



Shifa Tameer-e-Millat University

شفاتعمیرمِلّات یونیورسٹی

SUBJECT CONTENTS FOR STMU ENTRANCE TEST MBBS & BDS

Session: 2026-2027



Biology	
Unit	Topics/Subtopics
ACELLULAR LIFE	Viruses
	AIDS and HIV Infection
BIOENERGETICS	Respiration
BIOLOGICAL MOLECULES	Biological Importance of Water
	Carbohydrates
	Proteins
	Lipids
	Ribonucleic acid (RNA)
	Conjugated molecules
	Structure of DNA
CELL STRUCTURE & FUNCTION	Cell structure
	Prokaryotic and Eukaryotic cell
	Cytoplasmic Organelles
	Chromosomes
COORDINATION & CONTROL/ NERVOUS & CHEMICAL COORDINATION	Receptors
	Neurons
	Brain
ENZYMES	Enzymes
	Mode of Enzyme Action
	Inhibitors
EVOLUTION	Concept of Evolution
	Darwinism
SUPPORT & MOVEMENT	Human skeleton
	Muscles
INHERITANCE	Mendel's laws of Inheritance
	X-linked Recessive inheritance
RESPIRATION	Human Respiratory System
HOMEOSTASIS	Homeostasis (kidney specifically)
	Thermoregulation
	Excretion
BIOTECHNOLOGY	Biotechnology and Health Care



Chemistry	
Unit	Topics/Subtopics
INTRODUCTION OF FUNDAMENTALS CONCEPT OF CHEMISTRY	Moles and Avogadro's Numbers
	Limiting and Excess Reactants
	Yield
ATOMIC STRUCTURE	Quantum Number
	Shapes of orbitals
	Electronic Configuration
LIQUIDS	Hydrogen Bonding
	Anomalous behavior of Water
SOLID	Crystalline Solids
	Factors Affecting the Shape of Ionic Crystals
	Lattice Energy
CHEMICAL EQUILIBRIUM	Chemical Equilibrium
	Le Chatelier's principle
	Solubility Products
	Common Ion Effect
	Buffer Solution
REACTION KINETICS	Chemical Kinetics
	Factors affecting rate of reaction
	Order of Reaction
THERMO CHEMISTRY AND ENERGETICS OF CHEMICAL REACTION	Hess's Law
ELECTROCHEMISTRY	Redox Reaction
	Oxidation and Reduction
	Balancing Chemical Reaction
	Standard Hydrogen Electrode (SHE)
CHEMICAL BONDING	VSEPR Theory
	Sigma and Pi Bond
	Hybridization
	Application of VSEPR Theory
	Dipole Moment
	Application of Dipole Moment
	Bond Energy
S- AND P- BLOCK ELEMENTS	Properties and their Trends
	S-, P-, D- & F- Block Elements
	Reaction of Group II elements
TRANSITION ELEMENTS	Electronic Structure
FUNDAMENTAL PRINCIPLES OF ORGANIC CHEMISTRY	Definition and Classification of Organic Compound
	Functional Group



	Isomerism
CHEMISTRY OF HYDROCARBONS	Nomenclature of Alkanes
	Free Radical Mechanism
	Nomenclature of Alkenes
	Shapes of Alkenes
	Structure and Reactivity of Alkenes
	Preparation of Alkenes
	MOT of Benzene Resonance and Resonance Energy
	Reactivity of Benzene
	Chemical Reactions of Benzenes
	Effect of Substituents
ALKYL HALIDES	Nomenclature Structure and Reactivity
	Substitution vs Elimination
ALCOHOLS AND PHENOLS	Nomenclature, structure and reactivity of Alcohol
	Nomenclature, structure and reactivity of Phenols
	Alcohols and Phenols
ALDEHYDES AND KETONES	Nomenclature and structure of Aldehydes and Ketones
	Preparation
	Reactivity of Aldehydes and Ketones
	Reaction of Aldehydes and Ketones
CARBOXYLIC ACIDS	Nomenclature, Structure and Preparation of Carboxylic Acid
	Chemical Reactions/Reactivity
	Conversion of Carboxylic Acid
INDUSTRIAL CHEMISTRY	Polymers



Physics	
Unit	Topics/Subtopics
VECTORS AND EQUILIBRIUM	Addition of Vectors (Rectangular Components)
	Product of Vectors (Scalar Product)
	Product of Vectors (Vector Product)
FORCE AND MOTION	Displacement
	Velocity
	Displacement-time Graph
	Acceleration
	Uniform and variable acceleration
	Newton's Laws of motion
	Newton's Second Law and Linear momentum
	Collision
WORK AND ENERGY	Work
	Energy
	Kinetic Energy
	Potential energy
	Power
ROTATIONAL AND CIRCULAR MOTION	Angular displacement
FLUID DYNAMICS	Terminal Velocity
WAVES	Motion of wave
	Characteristics of wave
	Wave Speed
	Progressive waves
	Classification of progressive waves
	Stationary waves
	Stationary waves in a stretched string
	Organ pipes
	Superposition of waves
	Simple Harmonic Motion, Terminologies of SHM, Circular motion and SHM, Energy
	Circular Motion and SHM (Acceleration and Velocity of Projection)
THERMODYNAMICS	Thermal equilibrium, Heat
	Molar specific heat of gas
	Work
	First law of thermodynamics
ELECTROSTATICS	Coulomb's Law
	Electric Field
	Representation of electric field by lines
	Electric potential
	Electric potential energy and potential due to a point charge



	Charging and discharging of a capacitor through a resistance
CURRENT ELECTRICITY	Steady current
	Ohm's Law
	Factors on which resistance depends Temperature coefficient of resistivity
	Internal resistance of sources
ELECTROMAGNETISM	Magnetic flux density/Magnetic field
	Magnetic flux
	Motion of charged particle in magnetic field
ELECTROMAGNETIC INDUCTION	Faraday's Law of electromagnetic induction
	Lenz's Law
ALTERNATING CURRENT	Electromagnetic waves
ELECTRONICS	Rectification
DAWN OF MODERN PHYSICS	Quantum Theory and Radiation
ATOMIC SPECTRA	Atomic Spectra
NUCLEAR PHYSICS	Composition of atomic nuclei
	Spontaneous and random nuclear decay
	Half-life and rate of decay
	Biological and Medical uses of radiation



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SAMPLE PAPER STMU ENTRANCE TEST MBBS & BDS

Session: 2026-2027



General Information

1. This test is an illustration of the layout and format of what can be expected in a typical objective test. It is mainly for guidance, familiarization and practice. However, the exact number of questions, their difficulty levels and variety of the objective questions could vary from test to test.
2. Questions in this paper have been deliberately drawn from a number of test resources available in the market including your course books.

Instructions for this Test

1. Duration of test is 180 Minutes.
2. There are 150 MCQs; 38 in Chemistry, 60 in Biology, 22 in Physics, 12 in English, 12 in Logical Reasoning and 6 MCQs in General Knowledge. All questions are compulsory.
3. Select **ONE** out of four possible options given with each question. All questions carry equal marks.
4. Please mark your answers on the answer sheet with a ball point or felt tip pen.
5. Do not stay for too long on any one question; maintain a rate of roughly a minute per question.
6. Each correct answer gets you +1 score and each un-answered question a 0 score.

ENGLISH

Complete the sentences by choosing the most appropriate option, from the given lettered choices (A to D) below each.

1. Sara _____ the smell of gas in the kitchen.

- A. developed
- B. saw
- C. determined
- D. detected

Four lettered pairs (A to D) follow a related pair of words given in capitals. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair in capitals.

2. REFURBISH: WORN::

- A. revive: exhausted
- B. reward: outstanding
- C. resume: interrupted
- D. replace: stolen



LOGICAL REASONING

3. The number missing in the series 2, 6, 12, 20, ?, 42, 56, 72 is:
- A. 24
 - B. 30
 - C. 36
 - D. 38
4. Luqman is 67 years old. His son Rameez is 29 years old. In how many years will Rameez be exactly half his father's age?
- A. 2
 - B. 5
 - C. 7
 - D. 9

GENERAL KNOWLEDGE

5. The largest ocean of the world is:
- A. Atlantic Ocean
 - B. Pacific Ocean
 - C. Indian Ocean
 - D. North Sea
6. "Jeddah" is the seaport of:
- A. Jordan
 - B. Kuwait
 - C. Saudi Arabia
 - D. Iraq

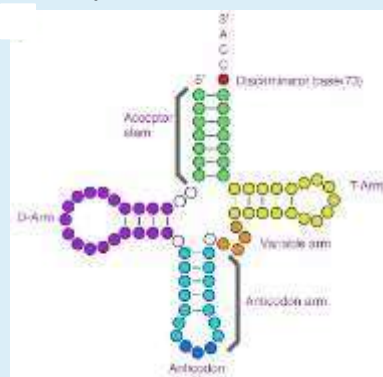
BIOLOGY

7. A rare genetic disorder causes the malfunction of enzymes within mitochondria, leading to fatigue and muscle weakness in patients. What cellular function is most directly impaired by this genetic mutation?
- A. Oxygen transport
 - B. ATP production
 - C. Nutrient absorption
 - D. Cell wall synthesis
8. A high school student frequently feels tired, appears unusually pale, and has difficulty concentrating in class. A blood test shows a significantly low hemoglobin level. What is the most likely medical condition the student is experiencing?
- A. Diabetes
 - B. Hypertension



- C. Asthma
- D. Anemia

9. In a lab simulation, students are shown the following figure of a biological molecule. You will identify this as:



- A. rRNA
- B. mRNA
- C. tRNA
- D. miRNA

10. Kamran reads that receptors act as transducers in the human body and wants to understand what this means functionally. It would mean:

- A. They block external signals from entering the body.
- B. They convert external stimuli into electrical impulses.
- C. They amplify electrical signals from neurons.
- D. They store information for long-term memory.

CHEMISTRY

11. A researcher is studying the reactivity of hydrocarbons. She selects a molecule with the formula C_2H_2 (ethyne) for her experiment. Why is C_2H_2 classified as an alkyne?

- A. It contains only single bonds
- B. It contains a double bond between carbon atoms
- C. It has an aromatic ring structure
- D. It contains a triple bond between carbon atoms

12. A chemistry teacher gives students a periodic table and asks them to write the electron configuration of calcium (atomic number 20). According to the Aufbau principle, what is the last orbital that gets filled in calcium?

- A. 3p
- B. 3d
- C. 4s
- D. 4p

13. A student dissolves ethanoic acid in water and notices that it dissolves completely. Which structural feature of carboxylic acids allows them to dissolve easily in water?



- A. Long carbon chains that form hydrogen bonds
- B. Presence of the -COOH group that forms hydrogen bonds
- C. Presence of hydrogen atoms
- D. Presence of alkyl groups that form hydrogen bonds

PHYSICS

14. A delivery robot carrying a light box accelerates quickly, but when loaded with a much heavier box, its acceleration slows down even though the same force is applied. Which law best explains this change in acceleration?

- A. Newton's First Law
- B. Newton's Second Law
- C. Newton's Third Law
- D. Archimedes' Principle

15. A technician is designing a solar-powered battery charger. The output of the solar panel is AC due to a specific setup. He needs to convert this AC to DC to charge a battery safely. What component should the technician include in the circuit for rectification?

- A. Diode
- B. Transformer
- C. Capacitor
- D. Inductor

ANSWER KEY

Q #.	Right Choice
1	D
2	A
3	B
4	D
5	B
6	C
7	B
8	D
9	C
10	B
11	D
12	C
13	B
14	B
15	A