھ سکے۔ • مضمون کے طرز تحریر میں امتیاز کر کے پڑھ سکے۔ • روزمرہ اور محاورے کا مفہوم سمجھ کر عبارت پڑھ سکے۔ • مختصر سماجی اور پیشہ ورانہ ضروریات کی تحریر پڑھ سکے۔ • سبق پڑھ کر سوالات کا ایک سطری جواب لکھ سکے۔ • سبق پڑھ کر سوالات کی روشنی میں خلاصہ لکھ سکے۔ • مضمون کے آغاز (تمہید)، نفس مضمون، اختتام اور کہانی کے نتیجے وغیرہ کو اپنے لفظوں میں لکھ سکے۔ • خروں، فیچروں کا خلاصہ یا اہم نکات تحریر کر سکے۔ • کتابوں، رسالوں کی مدد سے کسی موضوع پر مختصر مضمون لکھ سکے۔ • اسکول سے چھٹی یا فیس معافی کی درخواست لکھ سکے۔ • اسکول کا داخلہ فرام پُر کر سکے۔ • اسکول کی تقریبات کا دعوت نامہ لکھ سکے۔ • اخبارات یا جرائد و کتب سے زبانی املا کو صحت اور رفتار کے ساتھ لکھ سکے۔ • کسی بھی فطری، اخلاقی یا قومی موضوع پر اپنے مافی الضمیر کو کم از کم کلاس میں درست تلفظ، لب و لہجے کے ساتھ زبانی پیش کر سکے یا لکھی ہوئی تقریر پڑھ سکے۔ • اشارات کی مدد سے اپنے مشاہدات، خیالات اور علم کے پیش نظر کسی فطری یا اخلاقی، قومی موضوع پر تیب پیرے کا ایک مضمون لکھ سکے جو دو سو الفاظ سے زیادہ نہ ہو۔ • مضمون نگاری میں کسی بھی طرز نگارش کے تحت الفاظ کا موزوں اور بر محل استعمال اور پیرا بندی کر سکے۔ | <p>VI</p> |

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| <ul style="list-style-type: none"> • سادہ اور مرکب جملوں میں امتیاز کو سمجھ سکے اور مرکب جملوں کو سادہ جملوں میں بدل سکے۔ • مترادف الفاظ کا محل استعمال اردو کے بنیادی الفاظ کے حوالے سے سیکھ سکے۔ • غلط فقرات درست کر سکے۔ • لغت کا استعمال جملہ سازی میں سیکھ سکے۔ • متشابہ الفاظ، تجنیس لفظی میں امتیاز کر سکے۔ • متلازم الفاظ (گروہی الفاظ) کو سمجھ سکے اور تھیسارس کا استعمال کر سکے۔ • اسما کی تذکیر و تانیث اور ضمائر کی تذکیر و تانیث کو سمجھ سکے۔ • حروف فجائیہ، استفہامیہ، بیان، علت، تاکید استعمال کر سکے۔ • اسم نکرہ کی مختلف قسموں کو جملوں میں شناخت کر سکے۔ • روزمرہ زندگی کے مسائل و واقعات پر اپنی معلومات، مشاہدات و تجربات کے مطابق بات کر سکے۔ • اپنی ذات و ماحول سے متعلق مسائل و امور پر درخواست اور خط وغیرہ تحریر کر سکے۔ • نصابی کتب کے علاوہ دیگر کتب کو پڑھ کر مضمون سمجھ سکے۔ • بچوں کے اخبار اور رسائل وغیرہ پڑھ کر خود بھی لکھنے کی کوشش کر سکے۔ • ڈراموں اور مختلف پروگراموں میں عملی طور پر شامل ہو سکے۔ • کسی سیر، مقام، تہوار وغیرہ کی تفصیلات بنا سکے۔ • ذرائع ابلاغ کے حوالے سے مختلف پروگرام پر اپنے نقطہ نظر کا دفاع کر سکے۔ • اردو میں ای میل وغیرہ پڑھ سکے۔ • اسکول اور علاقے کی لائبریری وغیرہ میں جا کر کتب کا مطالعہ کر سکے اور معلومات اخذ کر سکے۔ • روزانہ اخبار خوانی کو اپنا معمول بنا سکے۔ | |
| <ul style="list-style-type: none"> • سن کر معلومات اخذ کر سکے اور ان کے جواب کے لیے خود کو ذہنی طور پر تیار کر سکے۔ • ذرائع ابلاغ میں خبروں، ڈراموں، فیچروں کے اہم نکات کو سمجھ سکے۔ • سن کر اپنے علم اور تجربے کی روشنی میں مخاطب کے پوشیدہ مدعا یا کہانی کار کے مقصود کے اہم نکات سمجھ سکے۔ • سن کر نہ سنائی جانے والی باتوں کا سیاق و سباق سے اندازہ لگا سکے۔ • معلومات کو بیان کرتے ہوئے اپنے رد عمل کو بھی شامل گفتگو کر سکے۔ • ذرائع ابلاغ میں بیان کردہ امور پر اپنی فہم کا اظہار کر سکے۔ • مقرر یا مصنف کے مقصود کو اپنے لفظوں میں بیان کر سکے۔ • کسی بھی چیز کو مخصوص تلفظ، لہجے، آہنگ، ادائیگی کے ساتھ ادقاف کو ملحوظ رکھتے ہوئے دہرا سکے۔ • عبارت کو روانی، زیر و بم، لہجے، شدت اور رفتار کے ساتھ مسلسل پڑھ سکے۔ | VII |

- کہانی، ڈرامے اور مضمون کے آغاز، انجام اور نفس مضمون یا واقعات کے اتار چڑھاؤ کو سمجھ کر پڑھ سکے۔
- ضرب الامثال اور کہاوتوں کے فہم کے ساتھ پڑھ سکے۔
- حکم ناموں کو سمجھ کر پڑھ سکے۔
- سبق پڑھ کر سوالات کا مفصل جواب لکھ سکے۔
- سبق پڑھ کر اہم نکات خلاصے کی صورت میں لکھ سکے۔
- مضمون یا کہانی کے عناصر ترتیب کے ساتھ لکھ سکے۔
- غیر رسمی خطوط لکھ سکے۔
- اخبارات و رسائل کے انداز کی نقل تحریر کر سکے۔ اور کیا، کب اور کیسے جیسے سوالات کا جواب تحریر کر سکے۔
- اسکول کی کسی تقریب کی روداد لکھ سکے۔
- شادی بیاہ / تقریب کا دعوت نامہ لکھ سکے۔
- نادیدہ عبارات سن / پڑھ کر جوابات تحریر کر سکے۔
- کسی بھی فطری، اخلاقی یا قومی موضوع پر اپنے علم اور مشاہدے کی روشنی میں سامعین کے سامنے درست تلفظ اور لب و لہجے میں کم از کم دو منٹ تک تقریر کر سکے۔
- کسی بھی فطری، اخلاقی یا قومی موضوع پر اپنے علم اور مشاہدے کی روشنی میں کاغذ پر لکھی ہوئی تین منٹ کی تقریر پڑھ سکے۔
- کم از کم جماعت کی حد تک مباحثوں میں اپنے نقطہ نظر مخصوص انداز اور آداب کے ساتھ پیش کر سکے۔
- اپنے مشاہدات، خیالات اور علم کے پیش نظر کسی فطری، اخلاقی و قومی موضوع پر تین پیرے کا مضمون صحت زبان کے ساتھ تین سو الفاظ تک پیش کر سکے۔
- مضمون نگاری میں کسی بھی طرز نگارش کے تحت الفاظ کا موزوں اور بر محل استعمال مناسبت پیرا بندی اور صحت زبان کے ساتھ پیش کر سکے۔
- معروف (Active) کو مجہول (Passive) جملوں میں بدل سکے۔
- متضاد الفاظ کو درمیانی الفاظ کے حوالے سے سمجھ سکے (جیسے صبح و شام میں دوپہر) (تھیسارس کا استعمال سیکھ سکے)۔
- لغت کا استعمال تفہیم عبارت میں سیکھ سکے۔
- روزمرہ اور محاورہ میں امتیاز کر سکے۔
- روزمرہ کے لحاظ سے درست جملے سیکھ سکے۔
- مترادف، متضاد اور متلازم الفاظ کو جملوں میں استعمال کرنا سیکھ سکے۔
- روزمرہ زندگی کے مسائل و واقعات پر اپنے تجربات و مشاہدات کی روشنی میں بات چیت میں حصہ لے سکے۔
- اپنے مسائل کے حوالے سے خطوط میں اظہار کر سکے۔

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| <ul style="list-style-type: none"> • عمومی نوعیت کی کتب معلوماتی مواد وغیرہ پڑھ کے سمجھ سکے۔ • بچوں کے رسائل و کتب پڑھ کر خود بھی تخلیقی اظہار کر سکے۔ • ڈراموں وغیرہ میں حصہ لے کر اپنا کردار سیاق و سباق میں نبھاسکے۔ • مختلف واقعات، سیر، تقریبات، تہواروں کا احوال جزئیات کے ساتھ بیان کر سکے۔ • ذرائع ابلاغ پر نشر ہونے والے پروگراموں پر سماجی و ثقافتی حوالوں سے بات کر سکے۔ • اردو میں ای میل وغیرہ پڑھ سکے۔ • اسکول اور علاقے کی لائبریری وغیرہ میں جا کر کتب کا مطالعہ کر سکے اور معلومات اخذ کر سکے۔ • اخبارات و رسائل پڑھنے کے معمول پر تبصرہ کر سکے۔ | |
| <ul style="list-style-type: none"> • سن کر معلومات کو ترتیب کے ساتھ اخذ کر سکے اور ان کے جواب کے لیے خود کو ذہنی طور پر تیار کر سکے۔ • ذرائع ابلاغ میں خبروں، ڈراموں اور فیچروں میں اٹھائے گئے نکات کا تجزیہ کر سکے۔ • سن کر اپنے علم اور تجربے کی روشنی میں مخاطب یا کہانی کار کے مدعا و مقصود کے اہم نکات کا تجزیہ کر سکے۔ • سن کر رہ جانے والی باتوں کا سیاق و سباق کے حوالے سے الگ الگ ادراک کر سکے۔ • معلومات کو بیان کرتے ہوئے اپنے رد عمل اور تجزیے کو بھی شامل گفتگو کر سکے۔ • ذرائع ابلاغ میں بیان کردہ امور پر اپنے فہم، تجزیے اور رائے کے حوالے سے اظہار کر سکے۔ • مقرر یا مصنف کے نقطہ نظر کو اپنے تجزیے، رائے کے ساتھ پیش کر سکے۔ • کسی بھی چیز کو مخصوص تلفظ، لہجے، آہنگ، ادائیگی کے ساتھ اوقاف، آواز کے زیر و بم اور سطح کے ساتھ دہرا سکے۔ • عبارت کو اس کے عناصر، نتائج، علت و معلول کے تعلق اور رفتار مطالعہ (خاموش اور بلند آواز) بنیادی خیال اور بیان کے حوالوں کو ملحوظ رکھ کر پڑھ سکے۔ • کہانی، ڈرامے، مضمون وغیرہ میں مصنف کی تکنیک، مقصود اور طرز بیان کو سمجھ کر پڑھ سکے۔ • اخبارات، رسائل و جرائد میں خبروں، فیچروں، اداروں، رپورٹوں، اشتہاروں اور خطوط بنام مدیر کو سمجھ کر پڑھ سکے۔ • درخواستوں، فیصلوں، حکمناموں، رپورٹوں وغیرہ کو سمجھ کر پڑھ سکے۔ • نشر پارے یا نظم کو اپنے الفاظ میں لکھ سکے۔ • کوئی مضمون لکھتے ہوئے اپنے مشاہدے، علم، معاملات، سوچ، فکر کو سادہ انداز میں مضمون کا حصہ بنا سکے اور کم از کم تین پیرا گراف لکھ سکے۔ • تحریر کا کم از کم ایک تہائی خلاصہ لکھ سکے۔ • اخبارات و رسائل کے انداز کی نقل کر سکے اور کسی متن کا خلاصہ اپنے لفظوں میں لکھ سکے۔ • کسی واقعے کی اطلاع اخبار / تھانے یا ذمہ دار افسر کو لکھ کر بھیج سکے۔ اسکول کے بارے میں اعلیٰ یا ضلعی انتظامیہ کو بعض ضرورتوں کے حوالے سے درخواست لکھ سکے۔ | VIII |

- منی آرڈر فارم پُر کر سکے۔
- کسی عمومی موضوع پر مکالمہ تحریر کر سکے۔
- کسی کہانی کے موڑ پر آنے والے دو یا زائد پہلوؤں میں سے کسی ایک کا انتخاب کر سکے۔
- کسی بھی عام متن پر سوالات کے جوابات تحریر کر سکے۔
- کسی غیر مطبوعہ یا تکنیکی (کمپیوٹر) متن کو لکھ سکے۔
- کسی بھی فطری، اخلاقی یا قومی موضوع پر اپنے علم اور مشاہدے کی روشنی میں سامعین کے سامنے درست تلفظ اور لب و لہجے میں کم از کم تین منٹ تک تقریر کر سکے۔
- کسی بھی فطری، اخلاقی یا قومی موضوع پر اپنے علم اور مشاہدے کی روشنی میں کاغذ پر لکھی ہوئی کم از کم پانچ منٹ کی تقریر پڑھ سکے۔
- مباحثوں میں اپنا نقطہ، نظر مخصوص انداز اور آداب کے ساتھ پیش کر سکے۔
- تین سو سے زائد الفاظ کی ضخامت کا مضمون، انشائیہ، رپورٹ یا ریپورٹ وغیرہ تیار کر کے پیش کر سکے۔
- دوسروں کی لکھی ہوئی تحریروں کی اصلاح کر سکے (ادارات / تدوین وغیرہ)
- مجہول کو معروف جملوں میں بدل سکے۔
- تجنیس معنوی میں امتیاز سیکھ سکے۔
- معانی سے الفاظ کی طرف ذہنی سفر کر سکے (تھیسارس کی مدد سے)۔
- محاورات اور ضرب الامثال کا استعمال سیکھ سکے۔
- روزمرہ اور محاورہ کے لحاظ سے غلط جملوں کی تصحیح کر سکے۔
- مقولات اور کہاوتوں کا تحریر میں نخل استعمال سیکھ سکے۔
- سابقہ اور لاحقہ کی مدد سے لفظ سازی کر سکے۔
- ردیف کے حوالے سے الفاظ کو ترتیب دے سکے۔
- استحسان اور تنقید کی سطح کی تیاری کے لیے کسی تحریر (نظم و نثر) کا خلاصہ لکھ سکے۔
- تشریح کر سکے اور اہم نکات بیان کر سکے۔
- روزمرہ زندگی کے تجربات اور مشاہدات کا زبانی اور تحریری اظہار کر سکے۔
- اخبارات و رسائل کے متن کو روزمرہ زندگی کے حوالے سے سمجھ سکے اور دوسروں کے ساتھ اس پر گفتگو کر سکے۔
- کسی واقعے کی اطلاع اخبار یا تھانے یا کسی ذمہ دار افسر کو لکھ کر بھیج سکے۔
- دفتری احکام کو سمجھ کر پڑھ سکے۔ ٹیکنالوجی، کمپیوٹر وغیرہ پر اردو میں ٹائپ وغیرہ کر سکے۔

SUBJECT: GEOGRAPHY

| Grade | Student Learning Outcomes (SLOs) |
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| VI | <p>Students will be able to:</p> <ul style="list-style-type: none">▪ Describe the Universe and its components.▪ Recognize the Sun as a Star and source of energy for planets.▪ List other members of the Solar System and describe their movements.▪ Describe the Shape and Size of Earth.▪ Explain the Rotation of Earth on its axis, formation of days and nights and changing length of days and nights during the year.▪ Explain the Revolution of Earth and how Seasons change.▪ Describe the Seasonal Variation in the two Hemispheres (Southern and Northern) at a time.▪ Describe the phenomena of Solar and Lunar Eclipses.▪ Draw diagrams of Solar Eclipse and Lunar Eclipse.▪ Label the Continents and Oceans on the given World Map.▪ Describe the Continents and Oceans▪ Recognize Globe as a Model of Earth.▪ Define a Map and state its importance.▪ Identify directions with reference to a specific location on a Map.▪ Explain the concept of Scale and its types.▪ Measure the distance between two points on a Map using a Map scale.▪ Define Latitudes and Longitudes.▪ Identify important Longitudes and Latitudes.▪ Find the Location of a place on a Map using Latitudes and Longitudes.▪ Calculate the Time difference between two places with the help of Longitudes.▪ Recognize different types of Map Symbols on a Map.▪ List the Symbols.▪ Identify the Physical and Human features on a Map with the help of Conventional Signs.▪ Describe the utility of a Map and Atlas in everyday life.▪ List the conditions that make Earth a habitable planet.▪ Describe various Spheres of the Natural Environment and their role in sustaining life on Earth.▪ Describe the factors that shape the pattern of Human-Environment Interaction with reference to: |

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| | <ul style="list-style-type: none"> • Climate • Physical Landscape • Water • Forests • Living World <ul style="list-style-type: none"> ▪ Define Rocks, Elements and Minerals. ▪ Describe various types of Rocks according to their Mode of Formation. ▪ Describe Igneous Rocks and their types. ▪ Describe Sedimentary Rocks and their types. ▪ Differentiate between Mechanically, Chemically and Organically formed Rocks. ▪ Describe Metamorphic Rocks and their types. ▪ List the important characteristics of various Rock groups. ▪ Identify Rocks in their local areas. ▪ Differentiate between Mountains, Plateaus and Plains. ▪ Describe types of Mountains according to their Mode of Formation. ▪ Describe types of Plateaus according to their Mode of Formation. ▪ Describe types of Plains according to their Mode of Formation. ▪ Identify Major Land Features on a Map of the World. ▪ List and locate main Rivers of the World on a Map. ▪ Describe the following Landscape Features of Pakistan. <ul style="list-style-type: none"> • Mountains • Plateaus • Plains ▪ Locate the major Mountain Ranges of Pakistan on a Map. ▪ Locate Plains of Pakistan on a Map. ▪ Locate Rivers of Pakistan on a Map. ▪ Describe the main characteristics of Deserts and coastal areas of Pakistan. ▪ Locate cluster of World Population on a Map. ▪ Explain the high, moderate and low-density Population areas of the World. ▪ Explain the factors leading to uneven distribution of population. ▪ Describe the Age and Sex Structure of Developed Countries (DC) and Less Developed Countries (LDC). |
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| | <ul style="list-style-type: none"> ▪ Explain the Growth of Population in LDC's / DC's. ▪ Describe why people move and where they move. ▪ Define factors of Migration and Urban/Rural Migration ▪ Describe problems of High Population Growth and its impact on Environment. ▪ Identify the Population Concentration Areas of Pakistan. ▪ Describe the problems caused by High Growth Rate of Population in Pakistan. ▪ Explain the Population Density of Pakistan on a Map. ▪ Describe the Age-Sex Structure of Pakistan. ▪ Explain the Growth of Population in Pakistan. ▪ Define Human Settlement and Dwellings. ▪ Discuss the Location and Site of Settlement. ▪ Describe Rural Settlement and Village Forms. ▪ Sketch out the towns of Early Civilizations and their Location and Site on the Map. ▪ Describe the concept of Settlement Hierarchy (Hamlet to Mega-city). ▪ Explain Urban Functions: (Manufacturing, Business, Religion, Education Services etc.). ▪ Describe the problems of large cities and their solutions. ▪ Locate important cities on the World Map. |
| VII | <p>Students will be able to:</p> <ul style="list-style-type: none"> ▪ Describe different Layers and Composition of Earth's interior. ▪ Describe the basic concept of Plate Tectonics. ▪ Locate the seven major Tectonic Plates on a Map. ▪ Discuss Faults and their types. ▪ Describe the major Plate Faults in Pakistan and locate them on a Map. ▪ Describe the causes of Earthquakes, their effects and distribution. |

- List the great Earthquakes of the World and Pakistan.
- List Instruments and Scales used to Measure Earthquakes.
- Explain Volcanism.
- Enumerate types and categories of Volcanoes and their distribution.
- Define Denudation and its types. Describe the causes of Rock- breakup.
- Distinguish between types of Weathering.
- Define Erosion and its causes.
- Identify Erosion in local areas.
- Define Mass Wasting.
- Describe the conditions in which Mass Wasting takes place.
- Differentiate between Weathering, Erosion and Mass Wasting.
- Describe the impact of Erosion and Mass Wasting on Agriculture, Irrigation, Human Settlement and Transportation Networks.
- Recommend measures that can be taken to minimize the impact of Erosion and Mass Wasting.
- Describe the Atmosphere of the Earth.
- Describe the composition of the Atmosphere.
- Discuss the significance of important gases for life on Earth.
- Describe the Layered structure of the Atmosphere.
- Identify the basic characteristics of each Layer of the Atmosphere.
- Differentiate between Weather and climate.
- Describe the climate over the Earth's surface.
- Explain the significance of Ozone as a shield year.
- Discuss the causes and implications of Ozone depletion.
- List measure that can be taken to overcome the problem of Ozone Depletion.
- Define Atmospheric Temperature.
- Describe Scales and Instruments used in measurement of Temperature.
- Explain how Earth and the Atmosphere are heated.
- Discuss vertical variations in Temperature.
- Describe the phenomenon of Inversion of Temperature.
- Describe the Horizontal Distribution of Temperature and the factors influencing it.
- Define Isotherms and state how they vary over land and water.
- Explain Air Pressure.
- Describe how Air Pressure decreases with increasing height.
- Describe the relationship between Temperature and Air Pressure.
- Discuss Air Pressure Belts on the Globe.

- Explain the circulation of Winds (Permanent, Seasonal and Local winds).
 - Describe Cyclones, their types, movement and distribution.
 - Explain Atmospheric Humidity.
 - Describe the phenomenon of Condensation.
 - Sketch various types of clouds.
 - Explain Precipitation and types of Precipitation.
 - Describe the conditions of Precipitation.
 - Discuss Precipitation as the source of fresh water and its importance for life over the planet.
 - Discuss the importance of Agriculture as an economic activity.
 - Describe major types of Farming
 - Subsistence Agriculture
 - Intensive Agriculture
 - Extensive Agriculture
 - Commercial Agriculture
 - Plantation
 - Truck Farming
 - Mixed Farming
 - Cereal Crops
 - Describe salient features of irrigated and rain-shed Agriculture in Pakistan and Farming practices in mountainous areas.
 - Describe the distribution of Major Crops in Pakistan and the factors of their distribution.
- Analyze major Agricultural problems of Pakistan.
- Describe the Irrigation System of Pakistan and problems associated with Canal Irrigation.
 - Describe the salient features of Mining as an Extractive Industry.
 - List important conditions for Mining.

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| | <ul style="list-style-type: none"> ▪ Discuss the role of Minerals and Power Resources in the economy of a country. ▪ Describe types of Mining. ▪ Discuss the distribution of major Minerals in Pakistan. ▪ Describe the Power Resources of Pakistan. ▪ Discuss the factors that affect the Location of Industry at a place. ▪ Enumerate different types of Industries. ▪ Describe Textile, Sugar, Cement, and Automobile Industries of Pakistan with reference to their importance, locational factors, distribution and major problems. ▪ Describe the Cottage Industry. ▪ Enquire about the Cottage Industry of Pakistan. ▪ Enlist and discuss different types of Trade. ▪ Analyze major factors that affect International Trade. ▪ Identify International Trade Partners of Pakistan with reference to its major items Of Exports and Imports. ▪ Discuss modes of Transportation (Rail, Road, Water and Air) and their Characteristics. ▪ Describe Road, Railway, Air and Water Transport Networks of Pakistan. ▪ Discuss the importance of Transportation Network (Social, Economic, Geographical). |
| VIII | <p>Student will be able to:</p> <ul style="list-style-type: none"> ▪ Discuss Distribution Maps. ▪ Explain techniques to draw different diagrams. ▪ Discuss the use of Statistical Data for diagrams. ▪ Construct Line Graph, Bar Graph and Pie Graph using Statistical Data. ▪ Evaluate merits and demerits of the diagrams. ▪ Describe functions performed by different agencies responsible for Micro- relief features. ▪ Describe the work of Rivers and Landforms made by Rivers. ▪ Describe Glacier and its types. ▪ Differentiate between the Landforms made by Continental and Alpine Glaciers. ▪ Recognize Wind as an agent of Landform change in the Desert Climate. |

- Describe the features made by Wind.
- Identify the Waves as an agent of Landform Change over the Coastal Area.
- Recognize features formed by any of these agencies with special reference to Pakistan.
- Describe the main characteristics of major Oceans and Seas.
- Define the following Features:
 - Sea
 - Gulf
 - Bay
 - Bight
 - Channel/Strait
 - Peninsula
 - Island
 - Isthmus
- Describe the configuration of Ocean floor.
- Describe the nature and causes of various Oceanic movements.
- Differentiate between Waves, Currents
- Discuss the natural phenomena that cause Disasters for mankind.
- Analyze the impact of various Natural Disasters with special reference to Pakistan.
- Examine the usual management practices Including Forecast, Monitoring and Mitigation.
- Discuss main considerations in Constructing buildings in Earthquake prone areas.
- List the safety measures that can be taken in case of Earthquakes, Floods, Cyclones, Volcanism and Forest Fire.
- Discuss the measures that can be taken to avoid desertification.
- Define an Environmental Problem.
- Identify the causes for various Environmental Problems.
- Describe the impact of various Environmental Pollutants on life.
- Describe the nature and causes of Global Warming and evaluate its impact on life.
- Describe the Greenhouse Effect.
- Recommend solutions to avoid Environmental Pollution.
- Identify a Region as a Spatial Entity.
- Identify the Major Regions of the World in terms of Climate.
- Describe selected Natural Regions in terms of Climatic Controls and their impact on human activities.
- Describe the importance of selected Natural Regions in terms of Climate and Human Activities.
- Name some countries from each Natural Region.

- Describe the nature and extent of Seasonal and Regional Diversity.
- Describe the Seasons and their salient features.
- Identify the Climatic Regions of Pakistan and their major characteristics.
- Relate Climatic Conditions with Vegetation and Human Activities.
- Name the countries of each region, locate them on a Map and draw the sketch of each region.
- Describe the economic characteristics of each region.
- Examine the relationship between Pakistan and its neighboring regions.
- Discuss Geographic Setting and Strategic Importance of Pakistan and its Neighboring Regions.
- Differentiate between Development and Underdevelopment.
- Explain and compare Developed and Underdeveloped Areas of the World.
- Identify the Geographic features that promote development.
- Discuss economic, social and political problems of Underdeveloped Areas.
- Discuss the reasons of Underdevelopment of Pakistan.
- Locate Developed and Underdeveloped Areas on the World Map.
- Describe the main features of the Modern Techniques in Geography.
- Learn about Satellites, Satellite Imageries and Aerial Photographs.
- Discuss the use of Computer in Geography.
- Explain the usefulness of Modern Tools in Geography.
- Describe the scope of these Modern Tools.

SUBJECT: HISTORY

| Grade | Student Learning Outcomes (SLOs) |
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| VI | <p>Students will be able to:</p> <ul style="list-style-type: none">▪ Explain the Indus Valley Civilization in terms of its time scale.▪ Pinpoint its strategic location on the map.▪ Pinpoint on the map the land and sea routes through which it established contact with other civilizations - e.g. Mesopotamian, Sumerian, Nile Valley civilizations, etc. <p>Evaluate the religious belief system, in the Indus Valley Civilization.</p> <p>Discuss the structure and salient features of the society in terms of its egalitarian nature. Emphasize the peaceful nature of the society - as indicated by the absence of weapons of warfare and tools for hunting.</p> <p>Explain the absence of horse and the presence of bull as the chief insignia of the Indus Valley Civilization.</p> <ul style="list-style-type: none">▪ Describe the agriculture patterns of the Indus Valley Civilization. <p>Highlight the trading activities, especially with reference to their Commercial exchanges with other civilizations.</p> <p>Discuss the unique contribution of the Indus Valley Civilization in terms of town planning and architecture- especially their drainage system etc. Explain how the migrating hordes with superior weapons and warhorses pushed the local inhabitants (Dravidians) to south further and further over a period of three hundred years.</p> <ul style="list-style-type: none">▪ Discuss the consequences of the Invasion: emergence of a new ruling race, society and civilization.▪ Elaborate the origins of the Aryans and their migrating routes with the help of a map.▪ Describe their arrival in India on the local civilization.▪ Discuss the structure of the Aryan society. <p>Discuss the process of Aryan setting down, the evolution of the Aryan township system and the beginning of economic activities.</p> <ul style="list-style-type: none">▪ Describe the evolution of the religious belief system of the Aryans.▪ Discuss the salient features of Hinduism.▪ Describe the origin and expansion of Buddhism and Jainism.▪ Explain how Buddhism and Jainism differ from Hinduism.▪ Explain the evolution and salient features of Gandhara civilization.▪ Trace Alexander's expedition in North-Western India▪ Discuss the rise and expansion of the Mauryan dynasty .and the contribution of Chandra Gupta, Mauryan and Ashoka.▪ Describe the rise of the Guptas and the revival of Hinduism.▪ Describe the contribution of Harsha in terms of India's political unification.▪ Identify the major principalities during 9th -12th Centuries. <p>Describe the causes and impact of Arab invasions, with particular reference to Makran, Sindh, and Multan.</p> <p>Describe the Conquest of Sindh and Multan by Mohammad bin Qasim.</p> <ul style="list-style-type: none">▪ Trace Mahmud of Ghazna's expeditions and conquest in India. |

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| | <ul style="list-style-type: none"> ▪ Discuss the Ghaznavid contribution to the arts, the sciences and culture. ▪ Describe Ghauri's military exploits and the conquest of Hindustan and the establishment of Muslim rule. ▪ Discuss the founding and consolidation of Muslim empire in India during Qutbuddin's and Iltutmish reigns. ▪ Discuss Razia Sultana's ascendancy to power and her problems. ▪ Describe Nasiruddin Mahmud's reign. ▪ Discuss Balban's early career, and reign. ▪ Elaborate the rise and consolidation of the Khalji Dynasty. ▪ Discuss Alauddin Khalji: His intrusion into the South and his economic system. ▪ Trace Mongol invasions into India and the defence policies of the Delhi Sultans with particular reference to Alauddin Khalji. ▪ Discuss Tughluq's rise to power and expansion of the Delhi Sultanate. ▪ Critically examine various projects undertaken by Muhammad Tughluq. ▪ Discuss Feroz Shah Tughluq's reforms. ▪ Discuss Taimur's invasion and its impact. ▪ Critically examine the rise of the Lodhi Dynasty and its role in restoring stability to the Sultanate. ▪ Describe the cultural contributions of the Lodhis. ▪ Explain the factors leading to the decline and downfall of the Delhi Sultanate. ▪ Identify the independent principalities, their location and their contribution during the 15th_16th centuries. <p>Identify the major Sufi orders/saints and their contribution in the spread of Islam - Ali bin Usman Hujveri, Moinuddin Chishti, Saba Farid Shakar Ganj, Sahauddin Zakariyya, Lal Shahbaz Qalandar, and Nizamuddin Aulia.</p> <ul style="list-style-type: none"> ▪ Identify the benchmarks in the evolution of Indo-Muslim culture, with particular reference to their contribution in the arts, the sciences, and the architecture. ▪ Describe the contribution of Delhi Sultans in the promotion of education. ▪ Critically examine the central structure of administration under the Delhi Sultans. <p>Critically examine the provincial administrative structure of the Delhi Sultanate.</p> |
| VII | <p>Identify the factors which contributed to the conquest of India by Babur.</p> <ul style="list-style-type: none"> ▪ Discuss the Rajput-Afghan Challenge and Babur's response. <p>Discuss the Afghan challenge to Humayun, his exile and return.</p> <p>Discuss the rise of Sher Shah Suri to power and the Consolidation of his rule.</p> <ul style="list-style-type: none"> ▪ Identify the Suris' contribution to the administrative structure, communication network and public welfare institutions. ▪ Discuss Sher Shah Suri's successors and their downfall. ▪ Discuss Akbar's role in the imperial expansion and consolidation of the Mughal Empire. ▪ Identify Akbar's administrative measures and reforms - Mansabdari system, religious and Rajput policies. ▪ Discuss Akbar's incursions into the South and its legacy to his successors. ▪ Discuss Akbar's incursions into the South and its legacy to his successors. ▪ Evaluate Jahangir and Nur Jahan as the cultural metaphor of the age: poetry, |

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| | <p>miniature, painting, music, sartorial and culinary taste, etc.</p> <ul style="list-style-type: none"> ▪ Discuss Jahangir's passion for dispensation of justice. ▪ Explain why Shah Jahan's reign is considered the Golden Age. ▪ Highlight Shah Jahan's contribution to culture and architecture. ▪ Discuss Shah Jahan's Central Asian Policy. ▪ Analyse the course and the climax of the War of Succession. ▪ Discuss the various stages and problems during Aurangzeb's reign. ▪ Describe the consequences of the Deccan campaigns and the rise of the Marathas. ▪ Discuss Aurangzeb's Religious policy and its consequences. <p>Assess the place of Aurangzeb in the medieval Indian history.</p> <ul style="list-style-type: none"> ▪ Describe the religious policy of the Mughals with special reference to social and religious pluralism. ▪ Briefly describe the salient features of the following: Bhakti, Din-i-liahi and Mujadid Alf Sani. ▪ Describe the salient features of Sikhism. ▪ Describe the socio-cultural synthesis and the transformation of the society under the Mughals. ▪ Describe the development of the sciences, the arts, and the architecture under the Mughals. ▪ Highlight the salient features of the education system under the Mughals. ▪ Describe the central and provincial administrative system under the Mughals. <p>Emphasize the Mughal contribution towards the writing of history.</p> <ul style="list-style-type: none"> ▪ Narrate the causes and the course of the War of Succession leading to Bahadur Shah's ascendancy to power. ▪ Describe the policy of Bahadur Shah towards the Jats, Rajputs and the Marhathas. ▪ Analyse the rise of Sikh militarism and Jahandar Shah's response. ▪ Discuss the role of Mughal nobility and their scramble for power during 1712-1739. ▪ Discuss the rise of Kalhoras and Talpurs in Sindh. ▪ Describe the background of Nadir Shah's invasion and its impact on Mughal imperial power. ▪ Discuss the circumstances leading to the gradual breakdown of the Mughal administrative structure. ▪ Critically examine the working of the central authority and the emergence of major kingdoms- Bengal, Oudh and Hyderabad <ul style="list-style-type: none"> ▪ Trace out the background to the Battle of Plassey (1757) and the British rise to power in Bengal. ▪ Discuss the socio-economic conditions of India during the later <p>Discuss the struggle for supremacy amongst European in India.</p> <ul style="list-style-type: none"> ▪ Describe Abdali's emergence in Indian affairs, Shah Waliullah's role in cobbling a coalition of North Indian Muslim nobility to confront the Marhatta insurgency. ▪ Specify the consequences of the |
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| | <p>battle of Buxer and the grant of Dewani rights in Bengal to the East India Company.</p> <ul style="list-style-type: none"> ▪ Furnish reasons for the crumbling of the Mughal empire under the last two Mughal emperors - Akbar II and Bahadur Shah Zafar. ▪ Describe the establishment of Sikh Kingdom in the Punjab, the Rohilla supremacy in Rohilkhund and the consolidation of the Marhatha confederacy in the Deccan. ▪ Illustrate the rise of Haider Ali and the establishment of Sultnat- e-Khudadad. ▪ Outline the major benchmarks of Tipu Sultan and confrontation with the British leading to his fall at the battle of Seringapatam (1799). ▪ Discuss the Revivalist Movements led by Shah Waliullah, Syed Ahmad Shaheed, Haji Shariatullah and their contribution towards conserving Islamic ethos in India. ▪ Outline the salient features of the British forward policy to annex various principalities and kingdom in the 19th century - Hyderabad Deccan, Sindh, Balochistan, Punjab and Oudh. <p>Delineate the causes of the War of Independence, the major events during the war, and its consequences.</p> |
| VIII | <ul style="list-style-type: none"> ▪ Describe the Transfer of British Power in India from East India Company to the Crown and the salient features of Queen Victoria's proclamation. ▪ Delineate the structure of British administration in India and early efforts to co-opt Indians in the British setup. ▪ Outline the objectives and results of the British education policy with special reference to Lord Macaulay's Minute (1836-37) and Wood's Despatch (1854). ▪ Identify the salient features of colonial economic policy in India. ▪ Highlight the measures for the social transformation since the British accession to power. ▪ Specify the advantages and implications of communication networks introduced by the British. <p>Discuss the quantum of devolution of power to Indians introduced in the Acts of 1861, 1892, 1909, 1919.</p> <ul style="list-style-type: none"> ▪ Describe the dismal situation of Muslims in the post-1857 era. ▪ Highlight Sir Syed Ahmad Khan's effort in Anglo-Muslim rapprochement. ▪ Illustrate Sir Syed's success in inducing Muslims to acquire modern education. ▪ Delineate Sir Syed's role as a Social Reformer. ▪ Discuss Sir Syed's political testament and manifesto: Continued loyalty to the British Crown and abstention from active politics. ▪ Discuss the establishment of various modern educational institutions in areas constituting Pakistan with particular reference to Sindh Madrassatul Islam. ▪ Trace out the origins, evolution and the accomplishments of Muslim Educational Conference. <p>Discuss the response of Deoband and Nadva to modern education.</p> <ul style="list-style-type: none"> ▪ Trace out the background and the formation of Indian National Congress and its |

consolidation as a political spokesman for India.

- Narrate the background of the Partition of Bengal, the Congress agitation, the introduction of the Swadeshi Movement and the Muslim response.
- Discuss the British reversal of their "pledged word" and the "settled fact", and the annulment of the Bengal Partition in 1911.
- Delineate the origins of the Separate Electorate demand, the background to the Simla Deputation, and the formation of the All-India Muslim League.
- Discuss, M.A. Jinnah's role as Ambassador of Hindu-Muslim Unity.
- Describe the major developments leading to the Congress-League Lucknow Pact, and the Congress-League coalescence till 1920.
- Elucidate the origins and the rationale of the Pan-Islamic Movement in India and the birth of the Khilafat Movement.
- Discuss the Hijrat Movement and the Reshmi Romal Movement.
- Discuss the joint Hindu-Muslim Civil Disobedience Movement under M.K. Gandhi and Maulana Muhammad Ali Jauhar, and its impact on Hindu and Muslim politics.

Highlight the salient features of Diarchy and its impact, with special reference to the Punjab

- Discuss the Delhi Muslim Proposals in terms of a viable formula for Hindu-Muslim settlement.
- Describe the formation of the Simon Commission (1927), and the Indian response.
- Delineate the major provisions of the Nehru Report with special reference to Muslim aspirations and demands.
- Identify the Muslim response to the Nehru Report: All Parties Muslim Conference (1929) and Jinnah's 14 Points (1929).
- Discuss Iqbal's proposal for a consolidated North-Western Muslim State and redistribution of provinces as a solution to the Hindu-Muslim problem in India.
- Narrate the events leading to the convening of the Round Table Conference to arrive at a constitutional settlement between Great Britain and India, between the Indian political parties and the Indian princely states.
- Discuss the course of the RTC and the proposals put forward by various Indian parties, with special reference to the rights of minorities.
- Trace out the demand for the introduction of reforms in the NWFP and Balochistan.

Trace out the demand for the separation of Sindh from the Bombay Presidency.

- Highlight the salient features of the Communal Award with reference to Muslim demands.
- Point out the salient features of 1935 Act and the grant of autonomy to the provinces.
- Delineate the status of the AIML in Muslim politics during the previous decade (1926-36).
- Discuss the 1937 elections, the emergence of separate provincial Muslim parties and the election returns in terms of party politics.
- Describe the efforts towards the reorganization of the Muslim League as the representative organisation of Muslim India.

- Discuss the formation of the Congress ministries in the Hindu majority provinces, the Azad-Khaliquzzaman parleys for a Congress coalition in the U.P. and the subsequent Congress policies towards the Muslims.
- Elaborate on the specific Muslim grievances against the Congress Rule with special reference to the Pirpur Report, Sharif Report and the Kamal Yar Jang Report. Include also the Congress response, and Jinnah's demand for a Royal Commission.
- Analyze the impact of World War-II on Indian politics and its implication in enhancing AIML's stature as Muslim India's spokesman.
- Trace the genesis and rationale of the Lahore Resolution with particular reference to Jinnah's Presidential Address.
- Discuss the salient features of the Cripps Offer with special reference to the Muslim demand for Pakistan.
- Bring out the impact of Quit India Movement on Indian politics, with special reference to the consolidation of Muslim League.
- Underscore the salient features of the C.R. Formula and the impact of Gandhi-Jinnah talks on future course of Indian politics.
- Point out the main provisions of the Simla Conference (1945) and explain the causes of its failure.
- Describe the main issues in 1945-46 general elections, and results of the Central Assembly elections and, provincial elections.
- Discuss how the Muslim League's astounding success validated League's claim to be Muslim India's sole spokesman and the demand for Pakistan.
- Evaluate the Cabinet Mission proposals, with special reference to the grouping and limited Centre-provisions.

Discuss why the Muslim League first accepted the Cabinet Mission Plan in June 1946 and then rejected it, and decided to launch Direct Action.

- Specify the proposals for the interim government, the British betrayal, the setting up of the interim government, and the League's entry into it.
- Assess the role of Liaquat Ali Khan as Finance Minister in convincing the Congress leadership of the impossibility of a Congress-League coalition at the Centre.
- Discuss the London Conference and its implication for the acceptance of the Pakistan demand.
- Describe the appointment of Lord Mountbatten as Viceroy and Governor-General and making of the partition plan.
- Discuss the salient features of the 3 June Plan and the Indian Independence Act (1947).
- Trace out the various developments from 3 June leading to the emergence of Pakistan on 14 August 1947:
- Elaborate the role of Quaid-i- Azam as the Founder of Pakistan.

Discuss the role played by the minorities in the creation of Pakistan.

SUBJECT: COMPUTER EDUCATION (Applied Technology)

| Grade | Student Learning Outcomes (SLOs) | |
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| VI | 1.1 What is a Computer? | i) Define and recognize a computer. ii) Define data and information. iii) Explain the advantages of using computers. |
| | 1.2 The Components of a Computer | i) Explain the difference between hardware and software. ii) Know and get familiar with the hardware components of a computer; <ul style="list-style-type: none"> a) Input devices: <ul style="list-style-type: none"> • Keyboard • Mouse • Scanner • Microphone • Digital Camera b) System unit: <ul style="list-style-type: none"> • Processor • Motherboard or System board • Memory c) Storage devices: <ul style="list-style-type: none"> • Floppy disk • Hard disk • CD/DVD • USB Flash memory d) Output devices: <ul style="list-style-type: none"> • Monitor • Printer • Speakers |

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| | | e) Communication devices: <ul style="list-style-type: none"> • Modem |
| | 1.3 How a Computer Works? | Describe briefly, the following four basic operations followed by a computer: <ul style="list-style-type: none"> • Input operation • Processing operation • Storage operation • Output operation |
| UNIT 2 INTRODUCTION TO WINDOWS | | |
| | 2.1 Stepping into Windows | i) Know the startup procedure to step into Windows. ii) Recognize and get familiar with the following on the screen. <ul style="list-style-type: none"> • Desktop • Start button – Start menu • Taskbar • Notification area • Desktop icons: <ul style="list-style-type: none"> – My Computer – My Documents – Recycle Bin – Internet Explorer |
| | 2.2 Working with Windows | i) Open a window/program from the following locations. <ul style="list-style-type: none"> • Desktop • Start menu • Run command ii) Get familiar with functioning of the following on a window. <ul style="list-style-type: none"> • Title bar • Menu bar |

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| | | <ul style="list-style-type: none"> • Toolbar • Scroll bar • Status bar • Maximize and minimize buttons • Close button |
| | 2.3 Managing Files and Folders | <ul style="list-style-type: none"> i) Define a file, a folder and a drive. ii) Create a new <ul style="list-style-type: none"> • Folder • File iii) Copy a file/folder to another folder/location. iv) Drag a file/folder to another folder/location. v) Cut a file/folder and paste it to another folder/location. vi) Delete a file/folder. |
| UNIT 3 COMMONLY USED SOFTWARE | | |
| | 3.1 Working with Paint | <ul style="list-style-type: none"> i) Recognize the Paint window. ii) Get familiar with menu bar, tool box and color box. iii) Draw freehand shapes with the pencil. iv) Use pen, shape, spray, brush and other various tools to draw and color different shapes. v) Copy/paste an image into Paint and modify the artwork as follows. <ul style="list-style-type: none"> • Change the color of artwork, • Add/paste details, like text or drawing, to the artwork, • Re-size, rotate, skew and invert the artwork, • Delete unwanted details from the artwork. vi) Save file. |
| | 3.2 Using a Typing Tutor | <ul style="list-style-type: none"> i) Recognize keys for right and left hands on the keyboard. |

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| | | <ul style="list-style-type: none"> ii) Use the correct fingers for typing English text. iii) Build basic typing skills. iv) Improve speed and accuracy through tests and results. |
| | 3.3 Working with Word | <ul style="list-style-type: none"> i) Recognize word processor – Word. ii) Identify title bar, menu bar, standard toolbar, formatting toolbar, scroll bars, status bar and ruler on the Word screen. iii) Create a new document. iv) Edit text using the following options: <ul style="list-style-type: none"> • Type text into the document • Select: <ul style="list-style-type: none"> – text from paragraph – entire document • Cut/Copy text • Paste text • Delete text • Font, font style, font size, alignment • Change case of text • Check spelling and grammar v) Save a document. vi) Print a full document. |
| | 3.4 Using Media Player | <ul style="list-style-type: none"> i) Recognize Media Player. ii) Use the following playback controls for an audio/video file. <ul style="list-style-type: none"> • Play/Pause • Stop • Rewind/Fast forward • Adjust and mute volume iii) Play a recorded clip from CD/DVD. |

UNIT 4 THE INTERNET AND WORLD WIDE WEB

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| 4.1 Introduction to the Internet | <p>i) Define Internet.</p> <p>ii) Know what the Internet offers.</p> <p>iii) Know the principal means of connecting to the Internet:</p> <ul style="list-style-type: none">• Telephone (dialup) modem• DSL• Cable modem <p>iv) Explain the steps involved in accessing the Internet.</p> |
| 4.2 The World Wide Web | <p>i) Know that</p> <ul style="list-style-type: none">• World Wide Web (www), also referred to as the Web, is part of the Internet.• Web page is a document on the Web.• Web site is a collection of Web pages maintained by an organization or an individual. <p>ii) Know that each Web page has a unique address, called a URL (Uniform Resource Locator).</p> <p>iii) Know that a web browser (for example, Internet Explorer) is a program that lets user view and explore information on the Web.</p> <p>iv) Use Internet Explorer to access and view different Web pages.</p> <p>v) Know that a search engine is a program that finds Web sites and Web pages.</p> <p>vi) Use search engines</p> <ul style="list-style-type: none">• Google• Yahoo• MSN <p>to search for information on the Web.</p> |

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| VII | UNIT 1 HARDWARE BASICS | |
| | 1.1 The System Unit | <ul style="list-style-type: none"> i) Define system unit. ii) Recognize and explain <ul style="list-style-type: none"> • Motherboard • Processor: <ul style="list-style-type: none"> – Control Unit – Arithmetic Logic Unit iii) Explain <ul style="list-style-type: none"> • Memory: <ul style="list-style-type: none"> – RAM – ROM iv) Recognize and explain <ul style="list-style-type: none"> • Expansion cards • Expansion slots |
| | 1.2 Cutting Edge Technologies | <p>Explain briefly</p> <ul style="list-style-type: none"> • Barcode reader • Fingerprint reader • Robot* |
| | UNIT 2 SOFTWARE BASICS | |
| 2.1 System Software | <ul style="list-style-type: none"> i) Define system software. ii) Know the following basic components of system software. <ul style="list-style-type: none"> • Operating system • Device drivers • Utility programs | |

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| | | | <ul style="list-style-type: none"> iii) Define operating system. iv) Know important functions of the operating system: <ul style="list-style-type: none"> • booting and providing a user interface, • managing programs, • file management, • configuring devices. v) Define device drivers. vi) Define utility programs and explain: <ul style="list-style-type: none"> • File manager • Image viewer • Disk scanner | |
| | | 2.2 Application Software | <ul style="list-style-type: none"> i) Define application software. ii) Distinguish among following kinds of application software. <ul style="list-style-type: none"> • Entertainment software (e.g., games, music/video players). • Productivity software (e.g., word processor, multimedia presentation software). • Education and reference software (e.g., encyclopedias, typing tutors). | |
| UNIT 3 CUSTOMIZING A WORD DOCUMENT | | | | |
| | | 3.1 Changing Display of Document | <ul style="list-style-type: none"> i) Know that Word offers five different views of a document. <ul style="list-style-type: none"> • Normal view • Web layout view • Print layout view • Outline view • Reading layout view ii) Change the view of a document using different view options. | |

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| | | <ul style="list-style-type: none"> iii) Increase/decrease zoom settings to view an area of a document. iv) Split document into separate sections. |
| | 3.2 Editing Text | <ul style="list-style-type: none"> i) Insert/delete text in the document. ii) Move or copy text to a new location in the document. iii) Undo/redo last edited changes in the document. iv) Insert the current date and time into a document. v) Count the number of words in a document. vi) Use the Find feature to locate a word or phrase in a document. vii) Find and replace a word or phrase in a document. viii) Use thesaurus on Research task pane to replace a word in the document. ix) Insert symbols that do not appear on the keyboard. x) Add a comment to text in the document. |
| | 3.3 Formatting Text | <ul style="list-style-type: none"> i) Change font of text. ii) Change style (bold, italic, underline) of the text. iii) Change color of the text. iv) Highlight text in the document. v) Change alignment of the text. vi) Change the line spacing. |
| | 3.4 Formatting Paragraphs | <ul style="list-style-type: none"> i) Create a bulleted or numbered list. ii) Indent text in a paragraph of a document. iii) Use tabs to line up information in a document. iv) Add a border to text in the document. v) Add shading to the document to emphasize an area of text. |
| | 3.5 Formatting Pages | <ul style="list-style-type: none"> i) Insert a page break in the document. ii) Insert section breaks to divide a document into sections. |

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| | | <ul style="list-style-type: none"> iii) Add page numbers in the document. iv) Add a header or footer to display additional information on each page of the document. v) Add footnotes or endnotes to provide additional information about text in the document. vi) Change the margins in the document. vii) Centre vertically, the text on a page. viii) Change the orientation of pages in the document. ix) Add a watermark to display a faint picture or text behind the information in the document. x) Create newspaper columns. |
| | 3.6 Printing a Document | <ul style="list-style-type: none"> i) Preview a document before printing. ii) Use different print options to print a document. iii) Change paper size and source. |
| UNIT 4 MULTIMEDIA PRESENTATIONS | | |
| | 4.1 Creating a PowerPoint Presentation | <ul style="list-style-type: none"> i) Define <ul style="list-style-type: none"> • Multimedia Presentation • Slide and slide show ii) Know that PowerPoint uses graphics, animation, sound and data or information to make visual presentations. iii) Recognize the following options in the New Presentation task pane. <ul style="list-style-type: none"> • Blank presentation • Design template iv) Collect content for the presentation (text, pictures etc.) v) Add the following as a background fill effect. <ul style="list-style-type: none"> • Gradient • Texture • Pattern |

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| | | <ul style="list-style-type: none"> • picture <p>vi) Select an appropriate slide layout.</p> <p>vii) Add following to the placeholders in the presentation.</p> <ul style="list-style-type: none"> • Text • Clip Art • Drawings |
| | 4.2 Adding Animations | <p>i) Apply following effects to the presentation.</p> <ul style="list-style-type: none"> • Slide transition • Custom animation <p>ii) Run the slide show by choosing Slide Show from the View menu.</p> |
| UNIT 5 ELECTRONIC MAIL | | |
| | 5.1 Introduction to E-mail | <p>i) Define</p> <ul style="list-style-type: none"> • E-mail • E-mail account and E-mail address • User name and password <p>ii) Know that</p> <ul style="list-style-type: none"> • Yahoo mail, • Hotmail, <p>offer web based e-mail services.</p> |
| | 5.2 Sending and Receiving E-mail | <p>i) Create/sign-in an e-mail account.</p> <p>ii) Recognize the following parts of an e-mail message.</p> <ul style="list-style-type: none"> • To: • Subject: • Cc: • Attach files: <p>iii) Compose an e-mail message.</p> <p>iv) Attach a file to the e-mail.</p> <p>v) Send the e-mail.</p> |
| | | <p>vi) Use the following folders.</p> <ul style="list-style-type: none"> • Inbox • Sent • Trash <p>vii) Check an e-mail.</p> <p>viii) Reply an e-mail.</p> <p>ix) Sign out an e-mail account.</p> |

| UNIT 1 NETWORKS AND COMMUNICATIONS | | | | | |
|------------------------------------|---|--|--|-------------------------------|--|
| VIII | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; padding: 5px;">1.1 Computer Networks</td> <td style="padding: 5px;"> i) Define a computer network. ii) Know that <ul style="list-style-type: none"> • a sending device, • a receiving device, • communication devices, • a transmission medium, are required for communication to take place. iii) Define a client and a server. iv) Explain the types of computer networks. <ul style="list-style-type: none"> • LAN • WAN • MAN v) Describe communication devices: <ul style="list-style-type: none"> • Dialup modem • Network card vi) Know the types of physical transmission media: <ul style="list-style-type: none"> • Twisted-pair cable • Coaxial cable • Fiber-optic cable </td> </tr> <tr> <td style="padding: 5px;">1.2 Cutting Edge Technologies</td> <td style="padding: 5px;"> Explain the following in the simplest possible terms (preferably with diagrams). <ul style="list-style-type: none"> • Cellular communications • Satellite communications • Global Positioning System • Bluetooth </td> </tr> </table> | 1.1 Computer Networks | i) Define a computer network. ii) Know that <ul style="list-style-type: none"> • a sending device, • a receiving device, • communication devices, • a transmission medium, are required for communication to take place. iii) Define a client and a server. iv) Explain the types of computer networks. <ul style="list-style-type: none"> • LAN • WAN • MAN v) Describe communication devices: <ul style="list-style-type: none"> • Dialup modem • Network card vi) Know the types of physical transmission media: <ul style="list-style-type: none"> • Twisted-pair cable • Coaxial cable • Fiber-optic cable | 1.2 Cutting Edge Technologies | Explain the following in the simplest possible terms (preferably with diagrams). <ul style="list-style-type: none"> • Cellular communications • Satellite communications • Global Positioning System • Bluetooth |
| | 1.1 Computer Networks | i) Define a computer network. ii) Know that <ul style="list-style-type: none"> • a sending device, • a receiving device, • communication devices, • a transmission medium, are required for communication to take place. iii) Define a client and a server. iv) Explain the types of computer networks. <ul style="list-style-type: none"> • LAN • WAN • MAN v) Describe communication devices: <ul style="list-style-type: none"> • Dialup modem • Network card vi) Know the types of physical transmission media: <ul style="list-style-type: none"> • Twisted-pair cable • Coaxial cable • Fiber-optic cable | | | |
| 1.2 Cutting Edge Technologies | Explain the following in the simplest possible terms (preferably with diagrams). <ul style="list-style-type: none"> • Cellular communications • Satellite communications • Global Positioning System • Bluetooth | | | | |






UNIT 2 COMPUTER SECURITY THREATS

| | |
|--------------------------------------|---|
| 2.1 Computer Security Threats | i) Define <ul style="list-style-type: none">• Virus• Worms• Adware• Hacker ii) Know that a virus, worm and adware can spread through: <ul style="list-style-type: none">• Infected flash drives or floppy disks• E-mail attachments• Surfing insecure websites• Installing pirated software |
| 2.2 Managing an Antivirus | i) Define <ul style="list-style-type: none">• Antivirus• Virus definitions/updates ii) Know the following widely used antivirus software. <ul style="list-style-type: none">• Symantec• MacAfee• AVG iii) Scan a computer for viruses. |

UNIT 3 SPREADSHEETS IN EXCEL

| | |
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| 3.1 Introduction to Spreadsheet | i) Define spreadsheet. ii) Know the purpose of spreadsheet. iii) Recognize spreadsheet software – Excel. iv) Explain workbook and worksheet. v) Get familiar with Excel application window: <ul style="list-style-type: none">• Title bar• Menu bar• Standard toolbar• Formula bar |
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| | | | <ul style="list-style-type: none"> • Document (worksheet) window • Sheet Tabs <p>vi) Identify</p> <ul style="list-style-type: none"> • Columns • Rows • Cells • Cell address <p>vii) Manipulate data (numeric and non-numeric) into a cell /range of cells by</p> <ul style="list-style-type: none"> • Entering data • Editing data • Auto filling data <p>viii) Enter a formula.</p> <p>ix) Insert functions:</p> <ul style="list-style-type: none"> • SUM • PRODUCT • AVERAGE • POWER • SQRT • MAX • MIN <p>x) Create a spreadsheet such as monthly report of expenses, students result sheet and salary report etc.</p> <p>xi) Save a spreadsheet.</p> |
| | | <p>3.2 Formatting</p> <p>Worksheet Elements</p> | <p>i) Select a cell/range of cells to</p> <ul style="list-style-type: none"> • Cut/copy • Paste • Format text: <ul style="list-style-type: none"> – Font – Font size – Font style – Font colour |

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| | | <ul style="list-style-type: none"> – Alignment |
| | | <ul style="list-style-type: none"> ii) Apply borders and shading to a cell/range of cells. iii) Insert new rows/columns. |
| | 3.3 Inserting Charts | <p>Use chart wizard to insert a</p> <ul style="list-style-type: none"> • Column chart, • Line chart, • Pie chart, <p>into a worksheet.</p> |
| UNIT 4 PROBLEM-SOLVING | | |
| | 4.1 Problem-Solving | <ul style="list-style-type: none"> i) Make a clear statement of the problem. ii) Extract the following from the problem statement. <ul style="list-style-type: none"> • What is given – the Input • What is required – the Output • The processing requirements |
| | 4.2 Flowcharting | <ul style="list-style-type: none"> i) Define a flowchart. ii) Identify the standard flowchart symbols: <ul style="list-style-type: none"> • Start/terminal symbol  • Input/Output symbol  • Processing symbol  • Flow lines  • Decision symbol  iii) Draw a flowchart to solve problem, like: <ul style="list-style-type: none"> • To make tea • To make an omelet • To find the sum and average of five given numbers |

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| | | | <ul style="list-style-type: none"> • To find the product of five given numbers • To display the larger one out of the two given unequal numbers • To find the area of a rectangular region with given length and width • To find the area of a circular region with given radius | |
| UNIT 5 COMPUTER PROGRAMMING | | | | |
| | 5.1 Introduction to Programming | i) Define the following terms. <ul style="list-style-type: none"> • Program • Programming language. ii) Differentiate between: <ul style="list-style-type: none"> • Constant and variable • Syntax and logical error iii) Recognize an arithmetic expression. iv) Know: <ul style="list-style-type: none"> • Arithmetic operators: +, -, *, /, ^, and their order of precedence • Assignment operator '=' • Relational operators <>, <=, >=, <, > | | |
| | 5.2 Programming in BASIC | i) Get familiar with the use of: <ul style="list-style-type: none"> • Basic commands LIST, RUN, LOAD and SAVE • PRINT statement, to display text on the screen • INPUT statement, to accept data • READ and DATA statement, to take input • IF-THEN-ELSE statement ii) Assign a variable to an arithmetic expression iii) Write a program to solve a problem, like: <ul style="list-style-type: none"> • To find the sum and average of five given numbers | | |
| | | | <ul style="list-style-type: none"> • To find the product of five given numbers • To display the larger one out of the two given unequal numbers • To find the area of a rectangular region with given length and width • To find the area of a circular region with given radius • To convert Celsius to Fahrenheit and vice versa, using appropriate formula | |

SUBJECT: ISLAMAIT

| Grade | Student Learning Outcomes (SLOs) |
|------------------|---|
| VI TO VIII | <p style="text-align: center;">تدریسِ اسلامیات کے مقاصد</p> <p style="text-align: right;">عمومی مقاصد:</p> <p>نصاب کی تکمیل کے بعد طلبہ اس قابل ہو جائیں کہ</p> <p>۱۔ اُن کے قلوب واذہان میں اسلام کے بنیادی عقائد کا یقین راسخ ہو جائے اور روزمرہ زندگی میں اُن پر ایمانیات کی اہمیت اور افادیت واضح ہو جائے یعنی وہ جان لیں کہ:</p> <p>☆ اللہ تعالیٰ ایک ہے۔ اُس کا کوئی شریک نہیں وہی سب کا خالق و مالک ہے</p> <p>☆ تمام انبیاء کرام عَلَیْهِمُ السَّلَام اللہ تعالیٰ کی طرف سے لوگوں کی ہدایت کے لیے بھیجے گئے ہیں اور حضرت مُحَمَّد صَلَّی اللہُ عَلَیْہِ وَاٰلِہٖ وَسَلَّم اللہ تعالیٰ کے آخری نبی اور رسول ہیں۔ اس لیے آپ صَلَّی اللہُ عَلَیْہِ وَاٰلِہٖ وَسَلَّم سے محبت، احترام اور آپ صَلَّی اللہُ عَلَیْہِ وَاٰلِہٖ وَسَلَّم کا اتباع سب پر لازم ہے اور ایمان کے لئے ضروری ہے۔ عقیدہ ختم نبوت یعنی آپ صَلَّی اللہُ عَلَیْہِ وَاٰلِہٖ وَسَلَّم کے بعد قیامت تک کوئی رسول اور نبی نہیں آئے گا۔</p> <p>☆ تمام الہامی کتابیں خصوصاً آخری الہامی کتاب قرآن مجید اللہ تعالیٰ کی طرف سے لوگوں کی راہنمائی کے لیے نازل کی گئی اور اُن میں یہ یقین پیدا ہو جائے کہ اب قرآن مجید ہی ہدایت کے لیے آخری مستند صحیفہ ہے۔ اس لیے اس کی تلاوت کرنا، اس کے مفہیم کو سمجھنا اور اس کے احکامات پر عمل کرنا ضروری ہے اور یہ کہ قرآن مجید کی تعلیمات اور آپ صَلَّی اللہُ عَلَیْہِ وَاٰلِہٖ وَسَلَّم کے ارشادات کی روشنی میں انہیں زندگی گزارنا ہے اور اس پیغام میں امن و سلامتی کو عام کرنا ہے۔</p> <p>☆ فرشتے اللہ تعالیٰ کی مخلوق ہیں اور وہ مختلف امور کی انجام دہی پر مقرر ہیں اور ہمہ وقت اللہ تعالیٰ کی بندگی اور حمد و ثنا کرتے ہیں۔</p> <p>☆ آخرت ایک حقیقت ہے، قیامت قائم ہوگی جس میں اعمال کا حساب و کتاب ہوگا اور ہر انسان کے اعمال کے حوالے سے جزا و سزا کا تعین عدل و انصاف کی بنیاد پر ہوگا۔</p> |

- ۲۔ وہ قرآن مجید کی صحیح تلفظ کے ساتھ تلاوت کر سکیں، تلاوت کی اہمیت اور آداب سے واقف ہوں نیز قرآن مجید کے مجوزہ نصاب کا مفہوم سمجھ سکیں اور حتی المقدور اس پر عمل کر سکیں۔
- ۳۔ وہ حضرت مُحَمَّد صَلَّى اللَّهُ عَلَيْهِ وَآلِهِ وَسَلَّمَ کی حیاتِ طیبہ اور اسوۂ حسنہ سے آگاہ ہوں اور حدیثِ رسول صَلَّى اللَّهُ عَلَيْهِ وَآلِهِ وَسَلَّمَ کی عظمت و اہمیت جان سکیں اور معاشرے میں ان تعلیمات کے فروغ کا فریضہ انجام دے سکیں۔
- ۴۔ وہ عبادت کی اہمیت و افادیت سے آگاہ ہو جائیں تاکہ ان کو بجالائیں۔
- ۵۔ وہ زندگی کے ہر شعبے میں دین کی اہمیت کو سمجھیں اور عملی طور پر اس کو اپنائیں نیز وہ انسانی اخوت، اتحاد ملی، تحمل و بردباری، رواداری، مساوات، ایفائے عہد، عدل و انصاف، اخلاص، تقویٰ، صداقت، وقت کی پابندی، صفائی و پاکیزگی، خدمتِ خلق، حقوق العباد، وطن اور اہل وطن سے محبت اور قومی اتحاد و یکجہتی جیسے اچھے اخلاق و اوصاف سے مستفہ ہو جائیں۔
- ۶۔ وہ روزمرہ زندگی میں سادگی اور میانہ روی اختیار کریں۔ فضول خرچی، فخر و غرور، نمود و نمائش، بے جا تکلفات اور منافقت کی جملہ صورتوں سے اجتناب کر سکیں۔
- ۷۔ وہ اُمتِ مسلمہ کے علمی، سائنسی، روحانی، سیاسی اور عسکری کارناموں سے روشناس ہو جائیں تاکہ ان میں اسلام کی عظمت رفتہ کی بحالی کا شعور آ جا کر ہو جائے۔
- ۸۔ وہ حقوق و فرائض کے متعلق اسلامی تعلیمات اور ان کی اہمیت سے واقف ہو جائیں تاکہ روزمرہ زندگی میں ان پر عمل پیرا ہو کر ایک مثالی مسلمان کا کردار انجام دے سکیں۔
- ۹۔ وہ انبیاء کرام عَلَيْهِمُ السَّلَام، ازواجِ مطہرات، اہل بیت اطہار اور صحابہ کرام رَضِيَ اللَّهُ عَنْهُمْ کی پاکیزہ زندگیوں سے آگاہ ہوں تاکہ ان میں ان کی اتباع کا ذوق پیدا ہو۔
- ۱۰۔ وہ نظریہ پاکستان اور آزادی کی اہمیت سے آگاہ ہو جائیں تاکہ وہ پاکستان سے محبت، پاکستان کے استحکام، خوشحالی، ملی یکجہتی اور امن باہمی کے لیے عملی جدوجہد کا فریضہ انجام دینے کا شعور پاسکیں۔

خصوصی مقاصد:

اس نصاب کی تکمیل کے بعد طلبہ اس قابل ہو جائیں گے کہ وہ:

- ۱- ایمان کی اہمیت سے آگاہ ہوں تاکہ ایمان کو دنیا کی ہر چیز سے زیادہ عزیز سمجھیں۔
- ۲- اللہ تعالیٰ کی محبت اور عظمت محسوس کرتے ہوئے اپنی زبان اور اپنے عمل سے اس کا اظہار کریں۔
- ۳- حضرت مُحَمَّد صَلَّى اللَّهُ عَلَيْهِ وَآلِهِ وَسَلَّمَ کی محبت اور احترام کو عین ایمان جانیں۔ آپ صَلَّى اللَّهُ عَلَيْهِ وَآلِهِ وَسَلَّمَ کو خاتم النبیین تسلیم کریں اور آپ صَلَّى اللَّهُ عَلَيْهِ وَآلِهِ وَسَلَّمَ کے اتباع کو اپنے لیے باعث افتخار سمجھیں نیز اپنے قول و عمل سے اس کا اظہار کریں۔
- ۴- اسلام کے کامل، عالمگیر اور آخری دین ہونے پر یقین رکھیں۔
- ۵- قرآن مجید کے مجوزہ نصاب کو پڑھ سکیں، ترجمہ کر سکیں اور منتخب احادیث کے اردو ترجمے کو پڑھ کر اصل مفہوم کو آسانی سے سمجھ سکیں اور عملی زندگی کے ساتھ اس کا تعلق جوڑ سکیں۔
- ۶- اللہ تعالیٰ کی عبادت کو زندگی کا شعار بناتے ہوئے اس کی رضا و خوشنودی کو اپنا نصب العین سمجھیں اور ارکان اسلام کی پابندی کرنے والے بنیں۔
- ۷- دنیا و آخرت کی فوز و فلاح کے لیے سیرت طیبہ سے کسب فیض کرنے والے بنیں۔
- ۸- اُمتِ مسلمہ کے شاندار ماضی سے آگاہ ہوں۔ اسلاف کے علمی، سائنسی، روحانی، سیاسی اور عسکری کارناموں کے بارے میں معقول معلومات رکھتے ہوں۔
- ۹- اخلاق، آداب، حقوق العباد اور احترامِ انسانیت کے حوالے سے مجوزہ نصاب کا مطالعہ کریں اور اس کا عملی نمونہ پیش کریں۔

SUBJECT: SCEINCE

| Grade | Student Learning Outcomes (SLOs) |
|-------|--|
| VI | <p><i>All the students will be able to:</i></p> <ul style="list-style-type: none">▪ Define cell.▪ Describe the different parts of a light microscope and its working.▪ Identify different kinds of cells using a microscope.▪ Draw, label and describe the basic structure of an animal cell and a plant cell.▪ Compare and contrast an animal cell with a plant cell.▪ State the function of each part of the cell to indicate how the cell supports life.▪ Differentiate between unicellular and multicellular organisms.▪ Distinguish between tissues and organs.▪ Recognize root and shoot systems in plants.▪ State the functions of the major systems of the human body. <p>Describe the cellular hierarchy from cell to organ systems in animals and plants</p> <p>Explain the structure and function of nose, tongue, ear, eye and skin.</p> <ul style="list-style-type: none">▪ Describe the internal structure of a leaf.▪ Define photosynthesis.▪ Explain the importance of photosynthesis in plants.▪ Describe the effects of different factors on the process of photosynthesis.▪ Explain that the structure of leaves facilitates photosynthesis.▪ Prove with the help of an experiment that photosynthesis takes place in a leaf.▪ Explain the importance and process of respiration in plants.▪ Compare and contrast the processes of photosynthesis and respiration in plants.▪ Identify the components of environment.▪ Compare the physical factors, which make up the environment of a desert and a rain forest.▪ Describe the relationship between biotic and abiotic components of the environment.▪ Explain how abiotic factors <i>affect</i> the ability of plants to create their own food.▪ Describe that living things depend on one another for food, shelter and protection. |

- Explain the different relationships between organisms.

Give examples of how organisms interact with each other and with nonliving parts of their environment.

- Differentiate between an atom and a molecule.
- Recognize the symbols of some common elements.
- Classify elements into metals and non-metals.
- Relate the physical properties of elements to their uses.
- Differentiate between elements and compounds and compounds and mixtures.
- Identify examples of compounds and mixtures from their surroundings.
- Explain uses of common mixtures in daily life.
- Explain why air is considered as a mixture of gases.
- Identify the sources of carbon dioxide and how its level can be maintained in nature.
- Separate mixtures using a variety of techniques.
- Choose a technique to separate and identify different components in dyes.
- Demonstrate with an experiment to separate soluble solids from mixtures.

Use safety measures to conduct science experiments.

- Recognize the importance of air.
- Identify the composition of air.
- Relate the properties and uses of gases in air with the composition of air.
- Differentiate between solute, solvent and solution.
- Identify solute and solvent in a solution.
- Explain the formation of solution by the particle model.
- Distinguish between aqueous, dilute and concentrated solutions.
- Demonstrate the use of water as a universal solvent.
- Prepare saturated and unsaturated solutions.
- Define solubility.
- Investigate the *effect* of temperature on solubility using a variety of compounds.
- Differentiate between solutions and suspensions.
- Identify uses of solutions and suspensions in daily life.
- Explain that energy provides the ability to do work and can exist in different forms.

Identify different forms of energy with examples.

- Differentiate between kinetic and potential energy.
- Demonstrate how one form of energy is converted into other form of energy.
- Identify that energy is dissipated in atmosphere.
- Explain that energy is conserved during conversion of different forms of energy.

- Explain the importance of energy in improving the quality of life.
 - Identify energy converters in their surroundings.
 - Illustrate energy conversion to other forms using an energy converter.
 - Explain the term renewable.
 - Describe the advantages of using renewable energy sources.
 - Describe the form of energy stored in the human body.
 - Identify energy transfer in an environment.
 - Recognize wheel and axle and identify their uses.
 - Describe pulleys and their kinds.
 - Identify the uses of pulleys in daily life.
 - Describe the functions of pulley systems and gear systems.
 - Describe how motion in a system of pulleys of different sizes is transferred to motion in another system of various gears in the same structure.
 - Investigate with the help of an experiment the effort required by different gear systems to lift the same load.
 - Find out how the action of a pulley system is altered by changing the tension of the band connecting two pulleys.
 - Design and make a system of pulleys and/or gears for a structure that moves in a prescribed and controlled way and performs a specific function.
 - Identify and make modifications to their own pulley and gear systems to improve the way they move a load.
- Describe how a bicycle functions.
- Identify common devices and systems that incorporate pulleys and/or gears.
- Differentiate between transmission, absorption and reflection of light.
 - Demonstrate the law of reflection.
 - Demonstrate the difference between smooth, shiny, and rough surfaces.
 - Compare the regular and diffused reflection.
 - Identify everyday applications, which involve regular reflection and diffused reflection.
 - Draw ray diagrams for light reflected from a plane mirror at different angles of incidence.
 - Describe image formation by a plane mirror.
 - Compare characteristics of the images formed by a plane mirror and a Pinhole camera.
 - Explain the use of reflecting surfaces in different devices.
 - Design an experiment to make an optical instrument using mirrors.
 - Explain the principle of reflection in a

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| | <p>kaleidoscope.</p> <ul style="list-style-type: none"> ▪ Describe the relationship of angles between two mirrors and the number of images they can see in a kaleidoscope. ▪ Explain types of mirror and their uses in our daily life. ▪ Investigate the image formation by convex and concave mirrors. ▪ Describe sound as a form of energy. ▪ Compare the speed of sound in solids, liquids and gaseous mediums. ▪ Identify a variety of materials through which sound can travel. <p>Explain that how does a human ear receive sound waves.</p> <ul style="list-style-type: none"> ▪ Define the term satellite. ▪ Compare the physical characteristics of comets, asteroids and meteors. ▪ Describe the different kinds of meteors. ▪ Inquire into the sighting of Halley's Comet; describe what would they feel if they saw it. ▪ Define the terms artificial satellites and geostationary. ▪ Explain the key milestones in space technology. ▪ Describe the uses of various satellites in space. ▪ Investigate how artificial satellites have improved our knowledge about space and are used for space research. <p>Explain that how do satellites tell us where we are.</p> |
| VII | <p><i>All the students will be able to:</i></p> <ul style="list-style-type: none"> ▪ Describe various components of human digestive system. ▪ Describe digestion and its importance. ▪ Describe how digestive system helps in the digestion of various kinds of foods. ▪ Identify common disorders of the digestive system. ▪ List the factors that lead to constipation and diarrhea and the measures that can be taken to prevent them. ▪ Describe the mechanism of respiration in humans. ▪ Differentiate between breathing and burning processes. <p>Identify the common diseases of respiratory system and discuss their causes and preventive measures.</p> <ul style="list-style-type: none"> ▪ Explain the transport system in humans. |

- Describe the structure and function of heart and blood vessels.
 - Explain the working of the circulatory system.
 - Identify scientific developments that provide alternatives for dysfunctional body parts such as artificial tissues and organs, and their transplantation.
 - Find out that some disorders in human transport system can be affected by diet.
 - Describe absorption of water in plants through roots.
 - Explain how the structure of the roots, stem, and leaves of a plant permit the movement of food, water, and gases.
 - Define pollination.
 - Compare self and cross pollinations in plants.
 - List various factors involved in cross-pollination.
 - Investigate plants, which are cross-pollinated.
 - Differentiate between sexual and asexual reproduction
 - Describe fertilization.
- Describe seed and fruit formation.
- Explain the ecosystem
 - Define the term habitat.
 - Compare the different kinds of habitats.
 - Investigate the various features that allow animals and plants to live in a particular habitat.
 - Identify the factors that cause daily and yearly changes in a habitat.
 - Explain how living things adapt to daily and yearly changes in their habitat.
 - Explain the ways in which living things respond to changes in daily environmental conditions such as light intensity, temperature and rainfall.
 - Explain why food chains always begin with a producer.
 - Illustrate the relationship between producers and consumers.
 - Describe two food chains in the environment around them.
- Explain a web food.
- Describe the ways in which clean water are vital for meeting the needs of humans and other living things.
 - Identify the sources of water.
 - Recognize the substances present in water that makes the water impure.
 - Suggest different ways to clean the impure water.

- Describe the various uses of water in our country.
- Investigate the consumption of water in our daily life and suggest ways to reduce wastage of water.
- Describe the structure of an atom.
 - Differentiate between atomic number and mass number.
 - Draw diagrams of the atomic structure of the first eighteen elements in the periodic table.
 - Define valency.
 - Explain formation of ions.
 - Differentiate between cations and anions.
 - Describe isotopes and their uses in medicines & agriculture.
 - Identify the types and number of elements present in simple molecules and compounds.
 - Make chemical formulae from list of anions and cations.
- State the law of constant composition and give examples.
- Differentiate between physical and chemical changes.
 - Identify the physical and chemical changes taking place in environment.
 - Explain the use of hydrocarbons as fuels.
 - Explain the physical and chemical properties of fertilizers, which make them useful in agriculture.
 - Discuss harmful effects of improper use of fertilizers.
 - Describe the chemical process in which vegetable oil changes into fat.
- Describe the simple process for the manufacture of plastics.
- Distinguish between reversible and non-reversible changes in materials.
- Identify a variety of reversible and non-reversible changes in materials in their surroundings.
- Explain the flow of heat from hot body to cold body.
 - Explain conduction, convection and radiation through experimentation.
 - Recognize the three modes of transfer of heat from environment.
 - Suggest how birds can glide in the air for hours.
 - Identify examples of appliances that make use of different modes of transfer of heat.
 - Explain refraction of light and its causes.
 - Discuss the effects of refraction with examples.
 - List the colors of light using a prism.
 - Describe the dispersion of light by a prism.

- Identify different uses of lights of different colors at home, school and country and explain the relationship of choice of colors to their purpose.
 - Define spectrum of light.
 - Identify primary colors and show how they are combined to form secondary colors.
 - Identify a device in their surroundings that uses different combinations of colors.
 - Demonstrate how spinning of a rainbow results in the appearance of white disc.
 - Explain why an opaque or non-luminous object appears to be of certain color.
 - Explain the wavelength, frequency and amplitude of sound and give their units.
 - State factors on which sound depends.
 - Investigate objects in home and surroundings that are designed and made to produce different sounds.
 - Compare audible frequency range of humans and different animals.
 - Design a musical instrument to explain the relation between its sound and shape.
 - Identify the applications of different sounds in daily life.
 - Define current.
 - Make parallel and series circuits.
 - Investigate about types of circuits used for different purposes.
 - Identify a disadvantage of a series circuit.
 - Differentiate between current and energy.
 - Explain the effects of electric current in daily use appliances.
- Describe voltage.
- Explain the resistance as an opposition to the flow of current.
 - Describe the relationship between voltage and resistance.
 - Measure current by using different devices.
 - List the major uses of electricity in homes.
 - List electrical hazards and precautionary measures to ensure the safe use of electricity at home.
 - Describe why electricity is dangerous to humans.
 - Explain the Big Bang Theory of the origin of the Universe.
 - Describe a star using properties such as brightness and colour.
 - Identify bodies in space that emit and reflect light.
 - Suggest safety methods to use when observing the sun.
 - Define the terms star, galaxy, Milky Way and the

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| | <p>black holes.</p> <ul style="list-style-type: none"> ▪ Explain the types of galaxies. ▪ Explain the birth and death of our sun. ▪ Evaluate the evidence that support scientific theories of the origin of the universe. ▪ Identify major constellations visible at night in the sky. ▪ Describe the formation of black holes. <p>Explain the working of a telescope.</p> |
| VIII | <ul style="list-style-type: none"> ▪ Describe the structure and functions of the nervous system. ▪ Describe the working of the nervous system through a model. ▪ Explain reflex action with an example. Differentiate between voluntary and involuntary actions they have experienced. ▪ Define excretion. ▪ Draw and label human excretory system. ▪ Describe the role of kidney in excretion of waste. ▪ Investigate the possible causes of the malfunctioning of kidneys. Suggest techniques to cure problems of kidneys. ▪ Differentiate between mitoses and meiosis. ▪ Identify DNA and chromosomes in the cell diagram. ▪ Define heredity and recognize its importance in transferring of characteristics from parents to off springs. ▪ Identify the characteristics that can be transferred from parents to off springs. Compare characteristics related to ear and eye colour. ▪ Define biotechnology. ▪ Explain how DNA is copied and made. Describe the relationship between DNA, genes and chromosomes. ▪ Define bacterium. ▪ Explain how genes are introduced into a bacterium. ▪ List some biotechnological products used in daily life. ▪ Explain that genetic modification in different foods can increase the amounts of essential nutrients. |

- List general applications of biotechnology in various fields.

Explain how biotechnology allows meeting the nutritional needs of growing populations.

- Explain the sources, properties and harmful effects of air pollutants.
- List problems in human organ systems caused by air pollutants.
- Plan and conduct a campaign that can help to reduce air pollution in their local environment.
- Explain the Greenhouse effect.
- Describe the causes and effects of ozone depletion.
- Carry out a research to explain global warming and its likely effects on life on earth.
- Design a model to explain the Greenhouse effect.
- Explain the formation of acid rain and identify its consequences on living and nonliving things.
- Define deforestation.
- State the effects of deforestation on the environment.
- Identify human activities that have long-term adverse consequences on the environment.
- Explain the importance of local and global conservation of natural resources.

Suggest ways in which individuals, organizations and government can help to make earth a better place to live.

- Define chemical reactions and give examples.
- Explain the rearrangement of atoms in chemical reactions.
- Explain the balancing of a chemical reaction.
- Define the law of conservation of mass.
- Identify the nature of a chemical change in various reactions.
- Describe changes in the states of matter in a chemical reaction.
- Explain the types of chemical reactions with examples.
- Explain the energy changes in chemical reactions.

Describe the importance of exothermic reactions in daily life.

- Define the terms acid, alkali and salt.
- Describe the properties of acids, alkalis and salts.
- Explain the uses of acid, alkali and salt in daily life.
- Define indicators.

- Use indicators to identify acids, alkalis and neutral substances.
- Investigate the color changes in the extracts of various flowers and vegetables by adding acids and alkalis.
- Define the term Pressure.
- Identify the units of pressure.
- Explain hydraulics and hydraulic system by giving examples.
- Explain how gases behave under pressure.
- Describe the causes of gas pressure in a container.

Explain the working of aerosols.

- Identify the application of gas pressure.
- Describe the term atmospheric pressure.

- Define a physical quantity with examples.
- Apply the prefixes milli-, kilo-, centi-, and interpret the units.
- Interconvert smaller units and bigger units.
- Select and use measuring instruments.
- Interpret SI units in the daily life.
- Investigate why it is desirable for a scientist to use the SI units in their work.

Measure the volume of liquid by reading correct meniscus.

- Describe the sources and *effects* of heat.
- Explain thermal expansion of solids, liquids and gases.
- Explore the effects and applications of expansion and contraction of solids.
- Describe the uses of expansion and contraction of liquids.
- Explain the peculiar behaviour of water during contraction and expansion.
- Investigate the processes making use of thermal expansion of substance.
- Identify the damages caused by expansion and contraction in their surroundings and suggest ways to reduce these damages.
- Investigate the means used by scientist and engineers to overcome the problems of expansion and contraction in everyday life

Describe the working of a Thermometer.

- Define Lens
- Differentiate between the different types of lenses

- Describe the image formation using a lens by ray diagram
- Compare and contrast the working of a human eye with the lens camera.
- Explain how eye focuses by altering the thickness of the eye lens.
- Investigate how eyes get used to darkness after some time.
- Explain how lenses are used to correct short sightedness and long sightedness.

Identify the types of lenses used for various purposes in daily life.

- Design an experiment to generate electricity.
- Explain the working of the model generator.
- Identify the simple devices that generate electricity in daily life.
- Design and demonstrate the working of a power station.
- List types of energy being used in power stations.
- Relate problems involved in generating electricity.
- Describe basic component of an electronic system.
- List components that would be needed to turn A.C. to D.C.
- State how output component in various devices could be used in their schools and surroundings.
 - Describe development of tools and technologies used in space exploration.
- Analyze the benefits generated by the technology of the space exploration.
- Explain that how do astronauts survive and research in space.
- Suggest the ways to solve the problems that have resulted from space exploration.
- Identify the technological tools used in space exploration.
- Identify new technologies used on earth that have developed as a result of the development of space technology.

Design a spacecraft and explain the key features of design to show its suitability as a spacecraft.

SUBJECT: MATHS

| Grade | Student Learning Outcomes (SLOs) |
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| VII | <ul style="list-style-type: none"> ▪ Define set. Recognize notation of a set and its objects/elements. ▪ Describe tabular form of a set and demonstrate through examples. Define <ul style="list-style-type: none"> ▪ finite and infinite sets, ▪ empty/void/null set, ▪ singleton, ▪ equal and equivalent sets, ▪ subset and superset of a set, ▪ proper and improper subsets of a set, and demonstrate through examples. ▪ Differentiate between natural and whole numbers. ▪ Identify natural and whole numbers, and their notations. ▪ Represent <ul style="list-style-type: none"> ▪ a given list of whole numbers, ▪ whole numbers $<$ (or $>$) a given whole number, ▪ whole numbers \sim (or $:::$) a given whole number, ▪ whole numbers $>$ but $<$ a given whole number, ▪ whole numbers \sim but S a given whole number, ▪ sum of two or more given whole numbers, on the number line. ▪ Add and subtract two given whole numbers. ▪ Verify commutative and associative law (under addition) of whole numbers. ▪ Recognize '0' as additive identity. ▪ Multiply and divide two given whole numbers. ▪ Verify commutative and associative law (under multiplication) of whole numbers. ▪ Recognize '1' as multiplicative identity. ▪ Verify distributive law of multiplication over addition. ▪ Verify distributive law of multiplication over subtraction (with positive difference). ▪ Define a factor as a number which divides the dividend completely leaving no remainder. ▪ Define a multiple as a dividend into which a factor can divide. ▪ Define even numbers as the numbers which are multiples of 2. ▪ Define odd numbers as the numbers which are not multiples of 2. ▪ Define prime numbers as numbers which have only two factors (i.e., 1 and itself). ▪ Define composite numbers as numbers which have more than two factors. ▪ Know that 1 is neither prime nor composite as it has only one factor which is 1 itself. ▪ Know that 1 is a factor of every number. ▪ Know that 2 is the only even prime number whereas all other prime numbers are odd. ▪ Define prime factorization as the process of factorizing a number into its prime factors. ▪ Recognize index notation. ▪ Factorize a given number and express its factors in the index notation. ▪ Define HCF as the greatest number which is a common factor of two or more numbers. ▪ Find HCF of two or more than two numbers by prime factorization, ▪ long division method. ▪ Define LCM as the smallest number which is a common multiple of two or more numbers. |

- Find LCM of two or more numbers by
 - prime factorization,
 - division method.
- Solve real life problems related to HCF and LCM
- Know that
 - the natural numbers 1,2,3,, are also called positive integers and the corresponding negative numbers -1, - 2, - 3" .. , are called negative integers,
 - '0' is an integer which is neither positive nor negative.
 - Recognize integers.
 - Represent integers on number line.
 - Know that on the number line any number lying
 - to the right of zero is positive,
 - to the left of zero is negative,
 - to the right of another number is greater,
 - to the left of another number is smaller.
 - Know that every positive integer is greater than a negative integer.
 - Know that every negative integer is less than a positive integer.
 - Arrange a given list of integers in ascending and descending order.
 - Define absolute or numerical value of a number as its distance from zero on the number line and is always positive.
 - Arrange the absolute or numerical values of the given integers in ascending and descending order.
 - Use number line to display:
 - sum of two or more given negative integers,
 - difference of two given positive integers,
 - sum of two given integers.
 - Add two integers (with like signs) in the following three steps:
 - a) Take absolute values of given integers,
 - b) Add the absolute values,
 - c) Give the result the common sign.
 - Add two integers (with unlike signs) in the following three steps:
 - a) Take absolute values of given integers,
 - b) Subtract the smaller absolute value from the larger,
 - c) Give the result the sign of the integer with the larger absolute value
 - d) Recognize subtraction as the inverse process of addition.
 - e) Subtract one integer from the other by changing the sign of the integer being subtracted and adding according to the rules for addition of integers.
 - Recognize that
 - the product of two integers of like signs is a positive integer,
 - the product of two integers of unlike signs is a negative integer.
 - Recognize that division is the inverse process of multiplication.
 - Recognize that on dividing one integer by another
 - if both the integers have like signs the quotient is positive,
 - if both the integers have unlike signs the quotient is negative.
 -
 - Know that division of an integer by '0' is not possible
 - Know that the following four kinds of brackets

- vinculum,
- () parentheses or curved brackets or round brackets,
- { } braces or curly brackets,
- [] square brackets or box brackets,

are used to group two or more numbers together with operations.

- Know the order of preference as, -, (), { } and [], to remove (simplify) them from an expression.
- Recognize BODMAS rule to follow the order in which the operations, to simplify mathematical expressions, are performed.
- Simplify mathematical expressions involving fractions and decimals grouped with brackets using BODMAS rule.
- Solve real life problems involving fractions and decimals.
- Define ratio as a relation which one quantity bears to another quantity of the same kind with regard to their magnitudes.
- Know that of the two quantities forming a ratio, the first one is called antecedent and the second one consequent.
- Know that a ratio has no units.
- Calculate ratio of two numbers.
- Reduce given ratio into lowest (equivalent) form.
- Describe the relationship between ratio and fraction.
- Know that an equality of two ratios constitutes a proportion, e.g., $a : b :: c : d$, where a, d are known as extremes and b, c are called the means.
- Find proportion (direct and inverse).

Solve real life problems involving direct and inverse proportion.

- Recognize percentage as a fraction with denominator of 100.
- Convert a percentage to a fraction by expressing it as a fraction with denominator 100 and then simplify.
- Convert a fraction to a percentage by multiplying it with 100%.
- Convert a percentage to a decimal by expressing it as a fraction with denominator 100 and then as a decimal.
- Convert a decimal to a percentage by expressing it as a fraction with denominator 100 then as a percentage.
- Solve real life problems involving percentage.
- Define
 - selling price and cost price,
 - profit, loss and discount,
 - profit percentage and loss percentage.
- Solve real life problems involving profit, loss and discount.
- Explain the term algebra as an extension of arithmetic in which letters replace the numbers.
- Know that
 - a sentence is a set of words making a complete grammatical structure and conveying full meaning.
 - sentences that are either true or false are known as statements.
 - a statement must be either true or false but not both.

- a sentence that does not include enough information required to decide whether it is true or false is known as open statement (e.g., $\triangle + 2 = 9$).
 - a number that makes an open statement true is said to satisfy the statement (e.g. $\triangle + 2 = 7$ makes the statement $\triangle + 2 = 9$ true).
 - use English alphabet x in the open statement $\triangle + 2 = 9$ to modify it to $x + 2 = 9$.
 - Define variables as letters used to denote numbers in algebra.
 - Know that any numeral, variable or combination of numerals and variables connected by one or more of the symbols '+' and '-' is known as an algebraic expression (e.g., $x + 2y$).
 - Know that x , $2y$ and 5 are called the terms of the expression $x + 2y + 5$.
 - Know that the symbol or number appearing as multiple of a variable used in algebraic term is called its coefficient (e.g. in $2y$, 2 is the coefficient of y).
 - Know that the number, appearing in algebraic expression, independent of a variable is called a constant term (e.g. in $x + 2y + 5$, number 5 is a constant term).
 - Differentiate between like and unlike terms.
 - Know that
 - like terms can be combined to give a single term,
 - addition or subtraction can not be performed with unlike terms.
 - Add and subtract given algebraic expressions.
 - Simplify algebraic expressions grouped with brackets.
- Evaluate and simplify an algebraic expression when the values of variables involved are given.
- Define an algebraic equation.
 - Differentiate between equation and an expression.
 - Define linear equation in one variable.
 - Construct linear expression and linear equation in one variable.
 - Solve simple linear equations involving fractional and decimal coefficients like $\frac{1}{2}x + 5 = x - \frac{1}{3}$.
 - Solve real life problems involving linear equations.
 - Add measures of two or more line segments.
 - Subtract measure of a line segment from a longer one.
 - Draw a right bisector of a given line segment using compasses.
 - Draw a perpendicular to a given line from a point on it using compasses.
 - Draw a perpendicular to a given line, from a point outside the line, using compasses.
 - Use compasses to
 - construct an angle equal in measure of a given angle,
 - construct an angle twice in measure of a given angle,
 - bisect a given angle,
 - divide a given angle into four equal angles,
 - construct the following angles:
 $60^\circ, 30^\circ, 15^\circ, 90^\circ, 45^\circ, (22\frac{1}{2})^\circ, 75^\circ, (67\frac{1}{2})^\circ, 120^\circ, 150^\circ, 165^\circ, 135^\circ, 105^\circ$
 - Construct a triangle when three sides (SSS) are given.

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| | <ul style="list-style-type: none"> ▪ Caution: Sum of two sides should be greater than the third side. ▪ Construct a triangle when two sides and their included angle (SAS) are given. ▪ Construct a triangle when two angles and the included side (ASA) are given. ▪ Construct a triangle when hypotenuse and one side (RRS) for a right angled triangle are given. ▪ Find perimeter and area of a square and a rectangle. ▪ Find area of path (inside or outside) of a rectangle or square. ▪ Solve real life problems related to perimeter and area of a square and rectangle. ▪ Recognize altitude of a geometric figure as the measure of the shortest distance between the base and its top. ▪ Find area of a parallelogram when altitude and base are given. ▪ Define trapezium and find its area when altitude and measures of the parallel sides are given. ▪ Find area of a triangle when measures of the altitude and base are given. ▪ Identify 3D figure (cube, cuboid, sphere, cylinder and cone) with respect to their faces, edges and vertices. ▪ Define and recognize units of surface area and volume. ▪ Find surface area and volume of cube and cuboid. ▪ Solve real life problems involving volume and surface area. ▪ Define data and data collection. ▪ Distinguish between grouped and ungrouped data. ▪ Draw horizontal and vertical bar graphs. ▪ Read a pie graph. |
| VII | <ul style="list-style-type: none"> ▪ Express a set in ▪ descriptive form, ▪ set builder form, ▪ tabular form. ▪ Define union, intersection and difference of two sets. ▪ Find <ul style="list-style-type: none"> ▪ union of two or more sets, ▪ intersection of two or more sets, ▪ difference of two sets. ▪ Define and identify disjoint and overlapping sets. ▪ Define a universal set and complement of a set. ▪ Verify different properties involving union of sets, intersection of sets, difference of sets and complement of a set, e.g., $A \cap A' = \phi$. ▪ Represent sets through Venn diagram. ▪ Perform operations of union, intersection, difference and complement on two sets A and B when <ul style="list-style-type: none"> ▪ A is subset of B, ▪ B is subset of A, ▪ A and B are disjoint sets, ▪ A and B are overlapping sets |

through Venn diagram.

- Define a rational number as a number that can be expressed in the form $\frac{p}{q}$, where p and q are integers and $q > 0$.
- Represent rational numbers on number line.
 - Add two or more rational numbers.
 - Subtract a rational number from another.
 - Find additive inverse of a rational number.
 - Multiply two or more rational numbers.
 - Divide a rational number by a non-zero rational number.
 - Find multiplicative inverse of a rational number.
 - Find reciprocal of a rational number.
 - Verify commutative property of rational numbers with respect to addition and multiplication.
 - Verify associative property of rational numbers with respect to addition and multiplication.
 - Verify distributive property of rational numbers with respect to multiplication over addition/ subtraction.
 - Compare two rational numbers.
 - Arrange rational numbers in ascending or descending order.

Convert decimals to rational numbers.

- Define terminating decimals as decimals having a finite number of digits after the decimal point.
- Define recurring decimals as non-terminating decimals in which a single digit or a block of digits repeats itself infinite number of times after decimal point (e.g. $\frac{2}{7} = 0.285714285714285714 \dots$).
- Use the following rule to find whether a given rational number is terminating or not.
Rule: If the denominator of a rational number in standard form has no prime factor other than 2, 5 or 2 and 5, then and only then the rational number is a terminating decimal.
- Express a given rational number as a decimal and indicate whether it is terminating or recurring.

Get an approximate value of a number, called rounding off, to a desired number of decimal places.

- Identify base, exponent and value.
- Use rational numbers to deduce laws of exponents.
 - Product Law:
when bases are same but exponents are different:
 $a^m \times a^n = a^{m+n}$,
when bases are different but exponents are same:
 $a^n \times b^n = (ab)^n$,
 - Quotient Law:
when bases are same but exponents are different:
 $a^m \div a^n = a^{m-n}$,

when bases are different but exponents are same:
 $a^n \div b^n = \left(\frac{a}{b}\right)^n$,

- Power law: $(a^m)^n = a^{mn}$,
- For zero exponent: $a^0 = 1$.
- exponent as negative integer: $a^{-m} = \frac{1}{a^m}$,
- Demonstrate the concept of power of integer that is $(a)^n$ when n is even or odd integer.
- Apply laws of exponents to evaluate expressions.
- Define a perfect square.
- Test whether a number is a perfect square or not.
- Identify and apply the following properties of perfect square of a number.
 - The square of an even number is even.
 - The square of an odd number is odd.
 - The square of a proper fraction is less than itself.
 - The square of a decimal less than 1 is smaller than the decimal.
- Define square root of a natural number and recognize its notation.
- Find square root, by division method and factorization method, of
 - natural number,
 - fraction,
 - decimal,
- which are perfect squares. Solve real life problems involving square roots.
 - Define continued ratio and recall direct and inverse proportion.
 - Solve real life problems (involving direct and inverse proportion) using unitary method and proportion method.
 - Solve real life problems related to time and work using proportion.
 - Find relation (i.e. speed) between time and distance.
 - Convert units of speed (kilometer per hour into meter per second and vice versa).
 - Solve variation related problems involving time and distance.
 - Explain property tax and general sales tax.
 - Solve tax-related problems.
 - Explain profit and markup.
 - Find the rate of profit/ markup per annum.
 - Solve real life problems involving profit/ markup.
 - Define zakat and ushr.
 - Solve problems related to zakat and ushr.
 - Define a constant as a symbol having a fixed numerical value.
 - Recall variable as a quantity which can take various numerical values.
 - Recall literal as an unknown number represented by an alphabet.
 - Recall algebraic expression as a combination of constants and variables connected by the signs of fundamental operations.
 - Define polynomial as an algebraic expression in which the powers of variables are all whole numbers.
 - Identify a monomial, a binomial and a trinomial as a polynomial having one term, two terms and three terms respectively.
- Add two or more polynomials.
- Subtract a polynomial from another polynomial.
- Find the product of
 - monomial with monomial,
 - monomial with binomial/trinomial,

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| | <ul style="list-style-type: none"> ▪ binomials with binomial/trinomial. ▪ Simplify algebraic expressions involving addition, subtraction and multiplication. <p>Recognize and verify the algebraic identities:</p> <ul style="list-style-type: none"> ▪ $(x+a)(x+b)=x^2+(a+b)x+ab$, ▪ $(a + b)^2 = (a + b) (a + b) = a^2 + 2ab + b^2$, ▪ $(a-b)^2 = (a -b)(a -b) = a^2 -2ab+b^2$, ▪ $a^2-b^2=(a-b)(a+b)$. ▪ Factorize an algebraic expression (using algebraic identities). ▪ Factorize an algebraic expression (making groups). ▪ Define a linear equation in one variable. ▪ Demonstrate different techniques to solve linear equation. ▪ Solve linear equations of the type: <ul style="list-style-type: none"> ▪ $ax + b = c$, ▪ $\frac{ax+b}{cx+d} = \frac{m}{n}$ ▪ Solve real life problems involving linear equations. <ul style="list-style-type: none"> ▪ Define adjacent, complementary and supplementary angles. ▪ Define vertically opposite angles. ▪ Calculate unknown angles involving adjacent angles, complementary angles, supplementary angles and vertically opposite angles. ▪ Calculate unknown angle of a triangle. ▪ Identify congruent and similar figures. ▪ Recognize the symbol of congruency. ▪ Apply the properties for two figures to be congruent or similar. ▪ Apply following properties for congruency between two triangles. ▪ $SSS \cong SSS$, ▪ $SAS \cong SAS$, ▪ $ASA \cong ASA$, ▪ $RHS \cong RHS$. ▪ Divide a line segment into a given number of equal segments. ▪ Divide a line segment internally in a given ratio. ▪ Construct a triangle when perimeter and ratio among the lengths of sides are given. ▪ Construct an equilateral triangle when <ul style="list-style-type: none"> ▪ base is given, ▪ altitude is given ▪ Construct an isosceles triangle when <ul style="list-style-type: none"> ▪ base and a base angle are given, ▪ vertical angle and altitude are given, ▪ altitude and a base angle are given. ▪ Construct a parallelogram when <ul style="list-style-type: none"> ▪ two adjacent sides and their included angle are given, ▪ two adjacent sides and a diagonal are given. ▪ Verify practically that the sum of <ul style="list-style-type: none"> ▪ measures of angles of a triangle is 180°. ▪ measures of angles of a quadrilateral is 360°. ▪ Express It as the ratio between the circumference and the diameter of a circle. |
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| | <ul style="list-style-type: none"> ▪ Find the circumference of a circle using formula. ▪ Find the area of a circular region using formula. ▪ Find the surface area of a cylinder using formula. ▪ Find the volume of a cylindrical region using formula. ▪ Solve real life problems involving <ul style="list-style-type: none"> ▪ circumference and area of a circle, ▪ surface area and volume of a cylinder. ▪ Demonstrate data presentation. ▪ Define frequency distribution (i.e. frequency, lower class limit, upper class limit, class interval). <p>Interpret and draw pie graph.</p> |
| VIII | <ul style="list-style-type: none"> ▪ Recognize set of <ul style="list-style-type: none"> ▪ natural numbers (N), ▪ whole numbers (W), ▪ integers (Z), ▪ rational numbers (Q), ▪ even numbers (E), ▪ odd numbers (O), ▪ prime numbers (P). ▪ Find a subset of a set. ▪ Define proper (\subset) and improper (\supseteq) subsets of a set ▪ Find power set P(A) of a set A. <ul style="list-style-type: none"> ▪ Verify commutative and associative laws with respect to union and intersection. ▪ Verify the distributive laws. ▪ State and verify De Morgan's laws. ▪ Demonstrate union and intersection of three overlapping sets through Venn diagram. ▪ Verify associative and distributive laws through Venn diagram. ▪ Define an irrational number. ▪ Recognize rational and irrational numbers. ▪ Define real numbers. ▪ Demonstrate non-terminating /non-repeating (or non-periodic) decimals. ▪ Find perfect square of a number. ▪ Establish patterns for the squares of natural numbers (e.g., $4^2 = 1+2+3+4+3+2+1$). ▪ Find square root of <ul style="list-style-type: none"> ▪ a natural number (e.g. 16, 625, 1600), ▪ a common fraction (e.g. $\frac{9}{16}, \frac{36}{49}, \frac{49}{64}$) ▪ a decimal (e.g. 0.01, 1.21, 0.64), <p>given in perfect square form, by prime factorization and division method.</p> ▪ Find square root of a number which is not a perfect square (e.g., the numbers 2,3,2.5). ▪ Use the following rule to determine the number of digits in the square root of a perfect square. Rule: Let n be the number of digits in the perfect square then its square root contains $\frac{n}{2}$ digits if n is even. $\frac{n+1}{2}$ digits if n is odd. ▪ Solve real life problems involving square roots. <ul style="list-style-type: none"> ▪ Recognize cubes and perfect cubes. ▪ Find cube roots of a number which are perfect cubes. ▪ Recognize properties of cubes of numbers. |

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| | <ul style="list-style-type: none"> ▪ Recognize base of a number system. ▪ Define number system with base 2, 5, 8 and 10. ▪ Explain <ul style="list-style-type: none"> ▪ binary number system (system with base 2), ▪ number system with base 5, ▪ octal number system (system with base 8), ▪ decimal number system (system with base 10). ▪ Convert a number from decimal system to a system with base 2, 5 and 8, and vice versa. ▪ Add, subtract and multiply numbers with base 2, 5 and 8. <p>Add, subtract and multiply numbers with different bases.</p> <ul style="list-style-type: none"> ▪ Define compound proportion. ▪ Solve real life problems involving compound proportion, partnership and inheritance. ▪ Define commercial bank deposits, types of a bank account (PLS savings bank account, current deposit account, PLS term deposit account and foreign currency account). ▪ Describe negotiable instruments like cheque, demand draft and pay order. ▪ Explain on-line banking, transactions through ATM (Auto Teller Machine), debit card and credit card (Visa and Master). ▪ Convert Pakistani currency to well-known international currencies. ▪ Calculate <ul style="list-style-type: none"> ▪ the profit/ markup, ▪ the principal amount, ▪ the profit/ markup rate, the period. ▪ Explain <ul style="list-style-type: none"> ▪ Overdraft/ markup, ▪ Running Finance (RF), ▪ Demand Finance (DF), ▪ Leasing. <p>Solve real life problems related to banking and finance.</p> <ul style="list-style-type: none"> ▪ Find percentage profit and percentage loss. ▪ Find percentage discount. <p>Solve problems involving successive transactions.</p> <ul style="list-style-type: none"> ▪ Define insurance. ▪ Solve real life problems regarding life and vehicle insurance. <ul style="list-style-type: none"> ▪ Explain income tax, exempt income and taxable income. ▪ Solve simple real life problems related to individual income tax assessee. <p>Recall constant, variable, literal and algebraic expression.</p> <ul style="list-style-type: none"> ▪ Define <ul style="list-style-type: none"> ▪ Polynomial ▪ Degree of a polynomial ▪ Coefficients of a polynomial ▪ Recognize polynomial in one, two and move variables ▪ Recognize polynomials of various degree (e.g. linear, quadratic, cubic and biquadratic polynomials) <ul style="list-style-type: none"> ▪ Add, subtract and multiply polynomials. ▪ Divide a polynomials by a linear polynomial. <p>Recall the formulas:</p> |
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- $(a+b)^2 = a^2 + 2ab + b^2$
- $(a-b)^2 = a^2 - 2ab + b^2$
- $a^2 - b^2 = (a-b)(a+b)$

and apply them to solve problems like:

- Evaluate $(1.02)^2$, $(98)^2$ and $(0.98)^2$
- Find $x^2 + \frac{1}{x^2}$ and $x^4 + \frac{1}{x^4}$ when the value of $x \pm \frac{1}{x}$ is given.

Factorize expressions of the following types:

- $ka + kb + kc$,
- $ac + ad + bc + bd$,
- $a^2 \pm 2ab + b^2$
- $a^2 - b^2$,
- $a^2 \pm 2ab + b^2 - c^2$.

Recognize the formulas:

- $(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$,
- $(a-b)^3 = a^3 - 3a^2b + 3ab^2 - b^3$,

And apply them to solve the problems like:

- Find $x^3 + \frac{1}{x^3}$ and $x^3 - \frac{1}{x^3}$ when the value of $x \pm \frac{1}{x}$ is given
- Recognize simultaneous linear equations in one and two variables.
- Give the concept of formation of linear equation in two variables.
- Know that:
 - a single linear equation in two unknowns is satisfied by as many pair of values as required.

two linear equations in two unknowns have only one solution (i.e., one pair of values).

- Solve simultaneous linear equations using
 - method of equating the coefficients,
 - method of elimination by substitution,
 - method of cross multiplication.
- Solve real life problems involving two simultaneous linear equations in two variables.
 - Eliminate a variable from two equations by:
 - Substitution,
 - application of formulae.

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For the elimination problems involving equations of motion use V_i for initial velocity and V_f for final velocity.

- Define parallel lines.
- Demonstrate through figures the following properties of parallel lines.
 - Two lines which are parallel to the same given line are parallel to each other.
 - If three parallel lines are intersected by two transversals in such a way that the two intercepts on one transversal are equal to each other, the two intercepts on the second transversal are also equal.
 - A line through the midpoint of the side of a triangle parallel to another side bisects the third side (an application of above property).
- Draw a transversal to intersect two parallel lines and demonstrate corresponding angles, alternate interior angles, vertically opposite angles and interior angles on the same side of transversal.
- Describe the following relations between the pairs of angles when a transversal intersects two parallel lines.
 - Pairs of corresponding angles are equal.

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| | <ul style="list-style-type: none"> ▪ Pairs of alternate interior angles are equal. ▪ Pair of interior angles on the same side of transversal is supplementary, and demonstrate them through figures. ▪ Define a polygon. ▪ Demonstrate the following properties of a parallelogram. <ul style="list-style-type: none"> ▪ Opposite sides of a parallelogram are equal. ▪ Opposite angles of a parallelogram are equal. ▪ Diagonals of a parallelogram bisect each other. ▪ Define regular pentagon, hexagon and octagon. <ul style="list-style-type: none"> ▪ Demonstrate a point lying in the interior and exterior of a circle. ▪ Describe the terms; sector, secant and chord of a circle, noncyclic points, tangent to a circle and concentric circles. ▪ Define and depict two converging (non-parallel) lines and find the angle between them without producing the lines. ▪ Bisect the angle between the two converging lines without producing them. ▪ Construct a square <ul style="list-style-type: none"> ▪ when its diagonal is given. ▪ when the difference between its diagonal and side is given. ▪ when the sum of its diagonal and side is given. ▪ Construct a rectangle <ul style="list-style-type: none"> ▪ when two sides are given. ▪ when the diagonal and a side are given. ▪ Construct a rhombus <ul style="list-style-type: none"> ▪ when one side and the base angle are given. ▪ when one side and a diagonal are given. ▪ Construct a parallelogram <ul style="list-style-type: none"> ▪ when two diagonals and the angle between them is given. ▪ when two adjacent sides and the angle included between them is given. ▪ Construct a kite <ul style="list-style-type: none"> ▪ when two unequal sides and a diagonal are given. ▪ Construct a regular pentagon <ul style="list-style-type: none"> ▪ when a side is given. ▪ Construct a regular hexagon <ul style="list-style-type: none"> ▪ when a side is given. <p>Construct a right angled triangle</p> <ul style="list-style-type: none"> ▪ when hypotenuse and one side are given. ▪ when hypotenuse and the vertical height from its vertex to the hypotenuse are given ▪ State the Pythagoras theorem and give its informal proof. ▪ Solve right angled triangles using Pythagoras theorem. ▪ State and apply Hero's formula to find the areas of triangular and quadrilateral regions. ▪ Find the surface area and volume of a sphere. ▪ Find the surface area and volume of a cone. ▪ Solve real life problems involving surface area and volume of sphere and cone. ▪ Define demonstrative geometry. ▪ Describe the basics of reasoning. <ul style="list-style-type: none"> ▪ Describe the types of assumptions (axioms and postulates). ▪ Describe parts of a proposition. ▪ Describe the meanings of a geometrical theorem, corollary and converse of a theorem. |
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| <p>Prove the following theorems along with corollaries and apply them to solve appropriate problems.</p> <ul style="list-style-type: none"> ▪ If a straight line stands on another straight line, the sum of measures of two angles so formed is equal to two right angles. ▪ If the sum of measures of two adjacent angles is equal to two right angles, the external arms of the angles are in a straight line. ▪ If two lines intersect each other, then the opposite vertical angles are congruent. ▪ In any correspondence of two triangles, if two sides and included angle of one triangle are congruent to the corresponding sides and included angle of the other, the two triangles are congruent. ▪ If two sides of a triangle are congruent, then the angles opposite to these sides are congruent. ▪ An exterior angle of a triangle is greater in measure than either of its opposite interior angles. ▪ If a transversal intersects two lines such that the pair of alternate angles are congruent then the lines are parallel. ▪ If a transversal intersects two parallel lines the alternate angles so formed are congruent. <p>The sum of measures of the three angles of a triangle is 180°.</p> <ul style="list-style-type: none"> ▪ Define trigonometry. ▪ Define trigonometric ratios of an acute angle. ▪ Find trigonometric ratios of acute angles (30°, 60° and 45°). ▪ Define trigonometric ratios of complementary angles. ▪ Solve right angled triangles using trigonometric ratios. ▪ Solve real life problems to find heights (avoid naming angle of elevation). <ul style="list-style-type: none"> ▪ Define frequency, frequency distribution. ▪ Construct frequency table. ▪ Construct a histogram representing frequency table ▪ Describe measures of central tendency. ▪ Calculate mean (average), weighted mean, median and mode for ungrouped data. <p>Solve real life problems involving mean (average), weighted mean, median and mode.</p> <p>Define</p> <ul style="list-style-type: none"> ▪ a matrix with real entries and relate its rectangular layout (formation) with real life, ▪ rows and columns of a matrix, ▪ the order of a matrix, ▪ equality of two matrices. <p>Define and identify row matrix, column matrix, rectangular matrix, square matrix, zero/null matrix, identity matrix, scalar matrix, diagonal matrix, transpose of a matrix, symmetric and skew-symmetric matrices.</p> <ul style="list-style-type: none"> ▪ Know whether the given matrices are conformable for addition/subtraction. ▪ Add and subtract matrices. ▪ Multiply a matrix by a real number. ▪ Verify commutative and associative laws under addition. ▪ Define additive identity of a matrix. ▪ Find additive inverse of a matrix |
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- Know whether the given matrices are conformable for multiplication.
- Multiply two (or three) matrices.
- Verify associative law under multiplication.
- Verify distributive laws.
- Show with the help of an example that commutative law under multiplication does not hold in general (i.e. $AB \neq BA$).
- Define multiplicative identity of a matrix.
- Verify the result $(AB)^{-1} = B^{-1}A^{-1}$.
- Define the determinant of a square matrix.
- Evaluate determinant of a matrix.
- Define singular and non-singular matrices.
- Define ad joint of a matrix.
- Find multiplicative inverse of a non-singular matrix A and verify that $AA^{-1} = I = A^{-1}A$ where I is the identity matrix.
- Use ad joint method to calculate inverse of a non-singular matrix.

Verify the result $(AB)^{-1} = B^{-1}A^{-1}$

Solve a system of two linear equations and related real life problems in two unknowns using

- Matrix inversion method,
- Cramer's rule.
- Recall the set of real numbers as a union of sets of rational and irrational numbers.
- Depict real numbers on the number line.
- Demonstrate a number with terminating and non-terminating recurring decimals on the number line.
- Give decimal representation of rational and irrational numbers.

Know the properties of real numbers

- Explain the concept of radicals and radicands.
- Differentiate between radical form and exponential form of an expression.
- Transform an expression given in radical form to an exponential form and vice versa.
 - Recall base, exponent and value.
 - Apply the laws of exponents to simplify expressions with real exponents.
 - Define complex number z represented by an expression of the form $z = a + ib$, where a and b are real numbers and $i = \sqrt{-1}$.
 - Recognize a as real part and b as imaginary part of $z = a + ib$.
 - Define conjugate of a complex number.
 - Know the condition for equality of complex numbers

Carryout basic operations (i.e. addition, subtraction, multiplication and division) on complex numbers.

Express a number in standard form of scientific notation and vice versa.

- Define logarithm of a number to the base a as the power to which a must be raised to give the number (i.e. $a^x = y \Leftrightarrow \log_a y = x$, $a > 0$, $y > 0$ and $a \neq 1$).
- Define a common logarithm, characteristic and mantissa of log of a number.
- Use tables to find the log of a number.
- Give concept of antilog and use tables to find the antilog of a number.

Differentiate between common and natural logarithm.

Prove the following laws of logarithm.

- $\log_a (mn) = \log_a m + \log_a n$,

- $\log_a \left(\frac{m}{n}\right) = \log_a m - \log_a n,$

- $\log_a m^n = n \log_a m,$

$\log_a m \log_m n = \log_a n.$

Apply laws of logarithm to convert lengthy processes of multiplication, division and exponentiation into easier processes of addition and subtraction etc.

- Know that a rational expression behaves like a rational number.
- Define a rational expression as the quotient $\frac{p(x)}{q(x)}$ of two polynomials $p(x)$ and $q(x)$ where $q(x)$ is not the zero polynomial.
- Examine whether a given algebraic expression is a
 - polynomial or not,
 - rational expression or not.
- Define $\frac{p(x)}{q(x)}$ as a rational expression in its lowest terms if $p(x)$ and $q(x)$ are polynomials with integral coefficients and having no common factor.
- Examine whether a given rational algebraic expression is in lowest form or not.
- Reduce a given rational expression to its lowest terms.
- Find the sum, difference and product of rational expressions.
- Divide a rational expression with another and express the result in its lowest terms.
- Find value of algebraic expression at some particular real number.
- Know the formulas
 - $(a + b)^2 + (a - b)^2 = 2(a^2 + b^2),$
 - $(a+b)^2 - (a-b)^2 = 4ab.$
- Find the value of $a^2 + b^2$ and of ab when the values of $a + b$ and $a - b$ are known.
- Know the formula
 - $(a + b + c)^2 = a^2 + b^2 + c^2 + 2ab + 2bc + 2ca.$
- Find the value of $a^2 + b^2 + c^2$ when the values of $a + b + c$ and $ab + bc + ca$ are given.
- Find the value of $a + b + c$ when the values of $a^2 + b^2 + c^2$ and $ab + bc + ca$ are given.
- Find the value of $ab + bc + ca$ when the values of $a^2 + b^2 + c^2$ and $a + b + c$ are given.
- Know the formulas
 - $(a + b)^3 = a^3 + 3ab(a + b) + b^3,$
 - $(a - b)^3 = a^3 - 3ab(a - b) - b^3.$
- Find the value of $a^3 \pm b^3$ when the values of $a \pm b$ and ab are given.
- Find the value of $x^3 \pm \frac{1}{x^3}$ when the value of $x \pm \frac{1}{x}$ is given.
- Know the formula
 - $a^3 \pm b^3 = (a \pm b)(a^2 \mp ab + b^2).$
- Find the product of $x + \frac{1}{x}$ and $x^2 + \frac{1}{x^2} - 1$
- Find the product of $x - \frac{1}{x}$ and $x^2 + \frac{1}{x^2} + 1$
- Find the continued product of

$$(x+y)(x-y)(x^2+xy+y^2)(x^2-xy+y^2).$$

- i) Recognize the surds and their application.
- ii) Explain the surds of second order. Use basic operations on surds of second order to rationalize the denominators and evaluate it.
- iii) Explain rationalization (with precise meaning) of real numbers of the types $\frac{1}{a+b\sqrt{x}}$, $\frac{1}{\sqrt{x+\sqrt{y}}}$ and their combinations where x and y are natural numbers and a and b are integers

Recall factorization of expressions of the following types.

- $ka+kb+bc$,
- $ac+ad+bc+bd$,
- $a^2\pm 2ab+b^2$,
- a^2-b^2 ,
- $a^2\pm 2ab+b^2-c^2$,

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Include an exercise covering all above types of factorization.

Factorize the expressions of the following types:

Type I: $a^4 + a^2b^2 + b^4$ or $a^4 + 4b^4$,

Type II: $x^2 + px + q$,

Type III: $ax^2 + bx + c$,

Type IV: $\begin{cases} (ax^2 + bx + c)(ax^2 + bx + d) + k, \\ (x+a)(x+b)(x+c)(x+d) + k, \\ (x+a)(x+b)(x+c)(x+d) + kx^2 \end{cases}$

Type V: $\begin{cases} a^3 + 3a^2b + 3ab^2 + b^3, \\ a^3 - 3a^2b + 3ab^2 - b^3, \end{cases}$

Type VI: $a^3\pm b^3$

- State and prove Remainder theorem and explain through examples.
- Find remainder (without dividing) when a polynomial is divided by a linear polynomial.
- Define zeros of a polynomial.
- State and prove factor theorem.

Use factor theorem to factorize a cubic polynomial

- Find highest common factor and least common multiple of algebraic expressions.
- Use factor or division method to determine highest common factor and least common multiple.
- Know the relationship between HCF and LCM.
- Solve real life problems related to HCF and LCM.

Use highest common factor and least common multiple to reduce fractional expressions involving +, -, ×, ÷.

Find square root of algebraic expression by Factorization and division.

- Recall linear equation in one variable.
 - Solve linear equation with rational coefficients.
 - Reduce equations, involving radicals, to simple linear form and find their solutions
 - Define absolute value.
 - Solve the equation, involving absolute value, in one variable.
 - Define inequalities ($>$, $<$) and (\geq , \leq).
 - Recognize properties of inequalities (i.e. trichotomy, transitive, additive and multiplicative).
- Solve linear inequalities with rational coefficients.
- Define quadratic equation.
- Solve a quadratic equation in one variable by
- factorization,
 - completing square .
 - Use method of completing square to derive quadratic formula.
 - Use quadratic formula to solve quadratic equations.
 - Solve equations, reducible to quadratic form, of the type $ax^4 + bx^2 + C = 0$.
 - Solve the equations of the type $a p(x) + \frac{b}{p(x)} = c$.
 - Solve reciprocal equations of the type $a \left(x^2 + \frac{1}{x^2} \right) + b \left(x + \frac{1}{x} \right) + c = 0$.
 - Solve exponential equations in which the variables occur in exponents.
 - Solve equations of the type $(x + a)(x + b)(x + c)(x + d) = k$ where $a + b = c + d$
- Solve equations of the type:
- $\sqrt{ax + b} = cx + d$.
 - $\sqrt{x + a} + \sqrt{x + b} = \sqrt{x + c}$,
 - $\sqrt{x^2 + px + m} + \sqrt{x^2 + px + n} = q$
 - Define discriminant ($b^2 - 4ac$) of the quadratic $ax^2 + bx + c$
 - Find discriminant of a given quadratic equation.
- Discuss the nature of roots of a quadratic equation through discriminant.
 - Determine the nature of roots of a given quadratic equation and verify the result by solving the equation.
 - Determine the value of an unknown involved in a given quadratic equation when the nature of its roots is given.
 - Find cube roots of unity.
 - Recognize complex cube roots of unity as ω and ω^2
 - Prove the properties of cube roots of unity.
 - Use properties of cube roots of unity to solve appropriate problems.
 - Find the relation between the roots and the coefficients of a quadratic equation.
 - Find the sum and product of roots of a given quadratic equation without solving it.
 - Find the value(s) of unknown(s) involved in a given quadratic equation when
 - sum of roots is equal to a multiple of the product of roots,
 - sum of the squares of roots is equal to a given number,
 - roots differ by a given number,
 - roots satisfy a given relation (e.g. the relation $2a + 5\beta = 7$ where a and β are the roots of given equation),

- both sum and product of roots are equal to a given number.
 - Define symmetric functions of roots of a quadratic equation.
 - Evaluate a symmetric function of the roots of a quadratic equation in terms of its coefficients.
 - Establish the formula, $x^2 - (\text{Sum of roots})x + (\text{Product of roots}) = 0$, to find a quadratic equation from the given roots.
 - Form the quadratic equation whose roots, for
 - Example, are of the type:
 - $2\alpha + 1, 2\beta + 1$
 - α^2, β^2
 - $\frac{1}{\alpha}, \frac{1}{\beta}$,
 - $\frac{\alpha}{\beta}, \frac{\beta}{\alpha}$
 - $\alpha + \beta, \frac{1}{\alpha} + \frac{1}{\beta}$

Where α, β are the roots of a given quadratic equation.
 - Describe the method of synthetic division.
 - Use synthetic division to
 - find quotient and remainder when a given polynomial is divided by a linear polynomial,
 - find the value(s) of unknown(s) if the zeros of a polynomial are given,
 - find the value(s) of unknown(s) if the factors of a polynomial are given,
 - solve a cubic equation if one root of the equation is given,
 - solve a biquadratic (quartic) equation if two of the real roots of the equation are given.
 - Solve a system of two equations in two variables when
 - one equation is linear and the other is quadratic,
 - both the equations are quadratic.
 - Solve the real life problems leading to quadratic equations
 - Define ratio, proportions and variations (direct and inverse).
 - Find 3rd, 4th mean and continued proportion.
 - Apply theorems of invertendo, altendo, componendo, dividendo and componendo & dividendo to find proportions
 - Define joint variation.
 - Solve problems related to joint variation.
 - Use K-Method to prove conditional equalities involving proportions.
 - Solve real life problems based on variations.
- Define proper, improper and rational fractions
- Resolve an algebraic fraction into partial fractions when its denominator consists of
- non-repeated linear factors,
 - repeated linear factors,
 - non-repeated quadratic factors,
 - repeated quadratic factors
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In the denominator for

- non-repeated linear case take only two factors,
- repeated linear case take only two factors like $(x+a)^2(x+b)$,
- non-repeated quadratic case take only two factors like $(x+a)(x^2 + b)$,
- repeated quadratic case take only two factors like $(x+a)(x^2 + b)^2$
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Caution: Power of any factor should not exceed 2.

- Recall the sets denoted by N, Z, W, E, O, P and Q.
- Recognize operation on sets (\cup, \cap, \dots)
- Perform operation on sets
 - union,
 - intersection,
 - difference,
 - complement.
- Give formal proofs of the following fundamental properties of union and intersection of two or three sets.
 - Commutative property of union,
 - Commutative property of intersection,
 - Associative property of union,
 - Associative property of intersection,
 - Distributive property of union over intersection,
 - Distributive property of intersection over union,
 - De Morgan's laws.
- Verify the fundamental properties for given sets.
- Use Venn diagram to represent
 - union and intersection of sets,
 - complement of a set.
- Use Venn diagram to verify
 - commutative law for union and intersection of sets,
 - De Morgan's laws,
 - associative laws,
 - distributive laws.

Recognize ordered pairs and Cartesian product.

Define binary relation and identify its domain and range.

- Define function and identify its domain, co-domain and range.
 - Demonstrate the following:
 - into function,
 - one-one function,
 - into and one-one function (injective function),
 - onto function (surjective function),
 - one-one and onto function (bijective function).
 - Examine whether a given relation is a function or not.
 - Differentiate between one-one correspondence and one-one function.
 - Include sufficient exercises to clarify/differentiate between the above concepts.
 - Construct grouped frequency table.
 - Construct histograms with equal and unequal class intervals.
 - Construct a frequency polygon.
 - Construct a cumulative frequency table.
- Draw a cumulative frequency polygon.

- Calculate (for ungrouped and grouped data):
 - arithmetic mean by definition and using deviations from assumed mean,
 - median, mode, geometric mean, harmonic mean.
- Recognize properties of arithmetic mean.
- Calculate weighted mean and moving averages.
- Estimate median, quartiles and mode graphically.

Measure range, variance and standard deviation.

- Identify pair of real numbers as an ordered pair.
- Recognize an ordered pair through different examples; for instance an ordered pair (2,3) to represent a seat, located in an examination hall, at the 2nd row and 3rd column.
- Describe rectangular or Cartesian plane consisting of two number lines intersecting at right angles at the point O.
- Identify origin (0) and coordinate axes (horizontal and vertical axes or x-axis and y-axis) in the rectangular plane.
- Locate an ordered pair (a, b) as a point III the rectangular plane and recognize:
 - a as the x -coordinate (or abscissa),
 - b as the y -coordinate (or ordinate).
- Draw different geometrical shapes (e.g., line segment, triangle and rectangle etc.) by joining a set of given points.
- Construct a table for pairs of values satisfying a linear equation in two variables.
- Plot the pairs of points to obtain the graph of a given expression.
- Choose an appropriate scale to draw a graph.
- Draw the graph of
 - an equation of the form $y = c$.
 - an equation of the form $x = a$.
 - an equation of the form $y = mx$.
 - an equation of the form $y = mx + c$.
- Draw a graph from a given table of (discrete) values.
- Solve appropriate real life problems.
- Interpret conversion graph as a linear graph relating to two quantities which are in direct proportion.
- Read a given graph to know one quantity corresponding to another.
- Read the graph for conversions of the form:
 - miles and kilometers,
 - acres and hectares,
 - degrees Celsius and degrees Fahrenheit,
 - Pakistani currency and another currency, etc.

Solve simultaneous linear equations in two variables using graphical method.

- Define coordinate geometry.
- Derive distance formula to calculate distance between two points given in Cartesian plane.
- Use distance formula to find distance between two given points.
- Define collinear points. Distinguish between collinear and non-collinear points.
- Use distance formula to show that given three (or more) points are collinear.
- Use distance formula to show that the given three non-collinear points form:
 - an equilateral triangle,

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| | <ul style="list-style-type: none"> ▪ an isosceles triangle, ▪ a right angled triangle, ▪ a scalene triangle. ▪ Use distance formula to show that given four non- collinear points form: <ul style="list-style-type: none"> ▪ a square, ▪ a rectangle, ▪ a parallelogram. ▪ Recognize the formula to find the midpoint of the line joining two given points. ▪ Apply distance and mid point formulae to solve/verify different standard results related to geometry. ▪ Measure an angle in sexagesimal system (degree, minute and second). ▪ Convert an angle given in $D^{\circ} M' S''$ form into a decimal form and vice versa. ▪ Define a radian (measure of an angle in circular system) and prove the relationship between radians and degrees. ▪ Establish the rule $l = r\theta$, where r is the radius of the circle, l the length of circular arc and θ the central angle measured in radians. ▪ Prove that the area of a sector of a circle is $\frac{1}{2} r^2\theta$. ▪ Define and identify: <ul style="list-style-type: none"> ▪ general angle (co terminal angles), ▪ angle in standard position. ▪ Recognize quadrants and quadrantal angles. ▪ Define trigonometric ratios and their reciprocals with the help of a unit circle. ▪ Recall the values of trigonometric ratios for $45^{\circ}, 30^{\circ}, 60^{\circ}$. ▪ Recognize signs of trigonometric ratios in different quadrants. ▪ Find the values of remaining trigonometric ratios if one trigonometric ratio is given. ▪ Calculate the values of trigonometric ratios for $0^{\circ}, 90^{\circ}, 180^{\circ}, 270^{\circ}, 360^{\circ}$. <p>Prove the trigonometric identities and apply them to show different trigonometric relations</p> <ul style="list-style-type: none"> ▪ Find angle of elevation and depression. ▪ Solve real life problems involving angle of elevation and depression. <p>Prove the following theorems along with corollaries and apply them to solve appropriate problems.</p> <ul style="list-style-type: none"> ▪ In any correspondence of two triangles, if one side and any two angles of one triangle are congruent to the corresponding side and angles of the other, the two triangles are congruent. ▪ If two angles of a triangle are congruent then the sides opposite to them are also congruent. ▪ In a correspondence of two triangles, if three sides of one triangle are congruent to the corresponding three sides of the other, the two triangles are congruent. ▪ If in the correspondence of two right-angled triangles, the hypotenuse and one side of one are congruent to the hypotenuse and the corresponding side of the other, then the triangles are congruent. ▪ Prove the following theorems along with corollaries and apply them to solve appropriate problems. ▪ In a parallelogram: <ul style="list-style-type: none"> ▪ the opposite sides are congruent, ▪ the opposite angles are congruent, ▪ the diagonals bisect each other. |
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- If two opposite sides of a quadrilateral are congruent and parallel, it is a parallelogram.
- The line segment, joining the midpoints of two sides of a triangle, is parallel to the third side and is equal to one half of its length.
- The medians of a triangle are concurrent and their point of concurrency is the point of trisection of each median.
- If three or more parallel lines make congruent intercepts on a transversal they also intercept congruent segments on any other line that cuts them.

Prove the following theorems along with corollaries and apply them to solve appropriate problems.

- Any point on the right bisector of a line segment is equidistant from its end points.
- Any point equidistant from the points of a line segment is on the right bisector of it.
- The right bisectors of the sides of a triangle are concurrent.
- Any point on the bisector of an angle is equidistant from its arms.
- Any point inside an angle, equidistant from its arms, is on the bisector of it.
- The bisectors of the angles of a triangle are concurrent.

Prove the following theorems along with corollaries and apply them to solve appropriate problems.

- If two sides of a triangle are unequal in length, the longer side has an angle of greater measure opposite to it.
- If two angles of a triangle are unequal in measure, the side opposite to the greater angle is longer than the side opposite to the smaller angle.
- The sum of the lengths of any two sides of a triangle is greater than the length of the third side.
- From a point, out-side a line, the perpendicular is the shortest distance from the point to the line.

Prove the following theorems along with corollaries and apply them to solve appropriate problems.

- A line parallel to one side of a triangle, intersecting the other two sides, divides them proportionally.
- If a line segment intersects the two sides of a triangle in the same ratio then it is parallel to the third side.
- The internal bisector of an angle of a triangle divides the side opposite to it in the ratio of the lengths of the sides containing the angle.
- If two triangles are similar, the measures of their corresponding sides are proportional.

Prove the following theorems along with corollaries and apply them to solve appropriate problems.

- In a right-angled triangle, the square of the length of hypotenuse is equal to the sum of the squares of the lengths of the other two sides. (Pythagoras' theorem).
- If the square of one side of a triangle is equal to the sum of the squares of the other two sides then the triangle is a right angled triangle (converse to Pythagoras' theorem).

Prove the following theorems along with corollaries and apply them to solve appropriate problems.

- Parallelograms on the same base and lying between the same parallel lines (or of the same altitude) are equal in area.

- Parallelograms on equal bases and having the same altitude are equal in area.
- Triangles on the same base and of the same altitude are equal in area.
- Triangles on equal bases and of the same altitude are equal in area.

Prove the following theorems along with corollaries and apply them to solve appropriate problems.

- In an obtuse-angled triangle, the square on the side opposite to the obtuse angle is equal to the sum of the squares on the sides containing the obtuse angle together with twice the rectangle contained by one of the sides, and the projection on it of the other.
- In any triangle, the square on the side opposite to an acute angle is equal to the sum of the squares on the sides containing that acute angle diminished by twice the rectangle contained by one of those sides and the projection on it of the other.
- In any triangle, the sum of the squares on any two sides is equal to twice the square on half the third side together with twice the square on the median which bisects the third side (Apollonius' Theorem).

Prove the following theorems along with corollaries and apply them to solve appropriate problems.

- One and only one circle can pass through three non- collinear points.
- A straight line, drawn from the centre of a circle to bisect a chord (which is not a diameter) is perpendicular to the chord.
- Perpendicular from the centre of a circle on a chord bisects it.
- If two chords of a circle are congruent then they will be equidistant from the centre.
- Two chords of a circle which are equidistant from the centre are congruent.

Prove the following theorems along with corollaries and apply them to solve appropriate problems.

- If a line is drawn perpendicular to a radial segment of a circle at its outer end point, it is tangent to the circle at that point.
- The tangent to a circle and the radial segment joining the point of contact and the centre are perpendicular to each other.
- The two tangents drawn to a circle from a point outside it, are equal in length.
- If two circles touch externally or internally, the distance between their centres is respectively equal to the sum or difference of their radii.

Prove the following theorems along with corollaries and apply them to solve appropriate problems.

- If two arcs of a circle (or of congruent circles) are congruent then the corresponding chords are equal.
- If two chords of a circle (or of congruent circles) are equal, then their corresponding arcs (minor, major or semi-circular) are congruent.
- Equal chords of a circle (or of congruent circles) subtend equal angles at the centre (at the corresponding centres).

If the angles subtended by two chords of a circle (or congruent circles) at the centre (corresponding centres) are equal, the chords are equal.

Prove the following theorems along with corollaries and apply them to solve appropriate problems.

- The measure of a central angle of a minor arc of a circle, is double that of the angle subtended by the corresponding major arc.
- Any two angles in the same segment of a circle are equal.
- The angle
 - in a semi-circle is a right angle,
 - in a segment greater than a semi circle is less than a right angle,
 - in a segment less than a semi-circle is greater than a right angle.

- The opposite angles of any quadrilateral inscribed in a circle are supplementary.
- Construct a triangle having given:
 - two sides and the included angle,
 - one side and two of the angles,
 - two of its sides and the angle opposite to one of them (with all the three possibilities).
- Draw:
 - angle bisectors,
 - altitudes,
 - perpendicular bisectors,
 - medians,
 of a given triangle and verify their concurrency.
- Construct a triangle equal in area to a given quadrilateral.
- Construct a rectangle equal in area to a given triangle.
- Construct a square equal in area to a given rectangle.
- Construct a triangle of equivalent area on a base of given length.
- Locate the centre of a given circle.
- Draw a circle passing through three given non-collinear points.
- Complete the circle:
 - by finding the centre,
 - without finding the centre,
 when a part of its circumference is given.
- Circumscribe a circle about a given triangle.
- Inscribe a circle in a given triangle.
- Escribe a circle to a given triangle.
- Circumscribe an equilateral triangle about a given circle.
- Inscribe an equilateral triangle in a given circle.
- Circumscribe a square about a given circle.
- Inscribe a square in a given circle.
- Circumscribe a regular hexagon about a given circle.
- Inscribe a regular hexagon in a given circle.
- Draw a tangent to a given arc, without using the centre, through a given point P when P is
 - the middle point of the arc,
 - at the end of the arc,
 - outside the arc.
- Draw a tangent to a given circle from a point P when P lies
 - on the circumference,
 - outside the circle.
- Draw two tangents to a circle meeting each other at a given angle.
- Draw
 - direct common tangent or external tangent,
 - transverse common tangent or internal tangent to two equal circles.
- Draw
 - direct common tangent or external tangent,
 - transverse common tangent or internal tangent to two unequal circles.
- Draw a tangent to
 - two unequal touching circles,
 - two unequal intersecting circles.
- Draw a circle which touches
 - both the arms of a given angle,
 - two converging lines and passes through a given point between them,
 - three converging lines.

SUBJECT: ETHICS

AIMS & OBJECTIVES

The specific aims and objectives devising the progressive, liberal and constructive curriculum of "Ethics" are as follows:

- 1) Build character of the students to enable them to play a vital and positive role in the society.
- 2) Provide students with pure teachings and social skills to bring about a change in their thought and behavior towards fellow human beings.
- 3) Understand the primacy of religious teachings and their value in social life.
- 4) Translate human values into practice, through "role-models". (Therefore, various remarkable and outstanding personalities are included in the curriculum.)
- 5) Develop etiquettes and mannerism in students
- 6) Create and develop students as the responsible members of the society. (For achieving this authentic and relevant material from sacred books of different religions will be included in syllabi. This will enable students to not only enjoy their rights but also discharge their duties and responsibilities in the best possible manner.)
- 7) Practice and promote socialization among members of all faiths.(For achieving this, some festivals have been included from different religions.)

STUDENTS LEARNING OUTCOMES (SLOs)

Grade – VI

Unit – I

Introduction to Religions:

- Contribution of religions towards human development
 - Development of good character and values
 - Seeking knowledge (Quotations from Holy books)

Unit – II

Sikhism:

- Introduction
- Development
- Eleven Great Gurus
- Baba Guru Nanak Dev Ji and his teachings
- Guru Granth Sahib
- Importance of Sikhism in developing religious harmony in subcontinent

Unit – III

Religious festivals in Pakistan:

- Eid al -Fitr
- Christmas
- Birthday of Baba Guru Nanak Dev Ji

Unit – IV

Ethical Values:

Family Ethics:

- Role of child in family life
- Helping family members in their daily chores
- Giving equal status to male and female family members (education, food, recreation & health)
- Respect for service providers at home

Respect for Rules:

- Importance of rules
- Importance of time in individual's life
- Rules at home

- Rules at school
- Rules in the neighbourhood (a comprehensive note on these four topics)
- Traffic rules (in detail)

Etiquettes

Eating habits:

- Acceptance of all kinds of food that are allowed
- Sharing food
- Avoiding wastage of food
- Washing hands before and after eating
- Eating with mouth closed and masticating / chewing properly
- Not talking while food in mouth

Personalities:

Mary, the mother of Jesus Christ

- Importance in both Islam and Christianity
- Chastity

Asoka

- Life
- Contribution
- Law

St. Thomas Aquinas

- Life
- Contribution towards Philosophy and Theology

Grade – VII

Unit – I

Introduction to Religions:

- Contribution of religions to human development
 - Arts, Literature (Mystic poetry), Architecture

Unit – II

Zoroastrianism:

- Introduction
- Development
- Basic concepts
 - Yazdan
 - Ahirman
- Holy Books
 - Avesta
 - a- Gathas (Selection)
 - b- Viderdat or Vendidad (Selection)
 - c- Hadhoxt Nask (Selection)

Unit – III

Religious festivals in Pakistan:

- Eid al -Adha
- Easter
- Holi
- Nauroz

Unit – IV

Ethical Values:

- Role of punctuality in “nation building”.

Sharing of Blessings:

- Importance of sharing
- Sharing at home (food, toys, space, belongings)
- Sharing at school (belongings, space, stationery)
- Sharing in the society (neighbours, friends, destitutes & needy)

Honesty:

- Importance of honesty
- Honesty at home
- Honesty at school
- Honesty in social life

Truthfulness:

- Importance of telling the truth
- Taking responsibility for one's own actions
- Avoiding slandering and accusation

Etiquettes

Communication:

- Verbal
- Gestures and actions
- Telecommunication

Personalities:

Hazrat Rabia Basri

- Life
- Character

Zarathushtra

- Life
- Teachings

St. Thomas, The Apostle

- Life
- Character
- Contribution

Grade – VIII

Unit – I

Introduction to Religions:

Contribution of religions in human development

- Social welfare (taking care of parentless, physical and psychological patients, needy, special people, poor)
- Character building
 - Being a good human
 - Respect for fellow human beings
 - Human beings' role as member of global community

Unit – II

World Religions:

- Confucianism
 - Brief introduction
 - Confucius
 - Books
 - Basic ideas
 - Tao
 - Jen
 - I
- Taoism
 - Brief introduction
 - Laotzu
 - Books
 - Basic teachings

Unit – III

Religious festivals in Pakistan:

- Lord Krishna's Birthday (Janam Ashtam)
- Baisakhi as a religious festival

Unit – IV

Ethical Values:

Patriotism:

- Love and loyalty to the country and nation
- Duties and responsibilities as a citizen
- Importance of national unity

Respect for Law:

- Importance of law and constitution
- Fundamental rights as guaranteed in the Constitution of Pakistan
- Respect for and obedience to law
- Importance of time and punctuality in social life

Etiquettes:

- Manners of socializing
- Greeting and cheering
- Respecting elders
- Manners of participation
- Visiting a patient

Unit – V

Personalities:

Mira Bai

- Life and contribution

St. Augustine

- Life
- Contribution

Ibn Miskawayh

- Life
- Kitab Tahadhib -al- Akhlaq

Abraham Lincoln

- Life
- Contribution