

NATIONAL CURRICULUM 2006

GRADE VIII

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National Curriculum for

COMPUTER EDUCATION

Grade- VIII

2006

GOVERNMENT OF PAKISTAN
MINISTRY OF EDUCATION
ISLAMABAD

TOPIC No. 1: NETWORKS AND COMMUNICATIONS		Bloom's Category		
SLO No.	SLOs	K	U	A
1.1	Define a computer network.	✓		
1.2	Know that <ul style="list-style-type: none"> • A sending device • A receiving device • A communication device • A transmission medium Are required for communication to take place	✓		
1.3	Define a client and a server	✓		
1.4	Explain the types of computer networks <ul style="list-style-type: none"> • LAN • WAN • MAN 		✓	
1.5	Describe communication devices <ul style="list-style-type: none"> • Dialup modem • Network card 		✓	
SLO No.	SLOs	K	U	A

1.6	Know the types of physical transmission media: <ul style="list-style-type: none"> • Twisted-pair cable • Coaxial cable 	✓		
1.7	Explain the following in the simplest possible terms (preferable with diagrams) <ul style="list-style-type: none"> • Cellular communications • Satellite communications • Global Positioning System • Bluetooth 		✓	

TOPIC No. 2 : COMPUTER SECURITY THREATS		Bloom's Category		
SLO No.	SLOs	K	U	A
2.1	Define <ul style="list-style-type: none"> • Virus • Worms • Adware • Hacker 	✓		
2.2	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 	✓		
SLO No.	SLOs	K	U	A

2.3	Define <ul style="list-style-type: none"> • Antivirus • Virus definitions / updates 	✓		
2.4	Know the following widely used antivirus software. <ul style="list-style-type: none"> • Symantec • McAfee • AVG 	✓		
2.5	Scan a computer for viruses			✓

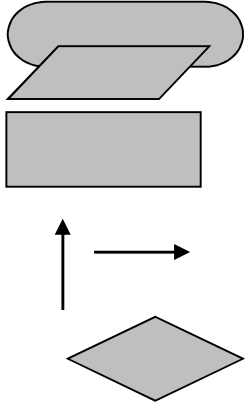
TOPIC No.3 : SPREADSHEETS IN EXCEL		Bloom's Category		
SLO No.	SLOs	K	U	A
3.1	Define spreadsheet	✓		
3.2	Know the purpose of spreadsheet	✓		
3.3	Recognize spreadsheet software- Excel.	✓		
3.4	Explain workbook with Excel application window		✓	
SLO No.	SLOs	K	U	A

3.5	Get familiar with Excel application window: <ul style="list-style-type: none"> • Title bar • Menu bar • Standard toolbar • Formula bar • Document (worksheet) window • Sheet Tabs 	✓		
3.6	Identify <ul style="list-style-type: none"> • Columns • Rows • Cells • Cell address 	✓		
3.7	Manipulate data (numeric and non-numeric) into a cell/ range of cells by <ul style="list-style-type: none"> • Entering data • Editing data • Auto filling data 			✓
3.8	Enter a formula			✓
SLO No.	SLOs	K	U	A

3.9	Insert functions: <ul style="list-style-type: none"> • SUM • PRODUCT • AVERAGE • POWER • SQRT • MAX • MIN 			✓
3.10	Create a spreadsheet such as monthly report of expenses, students result sheet and salary report etc.			✓
3.11	Save a spreadsheet.			✓
3.12	Select a cell/range of cells to <ul style="list-style-type: none"> • Cut/copy • Paste • Format text Font Font Size Font style Font colour Alignment			✓
3.13	Apply borders and shading to a cell/ range of cells			✓
SLO No.	SLOs	K	U	A

3.14	Insert new rows/ columns.			✓
3.15	Use chart wizard to insert a <ul style="list-style-type: none"> • Column chart • Line chart • Pie chart into a worksheet.			✓

TOPIC No.4 : PROBLEM SOLVING		Bloom's Category		
SLO No.	SLOs	K	U	A
4.1	Make a clear statement of the problem.	✓		
4.2	Extract the following form the problem statement. <ul style="list-style-type: none"> • What is given – the Input • What is required – the Output • The processing requirements 		✓	
4.3	Define a flowchart	✓		
SLO No.	SLOs	K	U	A

4.4	<p>Identify the standard flowchart symbols:</p> <p>Start / Terminal Symbol</p> <p>Input/ output Symbol</p> <p>Processing symbol</p> <p>Flow lines</p> <p>Decision symbol</p>		✓	
4.5	<p>Draw a flowchart to solve problem, like;</p> <ul style="list-style-type: none"> • To make tea • To make an omelet • To find the sum and average of five given numbers • 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. 			✓

TOPIC No.5 :	COMPUTER PROGRAMING	Bloom's Category
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SLO No.	SLOs	K	U	A
5.1	Define the following terms <ul style="list-style-type: none"> • Program • Programming language 	✓		
5.2	Differentiate between: <ul style="list-style-type: none"> • Constant and variable • Syntax and logical error 		✓	
5.3	Recognize an arithmetic expression.	✓		
5.4	Know <ul style="list-style-type: none"> • Arithmetic operators +, -, *, /, ^, and their order of precedence • Assignment operator “ = ” • Relational operators <>, <=, >=, <, > 			✓
5.5	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 			✓
5.6	Assign a variable to an arithmetic expression.			✓
SLO No.	SLOs	K	U	A

5.7	Write a program to solve a problem, like: <ul style="list-style-type: none">• To find the sum and average of five given numbers• 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.			✓
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National Curriculum for
ENGLISH LANGUAGE

Grade- VIII
2006

GOVERNMENT OF PAKISTAN
MINISTRY OF EDUCATION
ISLAMABAD

TOPIC No. 1 : READING AND THINKING SKILLS		Bloom's Category		
SLO No.	SLOs	K	U	A
1.1	Analyze a paragraph to <ul style="list-style-type: none"> • Identify a topic Sentence. • Identify Sentences carrying supporting details. 			✓
1.2	Recognize that text comprises a group of paragraphs that develop a single theme or idea.	✓		
1.3	Analyze features of an effective topic sentence such as <ul style="list-style-type: none"> • Specific words • Vivid verbs • Modifiers 			✓
1.4	Analyze Paragraphs to identify sentences that support the main idea through <ul style="list-style-type: none"> • Definition • Example • Illustration • Evidence • Cause and effect 			✓
1.5	Recognize the functions of <ul style="list-style-type: none"> • Pronoun – antecedent relationships. • Anaphoric and cataphoric references • Transitional devices used for coherence and cohesion at discourse level 	✓		

SLO No.	SLOs	K	U	A
1.6	Analyze the order of arranging paragraphs: <ul style="list-style-type: none"> • Chronological or spatial. • General to specific, specific to general • Most important to least important and vice versa. 			✓
1.7	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. 			✓
1.8	Skim text to <ul style="list-style-type: none"> • Have a general idea of the text • Infer theme/ main idea. 		✓	
1.9	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 to 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. 			✓

	<ul style="list-style-type: none"> • Comprehend/ interpret text by applying critical thinking. • Generate questions to understand text. 			
SLO No.	SLOs	K	U	A
1.10	Use summary skills to <ul style="list-style-type: none"> • Extract salient points and develop a mind map to summarize a text. • Transfer the written text to a diagram flow chart or cloze paragraph 			✓
1.11	Use critical thinking to respond to the text (post-reading) : <ul style="list-style-type: none"> • Apply word 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. 			✓
1.12	Apply strategies to comprehend questions by marking key words, verbs and tenses in a variety of question types: <ul style="list-style-type: none"> • Literal / textual/ factual • Interpretive • Inferential • Evaluative • Personal response • Open ended 			✓
1.13	Respond orally or in writing.			✓
1.14	Interpret ideas, vocabulary and structures given in a mind map to compare events using connectors of sequence and comparison.			✓
1.15	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.			✓

SLO No.	SLOs	K	U	A
1.16	Organize information using various organizational patterns: sequence, comparison, classification cause and effect.			✓
1.17	Recognize and use appropriate transitional words within and beyond paragraphs for better coherence and cohesion.			✓
1.18	Recognize and use appropriate conventions (format, style, expression) of brief written report.			✓
1.19	Use dictionary to : <ul style="list-style-type: none"> • 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. 			✓
1.20	Use children’s encyclopedias to obtain information.			✓
1.21	Choose appropriate synonyms and antonyms from thesaurus.	✓		
1.22	Use library skills to : <ul style="list-style-type: none"> • Alphabetize book titles, words and names. • Locate fiction and non-fiction books / books by subject • Understand card catalogue 			✓

	<ul style="list-style-type: none"> • 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. 			
1.23	Identify and utilize effective study skills e.g. note-taking / writing an outline, making a mind maps, brainstorming for generating and developing ideas.			✓
1.24	Use textual aids such as title page (author, publishing detail) blurbs, table of content, index, glossary of texts to <ul style="list-style-type: none"> • Comprehend texts. • Identify and select relevant information in a book 			✓
1.25	Make predictions about story line/ content, characters, using contextual clues and prior knowledge.			✓
1.26	Analyze story elements: characters, events, setting, plot, theme, tone.			✓
1.27	Read a story to <ul style="list-style-type: none"> • Retell it sequentially • summarize 			✓
1.28	Recognize the author's purpose.	✓		
1.29	Identify the speaker or narrator in a selection.	✓		
1.30	Read a text to analyze characters, their motives, actions and emotional responses.			✓
1.31	Present a character sketch orally in writing.		✓	
1.32	Give a personal response about the characters giving reasons to support the response.			✓

SLO No.	SLOs	K	U	A
1.33	Recognize genres of literature, e.g. fiction, poetry, legend, myth.	✓		
1.34	Read a poem and give orally or in writing: <ul style="list-style-type: none"> • main idea • theme and its development • summary • personal response with justification • paraphrase 			✓
1.35	Recognize literary techniques such as personification and alliteration.	✓		
1.36	Analyze how a writer / poet uses language to <ul style="list-style-type: none"> • Appeal to the senses through use of figurative language including similes and metaphors. • Affect meaning through use of synonyms with different connotations. 			✓

TOPIC No. 2 : Writing Skills		Bloom's Category		
SLO No.	SLOs	K	U	A
2.1	Develop focus to write a paragraph for a given purpose and audience.			✓
2.2	Use a variety of pre-writing strategies such as brainstorming, mind mapping, outlining etc.			✓

SLO No.	SLOs	K	U	A
2.3	<p>Write a simple unified paragraph on given topic:</p> <ul style="list-style-type: none"> • 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). 			✓
2.4	<p>Write a composition of three or more paragraphs following conventions of essay writing:</p> <ul style="list-style-type: none"> • Introductory paragraph • Body paragraphs • Concluding paragraphs 			✓
2.5	<p>Recognize that</p> <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. • Paragraphs are linked through various transitional devices. 		✓	

SLO No.	SLOs	K	U	A
2.6	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 actions • Appropriate connectives of cause and effect 			✓
2.7	Analyze to use in their own writing criteria for classification in a simple expository composition.			✓
2.8	Analyze written texts to use in their own writing features of a simple descriptive composition about people, objects and places PERSONS <ul style="list-style-type: none"> • Finer details of physical description of face, build, clothes etc. of a person. • Personality traits e.g. habits attitudes, values etc. OBJECT AND PLACES <ul style="list-style-type: none"> • 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 adjective and adverbs for vivid effect • Details in appropriate order. 			✓
2.9	Written three paragraphs of comparison between persons, objects or places : <ul style="list-style-type: none"> • Use appropriate similes for comparison. • Use correct connectors of comparison. 			✓

SLO No.	SLOs	K	U	A
2.10	<p>Write a narrative in the first of third person which describes events / incidents.</p> <ul style="list-style-type: none"> • Use sequential order • Use specific adjectives and adverbs • Use appropriate tense • Use appropriate translational devices • Include quotations (actual words spoken) and thoughts and emotions or the participants in the incident. 			✓
2.11	<p>Write the paragraph of free writing for fluency, creativity and pleasure.</p>			✓
2.12	<p>Analyze questions to write effective and focused answers of required length by:</p> <ul style="list-style-type: none"> • Marking key words • Identifying verbs and tenses • Recognizing question types such as • Literal / textual/ factual • Interpretive • Inferential • Evaluative • Personal response • Open ended 			✓
2.13	<p>Apply summary skills to familiar / unseen passages and poems to</p> <ul style="list-style-type: none"> • Write summary/ précis of simple passages • Summarize poems. 			✓

SLO No.	SLOs	K	U	A
2.14	Use paraphrasing skills to paraphrase stanzas. <ul style="list-style-type: none"> • Mark thought groups in the stanza • Restate the message in simple prose • Replace poetic words with simple ones. 		✓	
2.15	Analyze and compare various informal and formal letters to note differences of conventions, vocabulary, style and tone.			✓
2.16	Write formal letters to people in immediate and extended social and academic environment for various purposes, <ul style="list-style-type: none"> • 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. 			✓
2.17	Write application to people in extended environment. Revise for <ul style="list-style-type: none"> • Correct format, layout • Appropriate vocabulary, style and tone. 			✓
2.18	Analyze and compare various informal and formal dialogues to note differences of features, vocabulary, style and tone.			✓
2.19	Write and revise short formal dialogues.			✓
2.20	Fill in correctly and legibly, forms requiring various kinds of simple information.			✓

SLO No.	SLOs	K	U	A
2.21	Plan their own writing: <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.			✓
2.22	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. • Has an effective introduction and conclusion. 			✓
2.23	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 • Punctuation and spelling. 			✓

TOPIC No.4 : FORMAL AND LEXICAL ASPECTS OF LANGUAGE		Bloom's Category		
SLO No.	SLOs	K	U	A
4.1	Recognize and articulate English sounds given in the pronunciation key in the dictionary.			✓
4.2	Identify and pronounce in minimal pairs common problem consonants including /v/, /w/, /ya/, /th/, /l/, /r/, etc.			✓
4.3	Identify and correctly pronounce diphthongs and triphthongs in words.			✓
4.4	Differentiate between long and short vowel sounds and recognize how vowel length can change the meaning.			✓
4.5	Identify and pronounce consonant clusters with developing accuracy in initial and final positions.	✓		
4.6	Recognize and pronounce silent letters in words.	✓		
4.7	Recognize syllable division of words in aural and written text.	✓		
4.8	Demarcate words into syllables with the help of a dictionary.		✓	
4.9	Comprehend and apply in speech the word stress rules, for example, stress shift for emphasis and change in meaning in parts of speech.			✓
4.10	Recognize, pronounce and represent primary and secondary stress in words with the help of a dictionary.			✓
4.11	Pronounce weak form of personal pronouns, modal verbs, their negatives prepositions, articles and conjunctions.			✓
4.12	Recognize and use varying intonation patterns to show attitude and emotions.		✓	

SLO No.	SLOs	K	U	A
4.13	Articulate complex tongue twisters.			✓
4.14	Build and use appropriate vocabulary and correct spelling for effective communication. <ul style="list-style-type: none"> • Illustrate the use of dictionary for finding appropriate meaning and correct spelling • 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 utilize similes and metaphors given in the text. • Analyze analogies; complete analogies correctly. • Understand and use correctly phrasal verbs given in the text. 			✓
4.15	Demonstrate use of more common and proper, collective, countable and uncountable nouns.		✓	
4.16	Differentiate between and demonstrate use of material and abstract nouns.		✓	
4.17	Apply the rules of change of number of nouns learnt earlier.			✓
4.18	Recognize and demonstrate use of certain nouns whose plural form has two meanings in some cases e.g. arm- arms (limbs) , weapons.		✓	
4.19	Some nouns change their meaning in the plural form e.g. air- atmosphere, airs- pride.	✓		
4.20	Recognize, differentiate and demonstrate use of possessive forms of more animate and inanimate nouns.		✓	
4.21	Demonstrate use of pronouns as subject and object. Recognize function of, and use possessive, reflexive and emphatic pronouns.		✓	
4.22	Demonstrate extended use of question words.			✓
4.23	Identify, and demonstrate function and use of relative pronouns which , who and that.			✓

SLO No.	SLOs	K	U	A
4.24	Use more indefinite pronouns.			✓
4.25	Demonstrate use of pronoun antecedent agreement recognizing their relationship.			✓
4.26	Apply rules of (a, an) and the wherever applicable in speech and writing.			✓
4.27	Illustrate use of helping verbs in speech and writing.			✓
4.28	Illustrate use of linking verbs.			✓
4.29	Recognize and demonstrate function and use of modal verbs learnt earlier.			✓
4.30	Illustrate use of regular and irregular verbs in speech and writing.			✓
4.31	Illustrate use of transitive and intransitive verbs.			✓
4.32	Convert and present and past participles. Recognize and demonstrate function and use of infinitives.			✓
4.33	Illustrate use of tenses learnt earlier.			✓
4.34	Recognize the form and various functions; and illustrate use of past perfect tense.			✓
4.35	Classify adjectives into different types, change and use degrees of adjectives with reference to then and the.			✓
4.36	Recognize and use absolute adjectives.			✓
4.37	Locate the varying position of adjectives in sentences.	✓		
4.38	Form adjectives from nouns and verbs.	✓		
4.39	Identify and use adjective phrases.			✓
4.40	Classify and use different kinds of adverbs learnt earlier.			✓

SLO No.	SLOs	K	U	A
4.41	Recognize varying positions of adverbs in sentences according to their kinds and importance.	✓		
4.42	Identify and use degrees of comparison of adverbs.			✓
4.43	Use some adverbial phrases.			✓
4.44	Illustrate use of propositions of position, time, movement and direction.			✓
4.45	Illustrate use of compound prepositions.			✓
4.46	Illustrate use of since and for.			✓
4.47	Use some prepositional phrases.			✓
4.48	Use in speech and writing, transitional devices of addition, alternative, comparison, contrast, illustrations, means of, consequence, sequence, conclusion, cause, effect and extent.			✓
4.49	Apply rules of capitalization wherever applicable.			✓
4.50	Illustrate use of punctuation marks learnt earlier.			✓
4.51	Recognize and rectify faulty punctuation in given passages and own work.		✓	
4.51	Recognize and use comma to <ul style="list-style-type: none"> Separate an introductory phrase containing a verb from the main sentence. 			✓
4.53	Recognize and use colon to <ul style="list-style-type: none"> Introduce a list of items. Introduce a long quotation 			✓
4.54	Recognize and use semicolon to <ul style="list-style-type: none"> Emphasize parts of a series of clearly defined units. 			✓
4.55	Recognize and use quotation marks to <ul style="list-style-type: none"> Enclose a direct quotation 			✓

SLO No.	SLOs	K	U	A
4.56	Recognize and use hyphen to <ul style="list-style-type: none"> Indicate the division of a word at the end of a line. 			✓
4.57	Recognize and use dash as <ul style="list-style-type: none"> A separator to indicate that a sentence has been broken off. An indicator of a new direction of thought. 		✓	
4.58	Recognize and use parenthesis (Round Brackets) to <ul style="list-style-type: none"> Enclose numbers or letters in enumerations in the text. Express an amount in numbers previously expressed in words. Mark of explanatory or supplementary material. 			✓
4.59	Recognize and use omission marks or ellipses to signify the omission.			✓
4.60	Analyze and use sentences with direct and indirect objects.			✓
4.61	Identify and differentiate between a sentence, clause and a phrase. Identify and differentiate between main and subordinate clause.			✓
4.62	Classify, use, convert and make declarative (affirmative and negative), interrogative , exclamatory and imperative sentences.			✓
4.63	Identify and differentiate between simple and compound sentences.			✓
4.64	Recognize and use the variant form of first conditional to express automatic or habitual results.			✓
4.65	Identify active and passive voice in sentences.	✓		
4.66	Recognize and use passive voice for various purposes.			✓
4.67	Identify function of direct and indirect speech in texts.	✓		

4.68	Recognize the rules of, and change the narration of statements, requests/ orders and question.		✓	
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National Curriculum for
GENERAL SCIENCE

Grade- VIII
2006

GOVERNMENT OF PAKISTAN
MINISTRY OF EDUCATION
ISLAMABAD

TOPIC No. 1 : HUMAN ORGAN SYSTEMS		Bloom's Category		
SLO No.	SLOs	K	U	A
1.1	Describe the structure and functions of the nervous system.		✓	
1.2	Describe the working of the nervous system through a model.		✓	
1.3	Explain reflex action with an example.		✓	
1.4	Differentiate between voluntary and involuntary actions they have experienced.		✓	
1.5	Define excretion.	✓		
1.6	Draw and label human excretory system.		✓	
1.7	Describe the role of kidney in excretion of waste.		✓	
1.8	Investigate the possible causes of the malfunctioning of kidneys.			✓
1.9	Suggest techniques to cure problems of kidneys.			✓

TOPIC No. 2 :		HEREDITY IN ORGANISMS	Bloom's Category		
SLO No.	SLOs	K	U	A	
2.1	Differentiate between mitoses and meiosis.		✓		
2.2	Identify DNA and chromosomes in the cell diagram.	✓			
2.3	Define heredity and recognize its importance in transferring of characteristics from parents to off spring.		✓		
2.4	Identify the characteristics that can be transferred from parents to off spring.	✓			
2.5	Compare characteristics related to ear and eye colour.		✓		

TOPIC No.3 :		BIOTECHNOLOGY	Bloom's Category		
SLO No.	SLOs	K	U	A	
3.1	Define biotechnology.	✓			
3.2	Explain how DNA is copied and made.		✓		
3.3	Describe the relationship between DNA, genes and chromosomes.		✓		
3.4	Define bacterium.	✓			
3.5	Explain how genes are introduced into a bacterium.		✓		

SLO No.	SLOs	K	U	A
3.6	List some biotechnological products used in daily life.	✓		
3.7	Explain that genetic modification in different foods can increase the amounts of essential nutrients.		✓	
3.8	List general application of biotechnology in various fields.			✓
3.9	Explain how biotechnology allows meeting the nutritional needs of growing population.		✓	

TOPIC No.4 : POLLUTANTS AND THEIR EFFECTS ON ENVIRONMENT		Bloom's Category		
SLO No.	SLOs	K	U	A
4.1	Explain the sources, properties and harmful effects of air pollutants.		✓	
4.2	List problems in human organ systems caused by air pollutants.	✓		
4.3	Plan and conduct a campaign that can help to reduce air pollution in their local environment.			✓
4.4	Explain the Greenhouse effect.		✓	
4.5	Describe the causes and effects of ozone depletion.		✓	
4.6	Carry out a research to explain global warming and its likely effect on life on earth.			✓
4.7	Design a model to explain the Greenhouse effect.			✓

4.8	Explain the formation of acid rain and identify its consequences on living and nonliving things.		✓	
4.9	Define deforestation.	✓		
4.10	State the effects of deforestation on the environment.	✓		
4.11	Identify human activities that have long-term adverse consequences on the environment.	✓		
4.12	Explain the importance of local and global conservation of natural resources.		✓	
4.13	Suggest ways in which individuals, organizations and government can help to make earth a better place to live.			✓

TOPIC No.5 : CHEMICAL REACTIONS		Bloom's Category		
SLO No.	SLOs	K	U	A
5.1	Define chemical reactions and give examples.	✓		
5.2	Explain the rearrangement of atoms in chemical reactions.		✓	
5.3	Explain the balancing of a chemical reaction.		✓	
5.4	Define the law of conservation of mass.	✓		
5.5	Identify the nature of a chemical change in various reactions.	✓		
5.6	Describe changes in the states of matter in a chemical reaction.		✓	

SLO No.	SLOs	K	U	A
5.7	Explain the types of chemical reactions with examples.		✓	
5.8	Explain the energy changes in chemical reactions.		✓	
5.9	Describe the importance of exothermic reactions in daily life.		✓	

TOPIC No.6 : ACIDS, ALKALIS AND SALTS		Bloom's Category		
SLO No.	SLOs	K	U	A
6.1	Define the terms acid, alkali and salt.	✓		
6.2	Describe the properties of acids, alkalis and salts.		✓	
6.3	Explain the uses of acid, alkali and salt in daily life.		✓	
6.4	Define indicators.	✓		
6.5	Use indicators to identify acids, alkalis and neutral substances.			✓
6.6	Investigate the colour changes in the extracts of various flowers and vegetables by adding acids and alkalis.			✓

TOPIC No.7 : FORCE AND PRESSURE		Bloom's Category		
SLO No.	SLOs	K	U	A
7.1	Define the term Pressure.	✓		
7.2	Identify the units of pressure.	✓		
7.3	Explain hydraulics and system by giving examples.		✓	
7.4	Explain how gases behave under pressure.		✓	
7.5	Describe the causes of gas pressure in a container.		✓	
7.6	Explain the working of aerosols.		✓	
7.7	Identify the application of gas pressure.	✓		
7.8	Describe the term atmospheric pressure.		✓	

TOPIC No.8 : MEASUREMENTS OF PHYSICAL QUANTITIES		Bloom's Category		
SLO No.	SLOs	K	U	A
8.1	Define a physical quantity with examples.	✓		
8.2	Apply the prefixes milli-, killo-, centi-, and interpret the units.			✓
8.3	Interconvert smaller units and bigger units.			✓
8.4	Select and use measuring instruments.			✓
8.5	Interpret SI units in the daily life.			✓
8.6	Investigate why it is desirable for a scientist to use the SI units in their work.			✓
8.7	Measure the volume of liquid by reading correct meniscus.			✓

TOPIC No.9 : SOURCE AND EFFECTS OF HEAT ENERGY		Bloom's Category		
SLO No.	SLOs	K	U	A
9.1	Describe the sources and effects of heat.		✓	
9.2	Explain thermal expansion of solids, liquids and gases.		✓	
9.3	Explore the effects and applications of expansion and contraction of solids.			✓
9.4	Describe the uses of expansion and contraction of liquids.		✓	
9.5	Explain the peculiar behavior of water during contraction and expansion.		✓	
9.6	Investigate the processes making use of thermal expansion of substance.			✓
9.7	Identify the damages caused by expansion and contraction in their surroundings and suggest ways to reduce these damages.			✓
9.8	Investigate the means used by scientist and engineers to overcome the problems of expansion and contraction in everyday life.			✓
9.9	Describe the working of a thermometer.		✓	

TOPIC No.10 :		LENSES	Bloom's Category		
SLO No.	SLOs	K	U	A	
10.1	Define lens.	✓			
10.2	Differentiate between the different types of lenses.		✓		
10.3	Describe the image formation using a lens by ray diagram.		✓		
10.4	Compare and contrast the working of a human eye with the lens camera.		✓		
10.5	Explain how eye focuses by altering the thickness of the eye lens.		✓		
10.6	Investigate how eyes get used to darkness after some time.			✓	
10.7	Explain how lenses are used to correct short sightedness and long sightedness.		✓		
10.8	Identify the types of lenses used for various purposes in daily life.			✓	

TOPIC No.11 : ELECTRICITY IN ACTION		Bloom's Category		
SLO No.	SLOs	K	U	A
11.1	Design an experiment to generate electricity.			✓
11.2	Explain the working of the model generator.		✓	
11.3	Identify the simple devices that generate electricity in daily life.			✓
11.4	Design and demonstrate the working of a power station.			✓
11.5	List types of energy being used in power stations.	✓		
11.6	Relate problems involved in generation electricity.		✓	
11.7	Describe basic component of an electronic system.		✓	
11.8	List components that would be needed to turn A.C to D.C	✓		
11.9	State how output component in various devices could be used in their schools and surroundings.		✓	

TOPIC No.12 : EXPLORING SPACE		Bloom's Category		
SLO No.	SLOs	K	U	A
12.1	Describe development of tools and technologies used in space exploration.		✓	
12.2	Analyze the benefits generated by the technology of the space exploration.			✓
12.3	Explain that how do astronauts survive and research in space.		✓	
12.4	Suggest the ways to solve the problems that have resulted from space exploration.			✓
12.5	Identify the technological tools used in space exploration.	✓		
12.6	Identify new technologies used on earth that have developed as a result of the development of space technology.	✓		
12.7	Design a spacecraft and explain the key features of design to show its suitability as a spacecraft.			✓

National Curriculum for

GEOGRAPHY

Grade- VIII

2006

GOVERNMENT OF PAKISTAN

MINISTRY OF EDUCATION

ISLAMABAD

TOPIC No. 1 :		MAPS AND DIAGRAMS	Bloom's Category		
SLO No.	SLOs	K	U	A	
1.1	Discuss Distribution Maps		✓		
1.2	Explain techniques to draw different diagrams.		✓		
1.3	Discuss the use of Statistical Data for diagrams.		✓		
1.4	Construct Line Graph, Bar Graph and Pie Graph using Statistical Data				✓
1.5	Evaluate merits and demerits of the diagrams.				

TOPIC No. 2 :		AGENTS OF LANDFORM CHANGE	Bloom's Category		
SLO No.	SLOs	K	U	A	
2.1	Describe functions performed by different agencies responsible for micro relief features.		✓		
2.2	Describe the work of Rivers and Landforms made by Rivers.		✓		
2.3	Describe Glacier and its types.		✓		
2.4	Differentiate between the Landforms made by Continental and Alpine Glaciers.		✓		
2.5	Recognize wind as an agent of Landform change in the Deseret Climate.	✓			

SLO No.	SLOs	K	U	A
2.6	Describe the features made by Wind.		✓	
2.7	Identify the Waves as an agent of Landform Change over the Coastal Area.	✓		
2.8	Recognize features formed by any of these agencies with special reference to Pakistan.	✓		

TOPIC No.3 :		OCEANS			Bloom's Category		
SLO No.	SLOs	K	U	A			
3.1	Describe the main characteristics of major Oceans and Seas.		✓				
3.2	Define the following Features. (Sea, Gull, Bay, Bight, Channel/Strait, Peninsula, Island, Isthmus)	✓					
3.3	Describe the configuration of Ocean floor.		✓				
3.4	Describe the nature and causes of various Oceanic movements. Differentiate between Waves, Currents and Tides.		✓				
3.5	Differentiate between Wave, Currents and Tides.		✓				

TOPIC No.4 :		NATURAL DISASTERS	Bloom's Category		
SLO No.	SLOs		K	U	A
4.1	Discuss the natural phenomena that cause Disasters for mankind.			✓	
4.2	Analyze the impact of various Natural Disasters with special reference to Pakistan.				✓
4.3	Examine the usual management practices including Forecast, Monitoring and Mitigation.				✓
4.4	Discuss main considerations in constructing buildings in Earthquake prone areas.			✓	
4.5	List the safety measures that can be taken in case of Earthquakes, Floods, Cyclones, Volcanism and Forest Fire.		✓		
4.6	Discuss the measures that can be taken to avoid desertification.			✓	

TOPIC No.5 :		MAJOR ENVIRONMENTAL PROBLEMS	Bloom's Category		
SLO No.	SLOs		K	U	A
5.1	Define an Environmental Problem.		✓		
5.2	Identify the causes for various Environmental Problems.		✓		
5.3	Describe the impact of various Environmental Pollutants on life.			✓	

SLO No.	SLOs	K	U	A
5.4	Describe the nature and causes of Global Warming and evaluate its impact on life.		✓	
5.5	Describe the Greenhouse Effect.		✓	
5.6	Recommend solutions to avoid Environmental Pollution.			✓

TOPIC No.6 : NATURAL REGIONS		Bloom's Category		
SLO No.	SLOs	K	U	A
6.1	Identify a Region as a Spatial Entity.	✓		
6.2	Identify the Major Regions of the World in terms of Climate.	✓		
6.3	Describe selected Natural Regions in terms of Climatic Controls and their impact on human activities.		✓	
6.4	Describe the importance of selected Natural Regions in terms of Climate and Human activities.		✓	
6.5	Name some countries from each Natural Region.	✓		

TOPIC No.7 :		CLIMATE OF PAKISTAN			Bloom's Category		
SLO No.	SLOs	K	U	A			
7.1	Describe the nature and extent of Seasonal and Regional Diversity.		✓				
7.2	Describe the Seasons and their salient features.		✓				
7.3	Identify the Climatic Regions of Pakistan and their major characteristics.	✓					
7.4	Relate Climatic Conditions with Vegetation and Human Activities.		✓				

TOPIC No.8 :		NEIGHBORING REGIONS OF PAKISTAN			Bloom's Category		
SLO No.	SLOs	K	U	A			
8.1	Name the countries of each region, locate them on a Map and draw the sketch of each region.	✓					
8.2	Describe the economic characteristics of each region.		✓				
8.3	Examine the relationship between Pakistan and its neighboring regions.						✓
8.4	Discuss Geographic setting and Strategic Importance of Pakistan and its Neighboring Regions.		✓				

TOPIC No.9 : PROBLEMS OF UNDERDEVELOPMENT		Bloom's Category		
SLO No.	SLOs	K	U	A
9.1	Differentiate between Development and Underdevelopment.		✓	
9.2	Explain and compare Developed and Underdeveloped Areas of the World.		✓	
9.3	Identify the Geographic features that promote development.	✓		
9.4	Discuss economic, Social and political problems of Underdeveloped Areas.		✓	
9.5	Discuss the reasons of Underdevelopment of Pakistan		✓	
9.6	Locate Developed and Underdeveloped Areas on the World Map.			✓

TOPIC No.10 : INTRODUCTION TO MODERN TECHNIQUES IN GEOGRAPHY		Bloom's Category		
SLO No.	SLOs	K	U	A
10.1	Describe the main features of the Modern Techniques in Geography.			
10.2	Learn about Satellites, Satellite Imageries and Aerial Photographs.			
10.3	Discuss the use of Computer in Geography.			
10.4	Explain the usefulness of Modern tools in Geography.			
10.5	Describe the Scope of these Modern Tools.			

National Curriculum for

HISTORY

Grade- VIII

2006

GOVERNMENT OF PAKISTAN

MINISTRY OF EDUCATION

ISLAMABAD

TOPIC No. 1 : CONSOLIDATION OF BRITISH RULE		Bloom's Category		
SLO No.	SLOs	K	U	A
1.1	Describe the transfer of British power in India for East India Company to the Crown and the salient features of Queen Victoria's proclamation.		✓	
1.2	Delineate the structure of British administration in India and early efforts to co-opt Indians in the British setup.		✓	
1.3	Outline the objectives and results of the British education policy with special reference to Lord Macaulay's Minute (1836-37). And woods dispatch (1854)		✓	
1.4	Identify the salient features of colonial economic policy in India.	✓		
1.5	Highlight the measures for the social transformation since the British accession to power.		✓	
1.6	Specify the advantages and implications of communication networks introduced by the British.		✓	
1.7	Discuss the quantum of devolution of power it Indians introduced in the Acts of 1861,1892,1909,1919.		✓	

TOPIC No. 2 : SIR SYED AHMAD KHAN AND THE ALIGARH MOVEMENT		Bloom's Category		
SLO No.	SLOs	K	U	A
2.1	Describe the dismal situation of Muslims in the post- 1857 era.		✓	
2.2	Highlight Sir Syed Ahmad Khan's effort in Anglo-Muslim rapprochement.		✓	
2.3	Illustrate Sir Syed's success in inducing Muslims to acquire modern education.		✓	
2.4	Delineate Sir Syed's role as a social reformer.		✓	
2.5	Discuss Sir Syed's political testament and manifesto: continued loyalty to the British Crown and abstention from active politics.		✓	
2.6	Discuss the establishment of various modern educational institutions in areas constituting Pakistan with particular reference to Sindh Madrassat ul Islam.		✓	
2.7	Trace out the origins, evolution and the accomplishments of Muslim Educational Conference.		✓	
2.8	Discuss the response of Deoband and Nadva to modern education.		✓	

TOPIC No.3 : POLITICAL AWAKENING IN BRITISH INDIA		Bloom's Category		
SLO No.	SLOs	K	U	A
3.1	Trace out the background and the formation of Indian National Congress and its consolidation as a political spokesman for India.		✓	
3.2	Narrate the background of the Partition of Bengal, the Congress agitation, the introduction of the Swadeshi Movement and the Muslim response.		✓	
3.3	Discuss the British reversal of their "Pledged word" and the "settled fact" and the annulment of the Bengal Partition in 1911.		✓	
3.4	Delineate the origins of the separate Electorate demand, the background to the simla Deputation, and the formation of the All- India Muslim League.		✓	
3.5	Discuss M.A. Jinnah's role as Ambassador of Hindu- Muslim Unity.		✓	
3.6	Describe the major developments leading to the congress-league Lacknow Pact, and the Congress- League coalescence till 1920.		✓	
3.7	Elucidate the origins and the rationale of the Pan-Islamic Movement in India and the birth of the Khilafat Movement.		✓	
3.8	Discuss the Hijrat Movement and Reshmi Romal Movement.		✓	
3.9	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.		✓	
3.10	Highlight the salient features of Diarchy and its impact, with special reference to the Punjab and Bengal.		✓	

TOPIC No.4 : QUEST FOR POLITICAL SETTLEMENT		Bloom's Category		
SLO No.	SLOs	K	U	A
4.1	Discuss the Delhi Muslim Proposals in terms of a viable formula for Hindu-Muslim settlement.		✓	
4.2	Describe the formation of the Simon Commission (1927) and the Indian response.		✓	
4.3	Delineate the major provisions of the Nehru Report with special reference to Muslim aspirations and demands.		✓	
4.4	Identify the Muslim response to the Nehru Report: All Parties Muslim Conference (1929) and Jinnah's 14 Points (1929)		✓	
4.5	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.		✓	
4.6	Narrate the events leading to the convening of the Round Table Conference to arrive at a constitutional settlement between Great Britain and India, between Indian political parties and the Indian princely states.		✓	
4.7	Discuss the course of RTC and the proposals put forward by various Indian Parties, with special reference to the rights of minorities.		✓	
4.8	Trace out the demand for the introduction of reforms in the NWFP and Baluchistan.		✓	
4.9	Trace out the demand for the separation of Sindh from the Bombay Presidency.		✓	
4.10	Highlight the salient features of the Communal Award with reference to Muslim demands.		✓	
4.11	Point out the salient features of 1935 Act and the grant of autonomy to the provinces.	✓		

4.12	Delineate the status of the AIML in Muslim politics during the previous decade (1926-1936)		✓	
4.13	Discuss the 1937 elections, the emergence of separate provincial Muslim parties and the election returns in terms of party politics.		✓	
4.14	Describe the efforts towards the reorganization of the Muslim League as the representative organization of Muslim India.		✓	
4.15	Discuss the formation of Congress ministries in the Hindu majority provinces, the Azad-Khaliq-uz-zaman Parleys for a Congress coalition in the U.P and the subsequent Congress policies towards the Muslims.		✓	
4.16	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.		✓	
4.17	Analyze the impact of World War- II on Indian politics and its implication in enhancing AIML's stature as Muslim India's spokesman.			✓

TOPIC No.5 : STRUGGLE FOR PAKISTAN		Bloom's Category		
SLO No.	SLOs	K	U	A
5.1	Trace the genesis and rationale of the Lahore Resolution with particular reference to Jinnah's Presidential Address.		✓	
5.2	Discuss the salient features of the Cripps offer with special reference to the Muslim demand for Pakistan.		✓	
5.3	Bring of the impact of quit India Movement on Indian politics with special reference to the consolidation of Muslim league.		✓	
5.4	Underscore the salient features of the C.R. Formula and the impact of Gandhi-Jinnah talks on future course of Indian politics.		✓	
5.5	Point out the main provisions of the Simla Conference (1945) and explain the causes of its failure.		✓	
5.6	Describe the main issues in 1945-46 general elections, and results of the Central Assembly elections and provincial elections.		✓	
5.7	Discuss how the Muslim League's astounding success validated League's claim to be Muslim India's sole spokesman and the demand for Pakistan.		✓	
5.8	Evaluate the Cabinet Mission proposals with special reference to the grouping and limited Center-provisions.			✓
5.9	Discuss why the Muslim League first accepted the Cabinet Mission Plan in June 1946 and then rejected it, and decided to launch Direct Action.		✓	
5.10	Specify the proposals for the interim government, the British betrayal, the setting up of the interim government, and the League's entry into it.		✓	
5.11	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 Center.			✓

5.12	Discuss the London Conference and its implication for the acceptance of the Pakistan demand.		✓	
5.13	Describe the appointment of Lord Mountbatten as viceroy and Governor-General and making of the partition plan.		✓	
5.14	Discuss the salient features of the 3 June Plan and the Indian Independence Act 1947.		✓	
5.15	Trace out the various developments from 3 June leading to the emergence of Pakistan on 14 August 1947.		✓	
5.16	Elaborate the role of Quaid-e-Azam as the Founder of Pakistan.		✓	
5.17	Discuss the role played by the minorities in the creation of Pakistan.		✓	

National Curriculum for
MATHEMATICS

Grade- VIII
2006

GOVERNMENT OF PAKISTAN
MINISTRY OF EDUCATION
ISLAMABAD

TOPIC No. 1: OPERATIONS ON SETS		Bloom's Category		
SLO No.	SLOs	K	U	A
1.1	Recognize set of Natural numbers (N) Whole numbers (W) Integers (Z) Rational numbers (Q) Even numbers (E) Odd numbers (O) Prime numbers (P)	✓		
1.2	Find a subset of a set.			✓
1.3	Define proper (\subset) and improper (\subseteq) subsets of a set		✓	
1.4	Find power set $P(A)$ of a set A			✓
1.5	Verify commutative and associative laws with respect to union and intersection.			✓
1.6	Verify the distributive laws.			✓
1.7	State and verify De Morgan's laws.			✓
1.8	Demonstrate union and intersection of three overlapping sets through Venn diagram.			✓
1.9	Verify associative and distributive laws through Venn diagram.			✓

TOPIC No. 2 : REAL NUMBERS		Bloom's Category		
SLO No.	SLOs	K	U	A
2.1	Define an irrational number.	✓		
2.2	Recognize rational and irrational numbers.		✓	
2.3	Define real numbers.	✓		
2.4	Demonstrate non-repeating or (non-periodic) decimals.			✓
2.5	Find perfect square of a number.			✓
2.6	Establish patterns for the squares of natural numbers (e.g. $4^2 = 1+2+3+4+3+2+1$)			✓
2.7	Find square root of <ul style="list-style-type: none"> • A natural number (e.g. 16, 625, 16) • A common fraction (e.g. $\frac{9}{1}$, $\frac{3}{4}$, $\frac{4}{6}$,) • A decimal (e.g. 0.01, 1.21, 0.64) given in perfect square form, by prime factorization and division method.			✓
2.8	Find square root of a number which is not a perfect square (e.g. 2,3 , 2,5)			✓
2.9	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			
2.10	Solve real life problems involving square roots.			✓
2.11	Recognize cubes and perfect cubes.		✓	
2.12	Find cube roots of a number which are perfect cubes.			✓
2.13	Recognize properties of cubes of numbers.	✓		

TOPIC No.3: NUMBER SYSTEM		Bloom's Category		
SLO No.	SLOs	K	U	A
3.1	Recognize base of a number system.		✓	
3.2	Define number system with base 2, 5 and 8.	✓		
3.3	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) 		✓	

3.4	Convert a number from decimal system to a system with base 2,4 and 8 and vice versa.			✓
3.5	Add, subtract and multiply numbers with base 2,5 and 8.			✓
3.6	Add, subtract and multiply numbers with different bases.			✓

TOPIC No.4: FINANCIAL ARITHMETIC		Bloom's Category		
SLO No.	SLOs			
4.1	Define compound proportion.	✓		
4.2	Solve real life problems involving compound proportion, partnership and inheritance.			✓
4.3	Define commercial bank deposits, types of a bank account (PLS savings bank account, current deposit account, PLS term deposit account and foreign currency account)	✓		
4.4	Describe negotiable instruments like cheque, demand draft and pay order.		✓	
4.5	Explain on-line banking, transaction through ATM (Auto Teller Machine) , debit card and credit card (Visa and Master)		✓	
4.6	Convert Pakistani currency to well-known international currencies.			✓
SLO No.	SLOs	K	U	A

4.7	Calculate <ul style="list-style-type: none"> • The profit/ markup • The principal amount • The profit / markup rate • The period. 			✓
4.8	Explain <ul style="list-style-type: none"> • Overdraft (OD) • Running Finance (RF) • Demand Finance (DF) • Leasing. 		✓	
4.9	Solve real life problems related to banking and finance.			✓
4.10	Find the percentage of profit and percentage of lose.			✓
4.11	Find percentage discount.			✓
4.12	Solve problems involving successive transactions.			✓
4.13	Define insurance.	✓		
4.14	Solve real life problems regarding life and vehicle insurance.			✓
4.15	Explain income tax, exempt income and taxable income.		✓	
4.16	Solve simple real life problems related to individual income tax assesses.			✓

TOPIC No.5: POLYNOMIALS		Bloom's Category		
SLO No.	SLOs	K	U	A
5.1	Recall constant, variable, literal and algebraic expression.	✓		
5.2	Define <ul style="list-style-type: none"> • Polynomial • Degree of a polynomial • Coefficients of a polynomial 	✓		
5.3	Recognize polynomial in one, two and more variables.		✓	
5.4	Recognize polynomials of various degrees (e.g. linear, quadratic, cubic and biquadratic polynomials).		✓	
5.5	Add, subtract and multiply polynomials.			✓
5.6	Divide a polynomial by a linear polynomial.			✓

TOPIC No.6: FACTORIZATION, SIMULATANEOUS EQUATIONS		Bloom's Category		
SLO No.	SLOs	K	U	A
6.1	Recall the formulas <ul style="list-style-type: none"> • $(a + b)^2 = a^2 + 2ab + b^2$ • $(a - b)^2 = a^2 - 2ab + b^2$ • $A^2 - b^2 = (a - b)(a + b)$ 			✓
6.2	Evaluate $(102)^2$, $(1.02)^2$, $(98)^2$ and $(0.98)^2$			✓
6.3	Find $x^2 + \frac{1}{x^2}$ and $x^4 + \frac{1}{x^4}$ when the value of $x + \frac{1}{x}$ is given.			✓
6.4	Factorize expressions of the following types: <ul style="list-style-type: none"> • $Ka + kb + kc$ • $ac + ad + bc + bd$ • $a^2 \pm 2ab + b^2$ • $a^2 - b^2$ • $a^2 \pm 2ab + b^2 - c^2$ 			✓
6.5	Recognize the formulas : <ul style="list-style-type: none"> • $(a + b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$ • $(a - b)^3 = a^3 - 3a^2b + 3ab^2 + b^3$ 			✓
6.6	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.			✓
6.7	Recognize simultaneous linear equations in one and two variables.		✓	
6.8	Give the concept of formation of linear equation in two variables.		✓	

6.9	Know that: <ul style="list-style-type: none"> • A single linear equation in two unknowns is satisfied by as many pairs of values as required. • Two linear equations in two unknowns have only one solution (i.e. one pair of values) 	✓		
6.10	Solve simultaneous linear equations using <ul style="list-style-type: none"> • Method of equating the coefficients, • Method of elimination by substitution, • Method of cross multiplication. 			✓
6.11	Solve real life problems involving two simultaneous linear equations in two variables.			✓
6.12	Eliminate a variable from two equations by: <ul style="list-style-type: none"> • Substitution • Application of formulae 			✓

TOPIC No.7: FUNDAMENTALS OF GEOMETRY		Bloom's Category		
SLO No.	SLOs	K	U	A
7.1	Define parallel lines.	✓		
7.2	<p>Demonstrate through figures the following properties of parallel lines.</p> <ul style="list-style-type: none"> • 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 triangle parallel to another side bisects the third side (an application of above property) 			✓
7.3	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.			✓
7.4	<p>Describe the following relations between the pairs of angles when a transversal intersects two parallel lines.</p> <ul style="list-style-type: none"> • Pairs of corresponding angles are equal. • Pairs of alternate interior angles are equal. • Pair of interior angles on the same side of transversal is supplementary, • And demonstrate them through figures. 			✓
7.5	Define a polygon	✓		

SLO No.	SLOs	K	U	A
7.6	Demonstrate the following properties of a parallelogram. <ul style="list-style-type: none"> • Opposite angles of a parallelogram are equal. • Diagonals of a parallelogram bisect each other. 			✓
7.7	Define regular pentagon, hexagon and octagon	✓		
7.8	Demonstrate a point lying in the interior and exterior of a circle.			✓
7.9	Describe the terms; sector, secant and chord of a circle, concyclic points, tangent to a circle and concentric circles.		✓	

TOPIC No.8: PRACTICAL GEOMETRY		Bloom's Category		
SLO No.	SLOs	K	U	A
8.1	Define and depict two converging (non-parallel) lines and find the angle between them without producing the lines.			✓
8.2	Bisect the angle between the two converging lines without producing them.			✓
8.3	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 			✓

SLO No.	SLOs	K	U	A
8.4	Construct a rectangle <ul style="list-style-type: none"> • When two sides are given • When the diagonal and a side is given. 			✓
8.5	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. 			✓
8.6	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 			✓
8.7	Construct a kite <ul style="list-style-type: none"> • When two unequal sides and a diagonal are given. 			✓
8.8	Construct a regular pentagon. <ul style="list-style-type: none"> • When a side is given. 			✓
8.9	Construct a regular hexagon <ul style="list-style-type: none"> • When a side is given. 			✓
8.10	Construct a right angled triangle <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. 			✓

TOPIC No.9: AREAS AND VOLUMES		Bloom's Category		
SLO No.	SLOs	K	U	A
9.1	State the Pythagoras theorem and give its informal proof.		✓	
9.2	Solve right angle triangles using Pythagoras theorem.			✓
SLO No.	SLOs	K	U	A
9.3	State and apply Hero's formula to find the areas of triangular and quadrilateral regions.			✓
9.4	Find the surface area and volume of a sphere.			✓
9.5	Find the surface area and volume of a cone.			✓
9.6	Solve real life problems involving surface area and volume of sphere and cone.			✓

TOPIC No.10: DEMONSTRATIVE GEOMETRY		Bloom's Category		
SLO No.	SLOs	K	U	A
10.1	Define demonstrative geometry.	✓		
10.2	Describe the basics of reasoning.		✓	
10.3	Describe the types of assumptions (axioms and postulates)		✓	

SLO No.	SLOs	K	U	A
10.4	Describe parts of a proposition.		✓	
10.5	Describe the meanings of a geometrical theorem, corollary and converse of a theorem.		✓	
10.6	If a straight line stands on another straight line, the sum of measures of two angles so formed is equal to two right angles.			✓
10.7	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.			✓
SLO No.	SLOs	K	U	A
10.8	If two lines intersect each other then the opposite vertical angles are congruent.			✓
10.9	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.			✓
10.10	If two sides of a triangle are congruent, then the angles opposite to these sides are congruent.			✓
10.11	An exterior angle of a triangle is greater in measure than either of its opposite interior angles.			✓
10.12	If transversal intersects two lines such that the pair of alternate angles are congruent then the lines are parallel.			✓
10.13	If a transversal intersects two parallel lines the alternate angles so formed are congruent.			✓
10.14	The sum of measures of the three angles of a triangle is 180°			✓

TOPIC No.11: INTRODUCTION TO TRIGONOMETRY		Bloom's Category		
SLO No.	SLOs	K	U	A
11.1	Define trigonometry.	✓		
11.2	Define trigonometric ratios of an acute angle.	✓		
11.3	Find trigonometric ratios of acute angles (30° , 60° , 45°)			✓
SLO No.	SLOs	K	U	A
11.4	Define trigonometric ratios of complementary angles.	✓		
11.5	Solve right angled triangles using trigonometric ratios.			✓
11.6	Solve real life problems to find heights (avoid naming angle of elevation)			✓

TOPIC No.12: INFORMATION HANDLING		Bloom's Category		
SLO No.	SLOs	K	U	A
12.1	Define frequency, frequency distribution.	✓		
12.2	Construct frequency table.			✓
12.3	Construct a histogram representing frequency table.			✓

SLO No.	SLOs	K	U	A
12.4	Describe measures of central tendency.		✓	
12.5	Calculate mean (average), weighted mean, median and mode for ungrouped data.			✓
12.6	Solve real life problems involving mean (average) weighted mean, median and mode.			✓

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BLOOM'S CATEGORY			<u>READING SKILLS</u> : 3	SLO No.
K	U	A		
	✓		عبارت ک اس کے عناصر ، نتائج، علت و معلول کے تعلق اور رفتار مطالع "خاموش، اور بلند آواز" بنیادی خیال اور بیان کے حوالوں کو ملحوظ رکھ کر پڑھ سکے۔	3.1
	✓		کہانی، ڈرامے ، مضمون وغیرہ میں مصنف کی تکنیک مقصود اور طرز بیان کو سمجھ کر پڑھ سکیں۔	3.2
		✓	اخبارات، رسائل اور جرائد میں خبروں، فیچروں اداریوں، رپورٹوں اور اشتہاروں اور خطوط بنام مدیر کو سمجھ کر پڑھ سکیں۔	3.3
	✓		درخواستوں، فیصلوں، حکمناموں، رپورٹوں وغیرہ کو سمجھ پڑھ سکیں۔	3.4

BLOOM'S CATEGORY			<u>WRITING SKILLS</u> : 4	SLO No.
K	U	A		
		✓	نثر پارے یا نظم کو اپنے الفاظ میں لکھ سکیں۔	4.1
		✓	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۔	4.2
		✓	تحریر کا کم از کم ایک تہائی خلاصہ لکھ سکے۔	4.3

K	U	A		SLO No.
		✓	اخبارات و رسائل کے انداز کے نقل کر سکے اور کسی متن کا خلاصہ اپنے لفظوں میں لکھ سکے۔	4.4
		✓	کسی واقعے کی اطلاع اخبار/ تھانے یا زمہ دار افسر کو لکھ کر بھیج سکے۔ سکول کے بارے میں اعلیٰ یا ضلعی انتظامیہ کو بعض ضرورتوں کے حوالے سے درخواست لکھ سکے۔	4.5
		✓	منی آرڈر فارم پر کر سکے۔	4.6
		✓	کسی عمومی موضوع پر مکالمہ تحریر کر سکے،	4.7
		✓	کسی کہانی کے موڑ پر آنے والے دو یا زائد پہلوؤں میں سے کسی ایک کا انتخاب کر سکے۔	4.8
		✓	کسی بھی عام متن پر سوالات کے جوابات تحریر کر سکے۔	4.9
		✓	کسی غیر مطبوعہ یا تکنیکی "کمپیوٹر" متن کو لکھ سکے۔	4.10

BLOOM'S CATEGORY			LIFE SKILLS : 5	
K	U	A		SLO No.
		✓	کسی بھی فطری، اخلاقی یا قومی موضوع پر اپنے علم اور مشاہدے کی روشنی میں سامعین کے سامنے درست تلفظ اور لب و لہجے کے میں کم از کم تین منٹ تک تقریر کر سکے۔	5.1
		✓	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۔	5.2
		✓	مباحثوں میں اپنا نقطہ نظر مخصوص انداز کے ساتھ پیش کر سکے۔	5.3

BLOOM'S CATEGORY			<u>CREATIVE WRITING</u> : 6	
K	U	A		SLO No.
		✓	تین سو سے زائد الفاظ کی ضخامت کا مضمون، انشائیہ، رپورٹاژ ی رپورٹ وغیرہ تیار کر کے پیش کر سکے۔	6.1
		✓	دوسروں کی لکھی ہوئی تحریروں کی اصلاح کر سکے " ادارت/ تدوین وغیرہ"	6.2

BLOOM'S CATEGORY			<u>LEXICAL ASPECTS OF LANGUAGE</u> : 7	
K	U	A		SLO No.
	✓		مجہول کو معروف جملوں میں بدل سکیں۔	7.1
		✓	تجنیس معنوی میں امتیاز سیکھ سکے۔	7.2
✓			معانی سے الفاظ کی طرف ذہنی سفر کر سکے " تھیسارس کی مدد سے "	7.3
✓			محاورات اور ضرب الامثال کا استعمال سیکھ سکے۔	7.4
	✓		روزمرہ اور محاورہ کے لحاظ سے غلط جملوں کی تصحیح کر سکے۔	7.5
	✓		مقولات اور کہاوتوں کا تحریر میں محل استعمال سیکھ سکے۔	7.6
✓			سابقہ اور لاحقہ کی مدد سے لفظ سازی کر سکے۔	7.7

K	U	A		SLO No.
	✓		ردیف کے حوالے سے الفاظ کو ترتیب دے سکے۔	7.8
	✓		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۔	7.9
		✓	دفتری احکام کو سمجھ کر پڑھ سکے ، ٹیکنالوجی کمپیوٹر وغیرہ پر اردو ٹائپ وغیرہ کر سکے۔	7.10

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BLOOM'S CATEGORY			القرآن الکریم 1:	SLO No.
K	U	A		
✓			صحیح تلفظ کیساتھ تلاوت کر سکیں۔	1.1
✓			قرآن مجید میں استعمال ہونے والے سے رموز اوقاف واقف ہو	1.2
✓			نصاب میں شامل سورتوں کو حفظ کر سکیں۔	1.3
	✓		نصاب میں دئے گئے سورتوں کے ترجمہ کو سمجھ سکیں۔	1.4

طلبہ اس قابل ہو جائیں کہ وہ

BLOOM'S CATEGORY			2: عقیدہ آخرت اور تعمیر سیرت میں اسکا کردار	SLO No.
K	U	A		
	✓		عقیدہ آخرت کے مفہوم کو سمجھیں۔	2.1
		✓	قرآن مجید کی روشنی میں عقیدہ آخرت کی عقلی توجیہ کر سکیں۔	2.2
		✓	عقیدہ آخرت کی روشنی میں تعمیر سیرت کر سکیں۔	2.3

BLOOM'S CATEGORY			3: روزہ ، فضیلت اور معاشرتی اثرات	SLO No.
K	U	A		
	✓		روزہ کے مفہوم کو سمجھ سکیں۔	3.1
	✓		قرآن وحدیث کی روشنی میں روزہ کی اہمیت اور فضیلت جان سکیں۔	3.2
		✓	روزہ کے معاشرتی اثرات کو سمجھیں اور اپنائیں۔	3.3

BLOOM'S CATEGORY			4: حج اور اسکی عالمگیریت
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K	U	A		SLO No
	✓			4.1 حج کے مفہوم کو سمجھ سکیں۔
	✓			4.2 مناسک حج کو بیان کر سکیں۔
	✓			4.3 حج کے عالمگیریت اثرات کی وضاحت کر سکیں۔

BLOOM'S CATEGORY			5: سیرت طیبہ	
K	U	A		SLO No
		✓	نبی کریم کے اعلیٰ اخلاق کے بارے میں جان سکیں۔ اور انکو اپنی عملی زندگی کا حصہ بنائیں۔	5.1
✓			صبر و تحمل کے مفہوم، اہمیت اور فضیلت کو جان لیں۔ اور قرآن پاک کی روشنی میں صبر کے مختلف مفاہیم سے واقف ہوں۔	5.2
		✓	آپ کی سیرت مبارکہ کے صبر و تحمل کی مثالیں پیش کر سکیں۔	5.3
	✓		قرآن وحدیث کی روشنی میں اخلاص وتقویٰ کے مفہوم کو سمجھ سکیں۔	5.4
✓			آپ کے اخلاص اور تقویٰ کو بیان کر سکیں۔	5.5
	✓		قرآن مجید کی روشنی میں عدل واحسان کا مفہوم سمجھ لیں۔	5.6
✓			سیرت طیبہ سے عدل واحسان کی مثالیں پیش کر سکیں۔	5.7
✓			اسوۃ مبارکہ سے حسن معاشرت کی مثالیں دے سکیں۔	5.8
✓			آپ کے انداز گفتگو کو سمجھ سکیں۔	5.9
✓			بنی کریم کی گھریلو زندگی کے بارے میں جان سکیں۔	5.10

BLOOM'S CATEGORY			6: امر بالمعروف ونہی عن المنکر	
K	U	A		SLO No

✓			امر بالمعروف ونہی عن المنکر کے مفہوم سے واقف ہوں -	6.1
	✓		امر بالمعروف ونہی عن المنکر کی فضیلت ، اہمیت اور آداب کو بیان کر سکیں -	6.2

BLOOM'S CATEGORY			7: کسب حلال	
K	U	A		SLO No
✓			کسب حلال کے مفہوم ، اہمیت ، فضیلت اور فوائد کو جان سکیں -	7.1

BLOOM'S CATEGORY			8:	
K	U	A		SLO No
✓			حقوق العباد کے مفہوم کو سمجھ سکیں -	8.1
	✓		یتیموں ، بیواؤں ، معذوروں اور مسافروں کے حقوق کو سمجھ سکیں -	8.2

BLOOM'S CATEGORY			9: کاروبار میں دیانت	
K	U	A		SLO No
✓			کاروبار میں دیانتداری کی اسلامی تعلیمات کو سمجھ سکیں -	9.1
	✓		کاروبار میں بددیانتی کے نقصانات اور دیانتداری کے فوائد کو سمجھ سکیں۔	9.2

BLOOM'S CATEGORY			10: نظم و ضبط اور قانون کا احترام	
K	U	A		SLO No
✓			نظم و ضبط کے مفہوم کو سمجھ سکیں اور عبادات میں نظم و ضبط اور قانون کا احترام سیکھیں -	10.1

	✓		نظم اور قانون کے احترام کی اہمیت بھی جان سکیں -	10.2
	✓		آپ کی زندگی سے قوانین کے احترام کی مثالیں بیان سکیں -	10.3

BLOOM'S CATEGORY			11: اتحاد ملی	
K	U	A		SLO No
✓			اتحاد ملی کے مفہوم کو سمجھ سکیں -	11.1
	✓		اتحاد ملی کے بارے میں قرآن تعلیمات بیان کر سکیں -	11.2

BLOOM'S CATEGORY			:12	
K	U	A		SLO No
✓			جہاد کے مفہوم ، اہمیت اور مقاصد کے بارے میں جان سکیں -	12.1
	✓		مجاہدین کی فضیلت کے بارے میں واقفیت حاصل کر سکیں -	12.2

BLOOM'S CATEGORY			13: ہدایت کے سرچشمے / مشاہیر اسلام	
K	U	A		SLO No
✓			سیّدہ فاطمہؓ کی حالات زندگی اور شخصیت کے بارے میں جان سکیں -	13.1
✓			محمد بن قاسم کے حالات زندگی اور کارناموں کے بارے میں جان سکیں -	13.2
✓			طلبا ، بو علی سینا کے حالات زندگی اور تصانیف کے بارے میں جان سکیں -	13.3
✓			شاہ ولی اللہؒ کے حالات زندگی اور خدمات کے بارے میں جان سکیں -	13.4