ZIAUDDIN UNIVERSITY
EXAMINATION BOARD

Secondary School Certificate (SSC)

Examination syllabus
Computer Science
IX

Based on Provincial revised curriculum (Sindh)

You can Approach us:

Address: Ziauddin University Examination Board
D / 20 Block 1 Clifton Karachi
Phone: 92 21 35148594
E-mail: info@zueb.edu.pk
Website: www.zueb.edu.pk

PREFACE

Ziauddin University Examination Board (ZUEB) was established by the Sindh ACT XLI 2018, with the aim of improving the quality of education. The Board administers examinations for the Secondary School Certificate (SSC) and Higher Secondary School Certificate (HSSC) based on the latest Reviewed National Curriculum by Directorate Curriculum Assessment and Research (DCAR) Sindh. ZUEB has a mandate by Ordinance to offer such examination services to English /Urdu and Sindhi medium candidates for SSC and HSSC from private schools in Sindh. This examination syllabus exemplifies ZUEB's commitment to provincial educational goals

The Examination Board has prepared with the help of subject professors, subject wise syllabus. It is important to make the difference between syllabus and curriculum. The syllabus of a subject is considered as a guide for the subject teacher as well as the students. It helps the students understand the subject in detail. It also helps students to anticipate what is expected from them while preparing for the exams.

This examination syllabus brings together all those cognitive outcomes of the Provincial Curriculum statement which can be reliably and validly assessed. While the focus is on the cognitive domain, particular emphasis is given to the application of knowledge and understanding.

The examination syllabus is uploaded on the ZUEB website. This is done to help affiliated schools in planning their teaching. It is the syllabus, not the prescribed textbook which is the basis of the ZUEB examinations. In addition, the ZUEB examination syllabus is used to develop learning support materials for students and teachers. The examination board stand committed to all students who have embarked upon the SSC, and HSSC courses in facilitating their learning outcomes. Our examination syllabus document ensures all possible support.

On the Ziauddin University Examination Board website a tab e –resource is made available which provides resource material in all subjects both in text form in line with the curriculum and also videos on topics to give students access to learn at their own pace and own time. These 15 to 20 minutes videos are prepared around subject concept / topics. These videos are available to the students for revisiting a lesson taught by their teacher or watch it prior to the lesson and as a reinforcement strategy. The work on videos is in progress and new titles will be uploaded.

Please look out for the videos on the given website

Humbly Yours;

Shahbaz Nasim

Curriculum Coordinator

RATIONALE FOR THE REVIEWED PROVINCIAL CURRCIULUM

The process of revising the National Curriculum 2006 was initiated in August 2004 when newly elected government of Pakistan decided to introduce education reform in the country. The education reform process included the announcement of new National Education Policy. National Education Census and changing the curricula (Ministry of Education, 2009)

In reality, change in secondary school curriculum was initiated in 2006 and as result, scheme of studies for classes I to XII was reviewed and curriculum of 25 compulsory subjects.

The 18th Amendment to the constitution of Pakistan has reconfigured the federal and provincial relationship by abolishing the "concurrent legislative list". The Act (2010) provides the provinces with strong legislative and financial autonomy in education, health, and other social sectors. Major implication of the 18th Amendment for education is that the curriculum, syllabus, planning, policy, centres of excellence and standards of education will fall under the purview of the provinces. This was a big step forward for education.

In Sindh the Curriculum review team was assigned a task by the School Education Department, Government of Sindh to review the National Curriculum 2006 for all subjects and prepare a revised version that best suits the needs of the students teachers and meets the spirit of the 18th amendment.
Subject wise curriculum review committees were formed. Curriculum review team critically examined the contextual and textual parts and aligned the different sections horizontally and vertically of the Curriculum. The Bureau of Curriculum (BOC) played vital role in organizing the workshops and meetings at Hyderabad for the completion of task. The positive support from a number of educationists, researchers and teachers helped in completing the mammoth task of curriculum revision.
On the DCAR website http://dcar.gos.pk/BoC_Other_Pages/curriculum_dev.html the national curriculum as well as the revised curriculums are all placed for easy reference.

The Ziauddin University Examination Board Examination syllabi for SSC and HSSC are prepared with the Sindh Revised curriculum. Up till now following subject text books have been developed as per the revised curriculum.

AIMS AND OBJECTIVES:

The design of the curriculum combines theory and practice into a learning experience. It will enhance the knowledge and skills of the students about the computer and information technology. They will learn to use computers effectively and incorporate the idea of algorithmic thinking into their daily life problems. The students will be able to acquire information from electronic resources in a variety of formats.

Framework of Curriculum

Competencies, standards, benchmarks and student learning outcomes (SLOs) formulate the structure of Curriculum for Computer Science for Grade IX-X. This curriculum framework provides a comprehensive image of the curriculum

- **Competency**:

Competencies or strands are the key learning area that student will accomplish and learn

- **Standard**:

The standard defines the competency by specifying broadly, the knowledge, skills and attitudes that students will acquire, should know and be able to do in a particular learning area during twelve year of schooling.

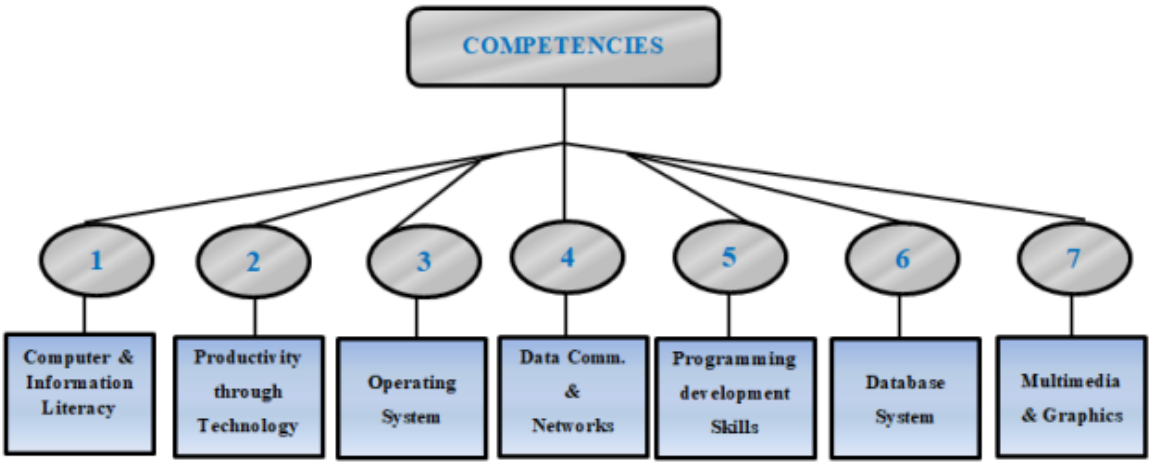
- **Benchmark**:

The benchmark further elaborates the standards, indicating what the students will accomplish at the end of each developmental level in order to meet the standards.

- **Student Learning Outcome:**

Student Learning Outcomes (SLOs) are based on the knowledge, skills, abilities, and attitudes that students are intended to have achieved at the end of a unit. SLOs are measurable instructional goals established for a specific group of students over a set period of time. SLOs serve as one of the measures of student growth. These are built on the description of the benchmarks and describe what student will accomplish at the end of each grade.

Competencies of Computer Science Curriculum for Grade IX-X



ZIAUDDIN UNIVERSITY
EXAMINATION BOARD

EXAMINATION SYLLABUS WITH SCHEME OF ASSESSMENT

SLOs CATEGORIZATION AND SCHEME OF ASSSESSMENT

UNIT 1 FUNDAMENTALS OF COMPUTER

Contents	Student Learning Outcomes	CATEGORIZATION			T O S		
	Students will be able to:	K	U	A	MCQ'S	CRQ'S	ERQ'S
1.1 Introduction to Computer 1.1.1 Evolution of Computers 1.1.2 Classification of Computers	• Demonstrate the understanding about the history of computers • Outline the various generation ofcomputers • Classify the computers as per their sizeand technology used to date.	*		* *	4	1	
1.2 Role of Computer 1.2.1 Use of Computers inVarious Fields 1.2.2 Careers in IT and ComputerScience:	• Explain the uses of computers in differentfields of life • Tell about scope of the different careers in IT sector: • Software Engineer, • Network Administrator, • Database Administrator • Web Designer • Graphics Designer • Information Security Analyst • Teacher and others	* *					

1.3 Computer hardware 1.3.1 System Unit 1.3.2 Input Devices 1.3.3 Output Device 1.3.4 Storage Devices	• Describe computer hardware • Explain the function of different parts ofsystem unit like: • Motherboard • Processor • Differentiate between various inputdevices • Recognize different output devices • Differentiate between: • Primary memory • Secondary memory • Classify different hardware devices as pertheir functionality	*	* * *	*			
1.4 1.4 Basic operations of computer	• Understand the basic op erations of computer: o Input operation o Processing operation o Storage operation o Output operation • Differentiate among the four basic operations of computer • Draw the block diagram of computer's basicoperations		* *	* *			
1.5 Computer Software 1.5.1 System Software • Operating System • Device drivers • Utility programs • Language processors 1.5.2 Application Software • Productivity software • Business software • Entertainment software Education software	• Develop the understanding about computer software • Recognize various types of system software. • List out the names of different application software's • Differentiate between application software and systemsoftware	*	* *	* *			

UNIT 2 FUNDAMENTALS OF OPERATING SYSTEM

Contents	Student Learning Outcomes	CATEGORIZATION			T O S		
	The students will be able to:	K	U	A	MCQ'S	CRQ'S	ERQ'S
2.1 Introduction of Operating System(OS) 2.1.1 Functions of OS: • Memory management • I/O management • Files Management • Resource Management • Users Management 2.1.2 Types of OS Interface • Command Line Interface(CLI) • Graphical User Interface (GUI)	• Define OS • Develop the understanding about different functions of OS • Distinguish among the various types of interfaces of OS	*	*	*	2	1	1
2.2 Types of Operating System 2.2.1 Single User and Multi-User OS 2.2.2 Batch Processing OS 2.2.3 Time Sharing OS 2.2.4 Real Time Processing OS	• Discuss different types of OS • Differentiate among the various types of operating systems		* *				
2.3 Software Installation 2.3.1 Install Windows Operating System 2.3.2 Install Office Automation Software 2.3.3 Install Antivirus	• Apply installation process of Windows operating system and other software in a computer • Demonstrate the installation process of Windows Operating System and other software • Apply installation process of any antivirus in a computer						

UNIT 3 OFFICE AUTOMATION

Contents	Student Learning Outcomes	CATEGORIZATION			T O S		
	The students will be able to:	K	U	A	MCQ'S	CRQ'S	ERQ'S
3.1 MS Word 3.1.1 Page Layout TabThemes • Page Background • Paragraph • Arrange 3.1.2 Insert Table of Contents • Automatic Table of Contents • Manual Table of Contents 3.1.3 Typing in Urdu& Sindhi Languages	• Demonstrate Page Layout Tab of MS Word • Identify the different groups of Page Layout Tab • Apply different features available in groups of Page Layout Tab • Insert manual and automatic table of contents in a document • Compose in Urdu and Sindhi languages in MS Word		* * *	* * * * *	1	2	2
3.2 MS Excel 3.2.1 Sorting 3.2.2 Formulas 3.2.3 Charts	• Review the basics of MS Excel • Identify the Elements of MS Excel User Interface • Display data with Charts	*	*	*			

UNIT 4 DATA COMMUNICATION AND COMPUTER NETWORKS

Contents	Student Learning Outcomes	CATEGORIZATION			T O S		
	The students will be able to:	K	U	A	MCQ'S	CRQ'S	ERQ'S
4.1 Basics of Communication 4.1.1 Define the following terms: • Data • Data Communication • Data Transmission • Analog Signals • Digital Signals • Data Rate • Baud Rate • Signal to Noise Ratio 4.1.2 components of a communication system: • Sender • Receiver • Message • Protocol • Transmission Medium 4.1.3 properties of a good communication system • Delivery • Accuracy • Timeliness	• Define the basic terminology of data communication • Elaborate the terms data rate and baud rate with corresponding formulas and standard units • Differentiate between analog and digital signals • Distinguish between data rate and baud rate • Recognize different components of a communicationsystem • Tell the various properties of a good communicationsystem	* * * * * *	 * * * 	 * * *	**1**	**2**	**3**

4.2 Transmission Medium 4.2.1 Guided Media 4.2.2 Unguided Media 4.2.3 Transmission impairments • Attenuation • Distortion • Noise	• Develop the understanding about the transmission medium • Recognize with different types of guided and unguidedmedia • Explain different types of guided media: o Twisted pair cable o Coaxial cable o Fiber optic cable • Describe various types of unguided media: o Radio Waves o Microwave o Infrared o Satellite • Differentiate between guided and unguided media • Describe the different types of flaws and faults intransmission signals.	* * * * *	* * * * *	 * 			
4.3 Communication Devices 4.3.1 Switch/Router 4.3.2 Modem • Dial-up modem • DSL modem • ISDN modem 4.3.3 Network Interface Card	• Define different communication devices • Explain the function of router • Differentiate among different types of modems • Describe the function of switch/router • Elaborate the functions of different communication devices	 * * 	* * * 	 			

4.4 Basics of Computer Networks 4.4.1 Computer Network & Networking Types of Computer Networks Local Area Network (LAN) Metropolitan Area Network (MAN) Wide Area Network (WAN)	• Define the term computer network and networking • Classify the network types on the basis of their characteristics	*	*				
4.5 Fundamental Topologies 4.5.1 Bus topology 4.5.2 Ring topology Star topology	• Define the term network topology • Develop understanding about physical layout of bustopology • Familiar with design constraints of ring topology • Demonstrate the architecture of star topology • Differentiate the network topologies according to theirdesign and physical layout	*	* * *	*			
4.6 Standards Organizations	List out the names of standards organizations: • International Organization for Standardization (ISO) • Institute of Electrical & Electronics Engineers (IEEE) • Internet Engineering Task Force (IETF) • International Telecommunication Union (ITU) • American National Standards Institute (ANSI) andothers		*				

4.7 Network Architecture 4.7.1 ISO's OSI model 4.7.2 TCP/IP model	• Define network architecture • Memorize the names of seven layers of OSI's ISO model: o Application o Presentation o Session o Transport o Network o Data-link o Physical • Define the functions of all layers of OSI's ISO model • Describe functions of Application, Transport, Internet andNetwork layers of TCP/IP model	* *					
4.8 Network Addressing 4.8.1 IPV4	• Define network address • Differentiate between: Physical address Logical Address Describe IPV4 address	*	* *				

UNIT 5 COMPUTER SECURITY AND ETHICS

Contents	Student Learning Outcomes	CATEGORIZATION			T O S		
	The students will be able to:	K	U	A	MCQ'S	CRQ'S	ERQ'S
5.1 Computer Security 5.1.1 Importance of computer security 5.1.2 safeguard against viruses, worms	• Explain the importance of computer security in daily life • Define various terms related to computer security: o Cyber crime o Hacker o Cracker • Explain computer crimes by giving real-life examples • Define computer virus and how to prevent them	* * * *	*		2	3	3
5.2 Computer Viruses 5.2.1 Viruses 5.2.2 Ways of viruses spread 5.2.3 Antivirus	• Define various types of viruses: o Virus o Worm o Adware o Spyware o Malware • Differentiate between virus, worm, adware, spyware and malware • Identify that a virus, worm, adware, spyware and Malware canspread via: o Infected flash drives/ CD's o Pirated software o Network and Internet o E-mail attachment • Recognize that the antivirus softwares like a Avast, Norton,MacAfee and others can help safeguard against viruses	* *	* *	*			

5.3 Authentication Mechanism 5.3.1 Types of Security mechanisms: • Username and password • Personal Identification Number (PIN) • Biometrics	• Describe the authentication mechanism • List out the different authentication mechanisms • Differentiate between username & password, personalidentification number and biometric authentication mechanisms	*	*	*			
5.4 Professional Ethics in computer field 5.4.1 Information Accuracy 5.4.2 Intellectual Property Rights 5.4.3 Software Piracy 5.4.4 Information Piracy	• Explain the importance of professional ethics in computer field • Define information accuracy • Explain various types intellectual property rights: o Patents o Copyright o Trademarks • Explain software piracy and its impact on the security • Describe the information privacy • Discuss plagiarism	* ^ * * * *	*				

UNIT 6 WEB DEVELOPMENT

Contents	Student Learning Outcomes	CATEGORIZATION			T O S		
	The students will be able to:	K	U	A	MCQ'S	CRQ'S	ERQ'S
6.1 Basic terminology of Web Development 6.1.1 Definition of terms: 6.1.2 Types of Web sites	• Recall the understanding of basic terms related to webdevelopment • Define different terms: o World Wide Web (WWW) o Web page o Web site o Web Browser o Uniform Resource Locator (URL) o Search Engine o Home Page o Web Hosting o Web Server • Identify different types of websites • Compare various types of websites: o Portal o News o Informational o Educational o Personal o Business o Blogs o Forums o Entertainment	*	* *		1	2	2

6.2 Introduction to HTML 6.2.1 Hypertext Markup Language (HTML) 6.2.2 Steps involved in Creating a HTML file 6.2.3 HTML Tags 6.2.4 Basic structure of HTML document • HTML tag • Head Section • Body Section	• Develop the understanding about HTML language • Apply the various steps involved in creating a web page • Develop understanding about HTML tags • Recognize the basic structure of a HTML document	*	*	* *			
6.3 Text Formatting 6.3.1 Titles and Footers 6.3.2 Paragraph and Line break tags 6.3.3 Heading Styles tags 6.3.4 Text formatting tags • Bold • Italic • Underline • Pre • Font Size • Font Color • Font Face • Centre • Subscripted text • Superscripted text	• Use Title and Address tags for inserting title and footer in aWeb Page. • Compose a paragraph in a webpage • Use line break tag for starting the text from new line. • Use different text formatting tags like bold, italic, underline and etc. • Apply Pre-tag for preserving both spaces and line breaks • Change text color, face • Align the portion of text in center of web page • Write subscript and superscript text in a web page	* *	*	* *			

6.4 Creating Lists 6.4.1 Unordered Lists 6.4.2 Ordered Lists 6.4.3 Definition Lists 6.4.4 Nested Lists	• Differentiate among unordered list, ordered list, definition list and nested list • Create unordered, ordered, definition and nested lists		*	*			
6.5 Images and Backgrounds. 6.5.1 Image tag 6.5.2 Attributes of Image Tag: • BORDER • WIDTH • HEIGHT • ALT 6.5.3 Body tag attributes: • BGCOLOR • BACKGROUND	• Add an Image to a web page • Apply Border to Image a web page • Specify width and Height of an Image • Specify an alternate text for the image • Apply background color to a webpage • Use an image as a background of web page		* * * *	* * *			
6.6 Hyperlinks 6.6.1 Hyperlink • Links to an external document • Links within the same document 6.6.2 Anchor Tag • HREF • NAME • TARGET	• Define a hyperlink • Create a hyperlink to an external webpage or within a samewebpage. • Develop the understanding about anchor tag • Use different attributes of anchor tag.	*	* *				

6.7 Creating Tables 6.7.1 Table Row 6.7.2 Table Heading 6.7.3 Table Data 6.7.4 Table attributes: • ALIGN • VALIGN • WIDTH • BORDER • CELLPADDING • CELLSPACING • COLSPAN • ROWSPAN	• Define term table • Differentiate between rows and columns • Differentiate between table heading and table data tags • Create a table in webpage • Change horizontal and vertical alignment of cell contents • Set the width of contents to specific number of pixels or percentage • Draw a border around the table • Control the distance between data in a cell using cellpaddingattribute • Control space between adjacent cells by using cells pacingattribute • Create data cells that span given number of rows or column using Col span and row span attributes.	*	* * * *	* * *			

6.8 Creating Frames 6.8.1 Frameset Tag attributes: • ROWS • COLS 6.8.2 Frame Tag attributes: • SRC • MARGINHEIGHT • MARGINWIDTH • NORESIZE • SCROLLING	• Define a frame • Differentiate between a frame and a frameset • Use rows and cols attributes of <Frameset> tag for divide thebrowser screen into rows and columns • Use different attributes like Src, Margin height, Margin width,Name, Noresize, and Scrolling of <Frame> tag.	*	* *	*			
6.9 Web Designing Tools 6.9.1 Software for web designing	• List out different website development tools like: o Front Page o Coral Draw o Adobe Dream viewer and others			*			

UNIT 7 INTRODUCTION TO DATABASE SYSTEM

Contents	Student Learning Outcomes	CATEGORIZATION			T O S		
	The students will be able to:	K	U	A	MCQ'S	CRQ'S	ERQ'S
7.1 Flat File System (FileManagement System)& Database System (Database Management System) 7.1.1 Flat File System 7.1.2 Database System 7.1.3 Advantages of Database Management Systemover Flat File System	• Define terms flat file system and database system • Differentiate between flat file system and database system • Discuss the advantages of database system over flat filesystem.	*	*	*	1	1	1
7.2 Fundamental of Database System 7.2.1 Basic Database Terminology: • Database • Table • Field/Attribute/Column • Record/Tuple/Row • Data Type • View 7.2.2 Difference between Database, and Database Management System	• Define basic database terms like table, field, record, data typeand etc. • Differentiate between database, and Database ManagementSystem (DBMS)	*	*		1		

7.3 Data Modeling & Entity Relationship ER-Model/ Diagram 7.3.1 Entity 7.3.2 Relationship 7.3.3 Keys • Primary Key • Foreign Key • Referential Key 7.3.4 ER-Model	• Define entity • Discuss about term relationship, in the context of database • Distinguish among primary, foreign and referential keys. • Define term ER model • Design ER model for a database in MS Access	*	*	*			

DEFINITIONS OF COGNITIVE LEVELS

Remember

Remembering is the act of retrieving knowledge and can be used to produce things like definitions or lists. The student must be able to recall or recognise information and concepts. The teacher must present information about a subject to the student, ask questions that require the student to recall that information and provide written or verbal assessment that can be answered by remembering the information learnt.

Question Stems

- Can you name all the …?
- Describe what happens when …?
- How is (are) …?
- How would you define …?
- How would you identify …?
- How would you outline …?
- How would you recognise…?
- List the … in order.
- What do you remember about …?
- What does it mean?
- What happened after?
- What is (are) …?
- What is the best one?
- What would you choose …?
- When did …?
- Where is (are) …?
- Which one …?
- Who spoke to …?
- Who was …?
- Why did …?

Understand

The next level in the taxonomic structure is Understanding, which is defined as the construction of meaning and relationships. Here the student must understand the main idea of material heard, viewed, or read and interpret or summarise the ideas in their own words. The teacher must ask questions that the student can answer in their own words by identifying the main idea.

Question Stems

- Can you clarify…?
- Can you illustrate …?
- Condense this paragraph.
- Contrast …
- Does everyone think in the way that … does?
- Elaborate on …
- Explain why …
- Give an example
- How can you describe
- How would you clarify the meaning
- How would you compare …?
- How would you differentiate between …?
- How would you describe…?
- How would you generalise…?
- How would you identify …?
- Is it valid that …?
- Is this the same as …?
- Outline …
- Select the best definition
- State in your own words
- This represents …
- What are they saying?
- What can you infer from …?
- What can you say about …?
- What could have happened next?
- What did you observe?

	• What does this mean? • What expectations are there? • What information can you infer from…? • What is the main idea of …? • What restrictions would you add? • What seems likely? • What seems to be …? • What would happen if …? • What would happen if …? • Which are the facts? • Which statements support …?
Apply The third level in Bloom's taxonomy, Applying, marks a fundamental shift from the pre-Bloom's learning era because it involves remembering what has been learnt, having a good understanding of the knowledge, and applying it to real-world exercises, challenges or situations. Students must apply an abstract idea in a concrete case to solve a problem or relate it to prior experience. The teacher must provide opportunities for students to use theories and problem-solving techniques in new situations and review and check their work. Assessment questions should be provided that allow students to define and solve problems. **Question Stems** • Can you group by characteristics such as …? • Choose the best statements that apply • Clarify why … • Do you know of another instance where …? • Draw a story map • Explain why a character acted in the way that he did • From the information given, can you develop a set of instructions about …? • How could you develop …? • How would you change …?	**Analyse** Analysing is the cognitive level where students can take the knowledge they have remembered, understood and applied, then delve into that knowledge to make associations, discernments or comparisons. Students should break down a concept or idea into parts and show relationships between these parts. Teachers must give students time to examine concepts and their requisite elements. Students are required to explain why they chose a solution. **Question Stems** • Can you distinguish between …? • Can you explain what must have happened when …? • Determine the point of view, bias, values, or intent underlying the presented material • Discuss the pros and cons of … • How can you classify … according to …? • How can you compare the different parts? • How can you sort the different parts…? • How is … connected to …? • How is … similar to …? • How would you categorise…? • How would you explain ?

• How would you demonstrate…? • How would you develop … to present ? • How would you explain …? • How would you modify …? • How would you present…? • How would you solve … ? • Identify the results of … • Illustrate the … • Judge the effects of … What would result …? • Predict what would happen if … • Tell how much change there would be if … • Tell what would happen if … • What actions would you take to perform …? • What do you think could have happened next? • What examples can you find that ? • What other way would you choose to …? • What questions would you ask of …? • What was the main idea …? • What would the result be if …? • Which factors would you change if …? • Who do you think…? • Why does this work? • Write a brief outline … • Write in your own words …	• If … happened, what might the ending have been? • State the point of view of … • What are some of the problems of …? • What assumptions …? • What can you infer about…? • What can you point out about ? • What conclusions …? • What do you see as other possible outcomes? • What does the author assume? • What explanation do you have for …? • What ideas justify the conclusion? • What ideas validate…? • What is the analysis of …? • What is the function of …? • What is the problem with …? • What motive is there? • What persuasive technique is used? • What statement is relevant? • What was the turning point? • What were some of the motives behind …? • What's fact? Opinion? • What's the main idea? • What's the relationship between? • Which events could not have happened? • Why did … changes occur? • Why do you think ?

BLOOMS TAXONOMY WITH EXAMPLES

Conclusion

If you are a teacher looking for ways to engage your students in learning, this LIST of questions might be interesting for your classroom practice. Bloom's Taxonomy question stems can help elicit higher-order thinking skills and promote critical thinking among learners at different taxonomy levels. These question stems can also encourage students to think about their knowledge through reflection before answering questions.

ACTION WORDS FOR COGNITIVE LEVELS

Knowledge	Understand	Apply	Analyze	Evaluate	Create
					
define	explain	solve	analyze	reframe	design
identify	describe	apply	appraise	criticize	compose
describe	interpret	illustrate	judge	evaluate	create
label	paraphrase	modify	support	order	plan
list	summarize	use	compare	compare	combine
name	classify	calculate	decide	classify	formulate
state	compare	change	discriminate	contrast	invent
match	differentiate	choose	recommend	distinguish	hypothesize
recognize	discuss	demonstrate	summarize	infer	substitute
select	distinguish	discover	assess	separate	write
examine	extend	experiment	choose	explain	compile
locate	predict	relate	convince	select	construct
memorize	associate	show	defend	categorize	develop
quote	contrast	sketch	estimate	connect	generalize
recall	convert	complete	grade	differentiate	integrate
reproduce	demonstrate	construct	measure	divide	modify
tabulate	estimate	dramatize	predict	order	organize
tell	express	interpret	rank	prioritize	prepare
Copy	identify	manipulate	score	survey	produce

discover	indicate	paint	select	calculate	rearrange
duplicate	infer	prepare	test	conclude	rewrite
enumerate	relate	teach	argue	correlate	adapt
listen	restate	act	conclude	deduce	anticipate
observe	select	collect	consider	devise	arrange
omit	translate	compute	critique	diagram	assemble
read	ask	explain	debate	dissect	choose
recite	cite	list	distinguish	estimate	collaborate
record	discover	operate	editorialize	evaluate	facilitate
repeat	generalize	practice	justify	experiment	imagine
retell	group	simulate	persuade	focus	intervene
visualize	illustrate	transfer	rate	illustrate	make
	judge	write	weigh	organize	manage
	observe			outline	originate
	order			plan	propose
	report			question	simulate
	represent			test	solve
	research				support
	review				test
	rewrite				validate
	show				

SSC PART I EXAMINATION
MARKS BREAKUP GRID FOR EXAMINATION 2023

SCIENCE GROUP:

SUBJECT	THEORY	PRACTICAL	TOTAL
ENGLISH	100	-	100
URDU NORMAL / SINDHI NORMAL	75	-	75
ISLAMIAT/ETHICS	75	-	75
PHYSICS	60	15	75
CHEMISTRY	60	15	75
BIOLOGY	60	15	75
MATHEMATICS	75	-	75
TOTAL	505	45	550

COMPUTER SCIENCE GROUP:

SUBJECT	THEORY	PRACTICAL	TOTAL
ENGLISH	100	-	100
URDU NORMAL/SINDHI NORMAL	75	-	75
ISLAMIAT/ETHICS	75	-	75
PHYSICS	60	15	75
CHEMISTRY	60	15	75
COMPUTER STUDIES	60	15	75
MATHEMATICS	75	-	75
TOTAL	505	45	550

GENERAL GROUP:

SUBJECT	THEORY	PRACTICAL	TOTAL
ENGLISH	100	-	100
URDU NORMAL / SINDHI NORMAL	75	-	75
ISLAMIAT/ETHICS	75	-	75
GENERAL SCIENCE	75	-	75
GENERAL MATH	75	-	75
EDUCATION	75	-	75
ECONOMICS	75	-	75
CIVICS	75	-	75
ISLAMIC STUDIES	75	-	75
TOTAL	550	-	550