ZIAUDDIN UNIVERSITY
EXAMINATION BOARD

Higher Secondary School Certificate
(HSSC)

Examination syllabus

Computer Science
XI

Based on Provincial Revised Curriculum (Sindh)

You can approach us:

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PREFACE

The Ziauddin University Examination Board (ZUEB) was established under **Sindh ACT XLI 2018**, with the primary objective of enhancing the quality of education in Sindh. ZUEB is responsible for administering examinations for the **Secondary School Certificate (SSC)** and **Higher Secondary School Certificate (HSSC)** in alignment with the most recent revisions to the **National Curriculum**, as outlined by the **Directorate of Curriculum Assessment and Research (DCAR), Sindh**. Through its ordinance, ZUEB is mandated to provide examination services for both English, Urdu, and Sindhi medium candidates from private schools across Sindh. This examination syllabus reflects ZUEB's dedication to achieving the educational goals set by the provincial authorities.

In collaboration with subject professors, ZUEB has developed a comprehensive syllabus for each subject. It is important to distinguish between the syllabus and the curriculum. The syllabus serves as a guide for both teachers and students, outlining the key areas of focus within the subject. It provides students with a clear understanding of what is expected of them in their studies and helps them prepare effectively for their exams.

This examination syllabus incorporates all cognitive outcomes derived from the **Provincial Curriculum Statement**, ensuring that assessments are both valid and reliable. While the focus is primarily on the cognitive domain, significant emphasis is placed on the application of knowledge and understanding.

The syllabus is made available to all stakeholders via the ZUEB website to assist affiliated schools in planning their teaching. It is crucial to note that the syllabus, rather than the prescribed textbook, forms the foundation of ZUEB examinations. Additionally, this syllabus supports the development of learning materials for both students and teachers. ZUEB remains committed to supporting students undertaking the SSC and HSSC courses by facilitating their learning outcomes through this detailed syllabus document.

To further assist in the learning process, ZUEB provides a dedicated **e-resource tab** on its website, offering both text-based and video content on various subjects. These 15-20 minute instructional videos, created around key subject concepts, allow students to learn at their own pace and convenience. The videos can be used as a reinforcement tool to revisit lessons already taught or as pre-lesson material. This initiative is an ongoing effort, and new videos will continue to be uploaded.

We encourage all students and educators to make the most of these resources for a more enriched and flexible learning experience.

Sincerely,
Shahbaz Nasim
Head – Measurement & Testing
Ziauddin University Examination Board

Reviewed by:
Sana Anwer Ali
Manager Sciences
Ziauddin University Examination Board
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Rationale For The Reviewed Provincial Curriculum

The process of revising the National Curriculum 2006 began in August 2004, when the newly elected government of Pakistan initiated education reforms across the country. These reforms included the introduction of a new National Education Policy, a National Education Census, and a revision of curricula (Ministry of Education, 2009).

In practice, the overhaul of the secondary school curriculum began in 2006, leading to a review of the scheme of studies for classes I to XII and the revision of curricula for 25 compulsory subjects.

The 18th Amendment to the Constitution of Pakistan, enacted in 2010, significantly altered the federal- provincial relationship by abolishing the "concurrent legislative list." This amendment granted provinces greater legislative and financial autonomy in sectors such as education and health. The most notable implication of the 18th Amendment for education was the transfer of responsibility for curriculum development, syllabus planning, policy formation, and educational standards to the provinces, marking a significant step forward for education.

In Sindh, the School Education Department tasked a Curriculum Review Team with revising the National Curriculum 2006 for all subjects. The goal was to create a curriculum better suited to the needs of students and teachers while aligning with the principles of the 18th Amendment. Subject-specific curriculum review committees were established to critically examine and align the curriculum's content, both contextually and textually, ensuring coherence across various subjects. The Bureau of Curriculum (BoC) played a crucial role in organizing workshops and meetings in Hyderabad to facilitate the completion of this task. The support of numerous educationists, researchers, and teachers was invaluable in successfully revising the curriculum.

The Ziauddin University Examination Board (ZUEB) SSC and HSSC syllabi are developed in accordance with the Sindh Revised Curriculum. To date, textbooks for various subjects have been developed based on the revised curriculum.

ZIAUDDIN UNIVERSITY EXAMINATION BOARD
SLOs CATEGORIZATION
XI - COMPUTER SCIENCE
Detailed Syllabus

UNIT 1: BASIC CONCEPTS OF INFORMATION TECHNOLOGY

S. no.	Content and Scope	Learning Outcomes/Skills	Cognitive Level		
		Students will be able to:	**K**	**U**	**A**
1.1	Introduction to Computer System	• Identify computing devices used for input, process, storage and output; • Describe simple data processing cycle (input, process, output and storage); • Classify computers according to processing speed, size and uses (microcomputer, minicomputer, mainframe computer and supercomputer);		* * *	
1.2	Computer Hardware and their examples	• Differentiate between manual data entry and automatic data capture devices; • Describe the function of manual data entry devices and their uses in daily life, i.e. keyboard, scanners (2D and 3D), microphone, pointing devices (graphics tablet, joystick, light pen, mouse, touchpad, trackball), digital camera, interactive whiteboard and touch screens (capacitive, resistive and infrared); • Compare the types of automatic data capture devices and their uses in daily life, i.e. magnetic card reader (MCR), magnetic ink character reader (MICR), optical character reader (OCR), barcode reader, optical mark reader (OMR) and quick response (QR) code reader;		* * *	
1.3	Computer Software	• Differentiate among application software, system software and internet applications; • Describe the types of system software i.e. operating system, programming language translators, utility software and device driver; • Describe the use of different application software and their types; • Compare licensed software, open source software, shareware and freeware with examples;		* * * *	
1.4	Computer Memory	• Describe important characteristics of memory devices; • Convert digital storage units from one to another, i.e. bit, nibble, byte, kilobyte (KB), kibibyte (KiB), Megabyte (MB), Mebibyte (MiB), Gigabyte (GB), Gibibyte (GiB), Terabyte		*	*

		(TB), Tebibyte (TiB), Petabyte (PB) and Pebibyte (PiB); • Differentiate between primary (main) memory and secondary memory; • Differentiate among Random Access Memory (RAM), Read Only Memory (ROM) and internal processor memory; • Compare the two types of RAM, i.e. Static RAM (SRAM) and Dynamic RAM (DRAM); • Compare three types of ROM, i.e. Programmable ROM (PROM), Erasable Programmable ROM (EPROM) and Electrically Erasable Programmable ROM (EEPROM); • Describe the role of Basic Input/ Output System (BIOS) in boot-up process; Compare the three types of cache memory, i.e. Level-1 (L1) cache, Level-2 (L2) cache and Level-3 (L3) cache; • Compare magnetic, optical and solid state storage devices; • Describe magnetic storage and its types, i.e. magnetic tapes and disks; • Describe various types of optical storage media, i.e. Compact Discs (CDs), Digital Versatile Discs (DVDs) and Blu-Ray; • Identify CDs and DVDs as CD-ROM, CD-R, CD-RW, DVD-ROM, DVD-R, DVD-RW and DVD-RAM; • Describe solid state storage devices (flash memory and Secure Digital (SD) cards); • Differentiate between sequential and direct access storage.		* * * * * * * * * * *	
1.5	Inside System Unit	• Differentiate between CPU and system unit; • Discuss the role of three major components of system unit, i.e. casing, power supply and motherboard; • Differentiate among different types of ports, i.e. serial port, parallel port, PS/2 port, Universal Serial Bus (USB) port, fire wire port and High Definition Multimedia Interface (HDMI) port; • Compare the six types of expansion cards, i.e. sound card, video graphics card, modem card, Network Interface Card (NIC), gigabit card and wireless network card; • Differentiate between two categories of memory modules, i.e. Single Inline Memory Module (SIMM) and Dual Inline Memory Module (DIMM).		* * * * * \ *	

UNIT 2: INFORMATION NETWORKS

S. no.	Content and Scope	Learning Outcomes/Skills	Cognitive Level		
		Students will be able to:	**K**	**U**	**A**
2.1	Introduction to Computer Networks	• Define a computer network; • Differentiate among different types of networks depending upon coverage area and use: a. nano network	*	*	

		b. Body Area Network (BAN) c. Personal Area Network (PAN) d. Near-me-Area Network (NAN) e. Local Area Network (LAN) f. Wide Area Network (WAN) g. Metropolitan Area Network (MAN) h. Internet Area Network (IAN) i. Interplanetary Internet (IPN); • Compare the types of network topologies, (i.e. star, ring, bus, mesh and tree) with the help of diagrams;		*	
2.2	LAN Models	• Explain Client/Server Model and Peer-to-Peer (P2P) Model		*	
2.3	World Wide Web	• Where the internet started o from ARPANET to World Wide Web o Internet o The Global Village o Who Governs the internet o Connecting to the internet	*		
2.4	Internet Abuse	• Differentiate between o Cybercrime o Cyberbullying o Spamming o Malware		*	

UNIT 3: DATA COMMUNICATIONS

S. no.	Content and Scope	Learning Outcomes/Skills	Cognitive Level		
		Students will be able to:	**K**	**U**	**A**
3.1	Introduction to Data Communication	• Describe basic network components, i.e. sender, message, medium, protocol, receiver; • Discuss the role of the four data communication devices, i.e. hub, switch, router and gateway; • Differentiate between guided and unguided media and their types, i.e. a) guided media (telephone cable, twisted pair cable, coaxial cable and fibre optic cable) b) unguided media (microwave transmission and satellite communication); • Compare three modes of data transmission, i.e. simplex, half-duplex and full-duplex; • Differentiate between two types of transmission, i.e. serial and parallel; • Differentiate between synchronous and asynchronous transmission of data;		* * * * * *	

3.2	OSI Model	• Differentiate among seven layers of Open System Interconnection (OSI) model; • Identify protocols and devices used on every layer of OSI model;		* *	
3.3	TCP/ IP Protocol Architecture	• Define Transmission Control Protocol/ Internet Protocol (TCP/ IP) architecture; • Describe function of each layer of TCP/ IP protocol architecture; • Compare the TCP/ IP model with the OSI model; • Differentiate between circuits switching and packet switching with examples; • Differentiate between Internet Protocol version 4 (IPv4) and Internet Protocol version (IPv6); • Identify the class of an IPv4 address on the basis of IP range.	*	* * * * *	
3.4	Short Distance Wireless Communication	• Compare the types of short distance wireless technologies, i.e. Wireless Fidelity (Wi-Fi), Worldwide Interoperability for Microwave Access (WiMAX), Bluetooth and Infra-red;		*	
3.5	Long Distance Wireless Communication	• Explain mobile (cellular) communication; • Describe the role of components required for mobile communication (mobile phone, base station, switching node, landline telephone network); • Describe the limitations of mobile communication systems; • Explain Global Positioning System (GPS); • Differentiate among Geostationary Earth Orbit (GEO) satellites, Medium Earth Orbit (MEO) satellites and Low Earth Orbit (LEO) satellites; • Define the following wireless protocols: a. Wireless Application Protocol (WAP) b. Wired Equivalent Privacy (WEP) protocol.	* *	* * * * *	

UNIT 4: APPLICATIONS AND USE OF COMPUTERS

S. no.	Content and Scope	Learning Outcomes/Skills	Cognitive Level		
		Students will be able to:	**K**	**U**	**A**
4.1	Uses of Computers in Various fields	• Study the various ways computers are being used in Information Management, Personal Productivity, Communication, Research, Science, Engineering, Education, Entertainment, Art, Business, Agriculture, Government, Health, Medicine, Robotics etc.		*	
4.2	Positive Impacts of Computers	• How computers are making a positive impact on people's lives, health, environment, future etc.		*	
4.3	Negative	• How computers are impacting human life and their surrounding		*	

	Impacts of Computes	with new mental problems, creating brainwashed robots, how governments are using computers to control people, their way of live, and thinking.			

UNIT 5: COMPUTER ARCHITECTURE

S. no.	Content and Scope	Learning Outcomes/Skills	Cognitive Level		
		Students will be able to:	**K**	**U**	**A**
5.1	Components of Central Processing Unit (CPU)	• Describe the role of CPU in computer system; • Describe functions of components of CPU, i.e. Arithmetic and Logic Unit (ALU), Control Unit (CU), registers, cache, internal buses (data bus, address bus and control bus) with the help of a block diagram; • Describe the functions of following registers and their types, i.e. a. general purpose register (Accumulator (AC) and Data Register (DR), Base Register (BR), Counter Register (CR)) b. special purpose register (Instruction Register (IR), Memory Address Register (MAR), Program Counter (PC), Memory Buffer Register (MBR));		* * *	
5.2	Various Operations Performed by CPU	• Compare three types of instructions of CPU, i.e. data transfer instructions, data processing instructions and program control instructions; • Compare different types of CPU instruction formats, i.e. zero address instruction, one address instruction and two address instruction; • Describe fetch – decode – execute cycle with the help of a diagram; • Differentiate between Complex Instruction Set Computer (CISC) and Reduced Instruction Set Computer (RISC) architecture; • Differentiate between Intel P4 and advanced micro devices (AMD) Athlon on the basis of clock speed, bus width, cache and architecture.		* * * * *	

UNIT 6: SECURITY, COPYRIGHT AND THE LAW

S. no.	Content and Scope	Learning Outcomes/Skills	Cognitive Level		
		Students will be able to:	**K**	**U**	**A**
6.1	Computer Crimes	• Classify between computer crimes like o Software Piracy o Theft of Hardware o Cyberterrorism		*	

		○ Theft of time and service ○ Hacking ○ Denial of Service Attack			
6.2	Computer Viruses	• Differentiate between different computer viruses and malwares ○ Worm ○ Trojan Horse ○ Ransomware ○ Spyware ○ Adware ○ Scareware ○ Boot sector		*	
6.3	Preventive Measures against Viruses	• Learn how one user can protect his/her computer from different computer crimes and viruses through ○ Antivirus software ○ Identifying and Authenticating Users ○ User Names and Passwords ○ Possessed Objects ○ Biometric Devices ○ Firewalls, Encryption, and Audits ○ Making Backups		*	

UNIT 7: WINDOWS OPERATING SYSTEM

S. no.	Content and Scope	Learning Outcomes/Skills	Cognitive Level		
		Students will be able to:	**K**	**U**	**A**
7.1	Introduction to Operating System	• Identify the commonly used operating systems; • List the tasks performed by an operating system; • Differentiate between command line interface and graphical user interface of an operating system; • Differentiate between single user operating system and multi user operating system; • Compare the types of operating system, i.e: a. simple batch system b. multiprogramming batch system c. multitasking operating system d. distributed operating system e. real-time operating system f. parallel processing operating system g. multiprocessor operating system h. embedded operating system i. time-sharing operating system;	*	* * * *	
7.2	Functions of Operating System	• Describe the main functions of operating system, i.e. process management, memory management, file management, I/ O system management, secondary storage management, protection system, interrupt handling, network management, command-interpreter;		*	

7.3	Process Management	• Determine the sequence of execution of processes to get the minimum execution time; • Explain the process state diagram including new, running, waiting/ blocked, ready and terminated states of a process; • Differentiate between thread and process; • Differentiate among multithreading, multitasking, multiprogramming and multiprocessing.		* * *	*
7.4	Working with GUI OS	• Familiarize with environment of the Windows Operating System • Apply data management techniques (files/ folders) o Creation o Deletion o Copying o Renaming • Understand the concept drives and paths • Apply files and folders searching options • Understand the Properties and Attributes of files and folders • Demonstrate the management of the hardware software resources through control panel • Use DirectX (dxdiag) command to analyze the computer resources • Show and Change System Configurations by using msconfig.		* * * *	* * *

UNIT 8: WORD PROCESSING

S. no.	Content and Scope	Learning Outcomes/Skills	Cognitive Level		
		Students will be able to:	**K**	**U**	**A**
8.1	Editing Documents	• Create, Edit, Delete, Format, Enhance, Print .docx files in MS Word		*	
8.2	Basic Word Processing Functions	• Learn and apply basic word functions like page layout, design, Document review, creating PDFs, inserting pictures to documents etc.			*
8.3	Word Processing Software	• Learn to work with and install different word processing software like Corel WordPerfect, OpenOffice Writer, Microsoft Word, WPS etc.			*

UNIT 9: SPREADSHEET SOFTWARE

S. no.	Content and Scope	Learning Outcomes/Skills	Cognitive Level		
		Students will be able to:	**K**	**U**	**A**
9.1	Working with Rows and Columns in Excel	• Learn to work in rows and columns i.e to edit them merge, delete, insert, move, color it, label them, selecting ranges, changing width and heights of columns, Alignment, Graphing, and additional spreadsheet features.		*	

9.2	Data types in Spreadsheet software	• Learn about the data types in spreadsheets like numbers, addition, subtraction, multiplication, division, comparison operators, handling blanks, empty strings, zero values, text, logical, error, implicit and explicit data type conversion in DAX formulas etc.		*	
9.3	Working with Formulas	• Learn to use formulas of SUM, AVERAGE, COUNT, SUBTOTAL, MODULUS, POWER, CEILING, FLOOR, CONCATENATE, LEN, REPLACE, SUBSTITUTE, LEFT, RIGHT, MID, NOW(), TODAY() etc.		*	
9.4	Popular Spreadsheet Software	• Learn to work with and install different spreadsheet software like MS Excel, Google Sheets, WPS Office, OpenOffice Calc, Smartsheet, LibreOffice etc.			*

UNIT 10: INTERNET BROWSING AND USING EMAIL

S. no.	Content and Scope	Learning Outcomes/Skills	Cognitive Level		
		Students will be able to:	**K**	**U**	**A**
10.1	Browsing the Web	• Use the web browsing i.e Google chrome, Mozilla Firefox, Microsoft Edge etc and use it to search on internet.			*
10.2	Downloading Files	• Download music files, pictures, software etc different types of downloadable files from the internet.		*	
10.3	Understanding Email	• Use emailing website like outlook, gmail, mailchimp etc.			*

Ziauddin University Examination Board
Scheme of Assessment

Maximum marks: 100

Section "A"

Multiple Choice Questions (MCQs) **(15 x 1 = 15)**
Attempt 15 MCQs. Each MCQ carries equal marks.

Practical based Assessments (PBAs) **(25 x 1 = 25)**
Attempt 25 MCQs. Each MCQ carries equal marks.

Section "B"

Short Answer Questions **(10 x 3 = 30)**
Attempt any 10 out of 15 questions. Each question carries equal marks.

Section "C"

Detailed Answer Questions **(2 x 15 = 30)**
Attempt any 2 (with sub-parts) out of 3 questions.
Each question has 2 sub parts of 8 and 7 marks respectively.

Ziauddin University Examination Board
Computer Science
Table of Specification [TOS]

S.No	Domains	Weightage in evaluation 100%	MCQs 1 mark each	PBAs 1 mark each	Short Answers 3 marks each	Detailed Answers 15 marks each
1	Basic Concepts of Information Technology	8 %	3	–	2	–
2	Information Networks	8 %	2	–	2	1
3	Data Communications	7 %	2	–	1	1
4	Applications and Use of Computers	7 %	1	–	2	1
5	Computer Architecture	5 %	1	–	1	1
6	Security, Copyright and the Law	7 %	2	–	1	1
7	Windows Operating System	5 %	2	–	1	0
8	Word Processing	20 %	–	10	2	0
9	Spreadsheet Software	26%	–	15	1	0
10	Internet Browsing and using Email	8 %	2	–	2	1
Total # of Questions asked			**15**	**25**	**15**	**6 (with 2 sub parts each of 8 and 7 marks)**
Total # of Questions to be attempted			**15**	**25**	**10**	**2**
Maximum marks attainable			**15 marks**	**25 marks**	**30 marks**	**30 marks**

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 might 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 would you develop …? • How would you change …? • How would you demonstrate…?	**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 develop? • 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 …	• What could the ending have been if ... had taken place? • 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 ?

BLOOM'S TAXONOMY WITH EXAMPLES

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				

HSSC PART I EXAMINATION
MARKS BREAKUP GRID FOR EXAMINATION 2025

GROUP: PRE-MEDICAL

SUBJECT	THEORY	PBA	TOTAL
ENGLISH	100	-	100
URDU NORMAL / URDU EASY	100	-	100
ISLAMIYAT / ETHICS	50	-	50
PHYSICS	85	15	100
CHEMISTRY	85	15	100
BIOLOGY	85	15	100
TOTAL	505	45	550

GROUP: PRE-ENGINEERING

SUBJECT	THEORY	PBA	TOTAL
ENGLISH	100	-	100
URDU NORMAL / URDU EASY	100	-	100
ISLAMIYAT / ETHICS	50	-	50
PHYSICS	85	15	100
CHEMISTRY	85	15	100
MATHEMATICS	100	--	100
TOTAL	520	30	550

GROUP: GENERAL SCIENCE

SUBJECT	THEORY	PBA	TOTAL
ENGLISH	100	-	100
URDU NORMAL / URDU EASY	100	-	100
ISLAMIYAT / ETHICS	50	-	50
PHYSICS	85	15	100
COMPUTER SCIENCE	75	25	100
MATHEMATICS	100	--	100
TOTAL	510	40	550

GROUP: COMMERCE

SUBJECT	THEORY	PBA	TOTAL
ENGLISH	100	-	100
URDU NORMAL / URDU EASY	100	-	100
ISLAMIYAT / ETHICS	50	-	50
ECONOMICS	75	-	75
P.O.C	75	-	75
ACCOUNTING	100	--	100
BUSINESS MATHEMATICS	50		50
TOTAL	550	---	550

GROUP: HUMANITIES

(Any Three Electives)

SUBJECT	THEORY	PBA	TOTAL
ENGLISH	100	-	100
URDU NORMAL / URDU EASY	100	-	100
ISLAMIYAT / ETHICS	50	-	50
COMPUTER SCIENCE	75	25	100
ISLAMIC STUDIES	100		100
MATHEMATICS	100	-	100
SOCIOLOGY	100	--	100
ECONOMICS	100		100
EDUCATION	100		100
CIVICS	100		100
NURSING	85	15	100
TOTAL	550	---	550

GROUP: MEDICAL TECHNOLOGY

SUBJECT	THEORY	PBA	TOTAL
ENGLISH	100	-	100
URDU NORMAL / URDU EASY	100	-	100
ISLAMIYAT / ETHICS	50	-	50
MICROBIOLOGY	85	15	100
HEMATOLOGY & BLOOD BANKING	85	15	100
ANATOMY & PHYSIOLOGY	85	15	100
TOTAL	505	45	550

GROUP: PRE-NURSING

SUBJECT	THEORY	PBA	TOTAL
ENGLISH	100	-	100
URDU NORMAL / URDU EASY	100	-	100
ISLAMIYAT / ETHICS	50	-	50
BIO-CHEMISTRY	85	15	100
FUNDAMENTALS OF NURSING	85	15	100
ELEMENTARY ANATOMY & MICRO TECHNIQUE	85	15	100
TOTAL	505	45	550