KARACHI EDU

IX BIOLOGY SUPPLY PREPARATION PAPER

Date: _____ **Duration:** _____ **Total Marks:** _____

SECTION A (ALL TOPICS COVERED)

1. Cell Biology & Microscopy

1. Discoverer of cell and nucleus + 3 postulates of cell theory.
2. Differences: Prokaryotic vs Eukaryotic cell OR Plant vs Animal cell.
3. Why meiosis called reduction division + stages of Prophase-I.
4. Cell cycle phases + diagram of cell cycle.
5. Why mitochondria called powerhouse + labeled diagram.
6. Structure of cell membrane/nucleus/cell wall with diagrams.
7. Diagram of animal/plant cell.
8. Functions:
   - Golgi bodies
   - Liver
   - Oral cavity

2. Classification & Taxonomy

1. Define classification + taxonomic hierarchy.
2. Binomial nomenclature principles + biological names (man, frog, red rose).
3. Five kingdom classification system.
4. Characteristics:
   - Kingdom Monera
   - Plantae
5. Relationship of biology with other sciences.

3. Tissues & Anatomy

1. Classification of plant tissues.
2. Animal tissues/Plant tissues in detail.
3. Define tissue types.
4. Diagram:
   - Smooth/Cardiac muscles
   - L.S of Villus
   - T.S of Root
5. Structure of bacteria diagram.
6. Chloroplast structure diagram.

4. Human Physiology

1. Composition of blood + functions of corpuscles and blood.
2. Differences: Arteries vs Veins OR Pulmonary vs Systematic circuit.
3. Human digestive system: stomach & intestine functions + diagram.
4. Steps of digestion in man.
5. Components of human food.
6. Circulatory system components + human heart structure + diagram.
7. Types of circulatory systems in organisms.

5. Plant Physiology

1. Uptake of water from soil and mineral transport.
2. Modes of autotrophic/heterotrophic nutrition.
3. Define transpiration & guttation + types & affecting factors.
4. Mechanism of stomata opening/closing with diagram.
5. Role of nitrogen & magnesium in plants + deficiency symptoms.

6. Genetics & Chromosomes

1. Define chromosome + types + functions.
2. Differences: Mitosis vs Meiosis + stages & significance.
3. Define:
   - Chiasmata
   - Crossing over
   - Chromatids
4. Cell division processes.

7. Biodiversity & Environment

1. Conservation of biodiversity + importance.
2. Effect of deforestation on biodiversity.
3. Define: Endangered species.
4. Environmental hazards of chemical fertilizers.

8. Nutrition & Health

1. Diseases caused by protein/mineral deficiency.
2. Characteristics of chronic & acute malnutrition + social problems.
3. Vitamins: types, functions, fat-soluble vs water-soluble differences.
4. Define:
   - Starvation
   - Anemia
   - Ulcer
   - Constipation

9. Scientific Methods

1. Steps to solve biological problem.
2. Biological method steps.
3. Differences: Law vs Theory OR Inductive vs Deductive reasoning.

10. Cellular Processes

1. Define any three:
   - Exocytosis
   - Plasmolysis
   - Diffusion
   - Osmosis
   - Endocytosis
   - Apoptosis
   - Capillaries
   - Mycelium
   - Chemotherapy
   - Crystallization
   - Cyclosis

11. Diagrams Drawing

1. Smooth/Cardiac muscles
2. Cell cycle
3. L.S of Villus
4. Chloroplast
5. Structure of Bacteria
6. Mitochondria
7. Animal/Plant cell
8. T.S of Root
9. Human digestive system
10. Human heart
11. Stomata mechanism

This is a target paper designed to cover key concepts in IX Biology. Students are advised to study all topics thoroughly.

KARACHI EDU

IX-CHEMISTRY PREPARATION PAPER

Date: _____ **Duration:** _____ **Total Marks:** _____

SECTION A (ALL TOPICS COVERED)

1. **Basic Concepts & Definitions**

   Define any three: Mass Number, Atomic Number, Valency, Cation, Anion, Free Radical, Oxidizing Agent, Reducing Agent, Concentration, Molar Solution, Boiling Point, Melting Point, Effusion, Octet Rule, Shielding Effect, Avogadro's Number, Tyndall Effect, Dilution

2. **Atomic Structure & Models**

   - Postulates of Schrödinger Atomic Model
   - Discharge tube experiment (JJ Thomson) with diagram
   - Rutherford's gold foil experiment + drawbacks
   - Bohr's atomic model differences from Rutherford
   - Sub-atomic particles with masses and charges
   - Calculate atomic number from electron configuration
   - Define isotopes (chlorine & hydrogen examples)
   - Calculate neutrons in isotopes

3. **Periodic Table & Classification**
    - Modern Periodic Law
    - Long form of periodic table
    - Differences between groups and periods
    - s, p, d, f blocks demarcation
    - Position of Sodium/Magnesium in periodic table + importance
    - Properties of group I-A and VIII-A elements
    - Law of Triads, Law of Octaves, Mendeleev's Periodic Law

4. **Chemical Bonding**
    - Differences: Polar vs Non-Polar compounds, Covalent vs Ionic bonds
    - Metallic bonding
    - Hydrogen bonding
    - Dipole-dipole forces
    - Coordinate covalent bond with examples
    - Why atoms form chemical bonds?
    - Classification of covalent bonds (single, double, triple) with examples

5. **States of Matter & Solutions**
    - Kinetic Molecular Theory postulates for gases
    - Boyle's Law derivation + numerical problems
    - Define: Aqueous solutions, Solubility
    - Factors affecting solubility
    - Differences: Solution vs Suspension vs Colloid
    - Differences: Saturated vs Unsaturated vs Supersaturated solutions
    - Surface evaporation and density in liquids + affecting factors

6. **Chemical Reactions & Equations**
    - Differences: Oxidation vs Reduction
    - Balance chemical equations by inspection method
    - Scientific reasoning:
        - Metals as good conductors
        - Salt dissolves in water but gasoline doesn't
        - Alkali metals not found free in nature
        - Ionic compounds as solids

7. **Stoichiometry & Calculations**
    - Define mole concept
    - Calculate number of moles and molecules
    - Define molarity
    - Mass/volume percentage calculations
    - Numerical problems
8. **Industrial & Important Compounds**
    - Define allotropy + four allotropes of carbon
    - Uses and formulas: Slaked Lime, Limestone, Soda Ash, Gypsum, Bleach, Salt, Baking Soda
    - Define alloys + their importance
    - Epoxy resins
9. **Electrochemistry**
    - Construction and working of Dry Cell/Lead Battery with diagrams
    - Electrolysis process in electrolytic cell
    - Faraday's laws of electrolysis
    - Applications of electrolytic cells
10. **Comparative Studies**
    - Differences: Sodium vs Iron
    - Differences: Shell vs Sub-shell
    - Differences: Empirical vs Molecular formula
    - Differences: Metals vs Non-metals vs Metalloids
    - Differences: Elements vs Mixtures vs Compounds
11. **Properties & Characteristics**
    - Electromagnetic character of non-metals
    - Electropositive character of metals
    - Properties of transition metals
    - Properties of ionic and covalent compounds
    - Properties of cathode rays

--- End of Questions ---

KARACHI EDU

IX-COMPUTER SUPPLY PREPARATION PAPER

Date: _____ **Duration:** _____ **Total Marks:** _____

SECTION A (ALL TOPICS COVERED)

1. Computer Fundamentals & History

1. Classification of computers (Technology/Data Handled/Size/Purpose)
2. Computer generations with features & advantages
3. Electronic Era divisions
4. Basic operations of computer
5. Difference between System & Application software

2. Hardware Components

1. Motherboard components
2. CPU/Microprocessor components with block diagram
3. Difference between RAM & ROM
4. Difference between CLI & GUI
5. Types of monitors: CRT vs FPD
6. Define: Ports, Registers, Plotters
7. Computer hardware types

3. Software & Operating Systems

1. Functions of Operating System
2. Types of OS: Batch Processing OS, Real Time Systems (Soft vs Hard)
3. Software installation steps (Windows & Office)
4. Utility programs
5. Antivirus definition & commonly used antiviruses
6. Importance of installing antivirus

4. Word Processing (MS Word)

1. Word processor definition & applications
2. Types of breaks in MS Word
3. Importance of MS Word
4. Watermark application & margins
5. Table of Contents (TOC) creation & importance
6. Page Layout Arrange group
7. Themes group

5. Spreadsheets (MS Excel)

1. Importance of MS Excel
2. Sorting in Excel
3. Steps to multiply 37 by 15 using Excel

6. Data Communication & Networks

1. Data communication definition & components
2. Computer network definition & types (LAN, WAN, etc.)
3. Transmission medium
4. TCP/IP model
5. Wireless communication importance
6. Full forms: GPS, DSL, ISDN, LAN, LCD
7. Web Hosting vs Web Server difference
8. Topology types

7. Internet & Web Technologies

1. WWW definition
2. Types of websites
3. HTML tags: , <font>, <p>,
, <hr>, <page>
4. Hyperlink definition
5. Web hosting vs web server

8. Database Management

1. DBMS vs Flat File System differences
2. DBMS components & characteristics
3. Database software names
4. ERD (Entity Relationship Diagram) importance in business
5. ERD components & design steps

6. Referential keys types

9. Computer Security

1. Computer security importance in daily life
2. Malware definition & types
3. Virus prevention measures
4. Ways viruses spread in computers
5. Ethical checking
6. Authentication medium

10. Programming & AI

1. Artificial Intelligence with examples
2. Difference between Compiler & Interpreter
3. Physical vs Logical address
4. IPV4 address

11. Business Computing

1. Business concepts
2. Career software examples
3. Good communication properties
4. Benefits of user relationships

12. Additional Concepts

1. Information accuracy importance
2. Computer crimes
3. Interface definition & types
4. BUFF definition & ERD types

Good Luck!

KARACHI EDU
IX-ENGLISH SUPPLY
PREPARATION PAPER

Date: _____

Exam: _____ **Duration:** _____

Subject: ENGLISH **Max Marks:** _____

SECTION A (ALL QUESTIONS COVERED)

1. Short Answer Questions (Any Five)

   - Why Shah Latif left his home OR Why called "Saint of Bhit"?
   - What is Hijra? When did it take place? OR Three main points of Charter of Medina.
   - Symptoms of dengue fever OR How immune system affected by dengue OR Chikungunya infection frequency OR Teachings of Last Sermon.
   - What Jameel wanted to be & why upset + his reaction to parents OR How Sara educated village women OR Why Sara & Jameel had to pass every test in first attempt.
   - Why Quaid left Congress OR Quaid's praise for Allama Iqbal OR Meaning of "Visionary" + qualities.
   - Who was Miss Fatima Jinnah? Why called "Madar-e-Millat"?
   - Why Allama Iqbal demanded Pakistan OR How Sara-Jameel managed expenses OR Why people became Shah Latif's followers.

2. Grammar Exercises

   1. Articles

      He met her _____ hour ago.

      _____ boy you met last night, is my student.

   2. Prepositions

      They are coming to Lahore _____ May.

The books were disturbed _____ the students.

3. Voice Change

Does she speak English?

They have collected all information about book.

It was presented by me.

Buy your own pen, please.

4. Narration Change

He said to her, "Wait for me till I return".

I ordered him not to interfere.

You forbade him to see me.

She says to me, "I am right".

5. Sentence Formation

He inspires us all with his performance (Correct the sentence).

You should not stand at the situation (Correct the sentence).

They don't play football very well. _____? (Add question tag).

If it doesn't stop raining, I will (stay) here at night (Correct verb form).

Having haven't bought pouch copies and pencil! (Correct the sentence).

Patient (Use in sentence).

I have applied for this post (Change voice).

They could not handle the situation (Change into affirmative).

3. Parts of Speech

Identify parts of speech for underlined words in given sentences.

_____

_____

_____

_____

4. Translation

   Translate paragraph about morning walk into Urdu/Sindhi.

   _____

   _____

   _____

   _____

5. Contextual Fill-ups

   Fill blanks using: **Mosquito, Burst, Liver, Plasmodium, Saliva**

   [Malaria is caused by _____, transmitted by infected _____. Injected through _____ of mosquito. Parasite infects red blood cells until they _____. Can lead to severe _____ infection.]

6. Essay Writing (120-150 words) (Choose ONE)

- An exciting cricket match
- Energy crises in Pakistan
- My aim in life
- Role of media on youth/society
- A picnic at seaside/historical place
- Visionary leader
- Problems of Karachi city
- Piles of garbage in populated areas
- An accident
- Blessing of Science/Childhood
- An ideal personality / The teacher you like most
- An unforgettable school function
- Importance of Education
- Use of mobile phone

OR

Email to CEO accepting job offer.

7. Application/Diary Writing (Choose ONE)

   Application to class teacher for:

   - • Leave to look after parents

- • Participation in quiz competition/science exhibition
- • Visit to Pakistan Steel Mill
- • Extra chemistry practical classes
- • Issuance of sports/transfer certificate
- • Medical leave
- • Leave for brother's marriage

OR

Diary entry about school picnic excitement and plans.

8. Comprehension Passage

Read passage about King Bruce and spider and answer:

1. Meaning of "gives up".
2. Part of speech of "courage".
3. Best title for passage.
4. Short answers:
   - • By whom was Robert Bruce defeated?
   - • Where did he hide?
   - • What did he see in cave?
   - • What lesson did he learn from spider?

WWW.KARACHIEDU.COM

KARACHI EDU

IX-ISLAMIAT SUPPLY PREPARATION PAPER

تاریخ: _____

نام امتحان: _____

حصہ اول (تمام موضوعات کا احاطہ)

1. قرآنی آیات کا ترجمہ و تشریح

- "ولا توتو اسفهاء اموالكم..." کا ترجمہ و مفہوم
- "ان الذين يا كلون اموال البنمي..." کا ترجمہ و مفہوم
- "والو انساء صدقتهن..." کا ترجمہ و مفہوم
- "ليس البران تولو وجوهكم..." کا ترجمہ و تفصیلی تشریح
- "يابها الذين امنو لا تاكلوا أموالكم..." کا ترجمہ و تفصیلی تشریح
- "وليخش الذين لوتر كو..." کا ترجمہ و تشریح

2. احادیث کا ترجمہ و تشریح

- "كم من تعلم القرآن وعلمه" کا ترجمہ و مفہوم
- "لا انما جز و الذين يحاربون..." کا ترجمہ و مفہوم
- "خير الناس الفعهم للناس" کا ترجمہ و تشریح
- "اياكم والظن فان الطن اكذب الحديث" کا ترجمہ و تشریح
- "كلكم راع وكلكم مسئول عن رعيته" کا ترجمہ و تشریح
- "الصلاة عماد الدين" کا ترجمہ و تشریح
- "افضل الذكر لا اله الا الله..." کی تفصیلی تشریح
- "اكمل المؤمنين ايمانا..." کی تفصیلی تشریح

3. بنیادی اسلامی تصورات

- نبی اور رسول کے معنی
- ختم نبوت کا تصور

- ایمان کے معنی
- اسلام کی بنیاد
- توحید کے معنی
- امر بالمعروف و نہی عن المنکر کے معنی

4. اسلامی عبادات و عقائد

- جن پر روزہ فرض ہے
- جہاد کی شرائط (3 شرائط)
- جہاد کی اقسام
- اطاعت رسول کی اہمیت
- محبت رسول کی اہمیت
- عبادت کی اہمیت و معنی

5. اسلامی تاریخ و شخصیات

- اصحاب کہف اور ان کی کہانی
- حضرت امام حسین کا شجرہ نسب
- حضرت محمد بن قاسم کا شجرہ نسب
- عشرہ مبشرہ کے معنی اور نام
- مناقب صحابہ کے معنی اور صحابہ کے فضائل
- حضرت امام حسین کے فضائل
- واقعہ کربلا

6. اجتماعی اسلامی تصورات

- دعوت و تبلیغ کے اثرات
- عدل اجتماعی کے معنی
- صلہ رحمی کے معنی
- حسن اخلاق کے معنی
- اسوہ حسنہ کے معنی
- رواداری کے اصول (3 اصول)
- اللہ سے مدد حاصل کرنے کے طریقے (3 طریقے)

7. قرآنی مطالعہ

- مکی و مدنی سورتوں میں فرق
- قرآن کے فضائل

- لوح محفوظ کے معنی

8. اسلامی فقہ

- صحابہ کو برا بھلا کہنے والوں کی سزا
- آیت "لیس البر" میں صبر کے مواقع
- "اللہ کے سمیع و بصیر ہونے" کے معنی

9. اہم نوٹس

- علم کے فضائل
- عبادت کی اہمیت و افادیت
- قرآن میں اجتماعی انصاف
- ہجرت کی اہمیت

حصہ دوم (مکمل احاطہ)

الف: قرآنی علم

- منتخب آیات کا ترجمہ
- اہم آیات کی تشریح
- قرآنی تصورات کی سمجھ
- روزمرہ زندگی میں تطبیق

ب: حدیث کا علم

- منتخب احادیث کا ترجمہ
- تشریح و تفسیر
- عملی تطبیق
- روزمرہ زندگی کے لیے lessons

ج: اسلامی عقائد

- توحید کا تصور
- رسالت پر ایمان
- ختم نبوت کا عقیدہ
- اسلامی ایمان کی بنیاد

د: اسلامی عبادات

- روزے کے احکام و فرائض
- نماز کی اہمیت
- جہاد کی شرائط و اقسام
- عبادت کی اہمیت

ہ: اسلامی تاریخ

- رسول اللہ ﷺ کی زندگی
- صحابہ کرام
- اسلامی غزوات
- اہم اسلامی شخصیات

و: اجتماعی اسلام

- اجتماعی انصاف کے تصورات
- اخلاقی تعلیمات
- معاشرتی ذمہ داریاں
- اسلامی معاشرتی نظام

ز: جدید مسائل

- دعوت و تبلیغ
- اسلامی رواداری
- divine help حاصل کرنا
- جدید چیلنجز

KARACHI EDU
IX-MATHS SUPPLY PREPARATION PAPER

Date: _____ **Duration:** _____ **Max. Marks:** _____

SECTION A (ALL TOPICS COVERED)

1. Complex Numbers

(1) Verify:$Z_1Z_2 = \&overline\{Z_1\} \cdot \&overline\{Z_2\}forz_1 = 2 - 5i, z_2 = 2 + 3i$

(2) Verify:$\&overline\{Z_1 + Z_2\} = \&overline\{Z_1\} +$ $forZ_1 = -4 + 6i, Z_2 = 2 -$ $\&overline\{Z_2\}$ $2i$

2. Logarithms & Calculations

(1) Find value using logarithms:

(2) $\&frac\{(200.6 \times 30.32)\}\{28.783\}$

(3) $\&frac\{25.753\}\{0.8341\}$

(4) $\&frac\{(26.62)\^2 \times (07.19)\^2\}\{60.83\}$

3. Algebraic Identities

(1) $Finda\^2 + b\^2 + c\^2whena + b + c = \&frac\{1\}\{3\}andab + bc + ac = -\&frac\{2\}\{9\}$

(2) $Findx\^3 + \&frac\{1\}\{x\^3\}whenx + \&frac\{1\}\{x\} = 3$

(3) $Find216a\^3 - 343b\^3when6a - 5b = 11andab = 8$

4. Polynomials & Square Roots

(1) Find value ofmfor perfect square:$9x\^4 + 12x\^3 + 34x\^2 + mx + 25$

(2) Find square root by division method:$25x\^4 + 40x\^3 + 26x\^2 + 8x + 1$

5. Equations & Inequalities

(1) Solve and verify:

(2) &frac{10}{x + 20} = 100

(3) &left| &frac{2x − 3}{5} \right| = 12

(4) \sqrt[4]{x} = 5

(5) Solve inequality:−6 < 2x + 1 < 11,x ∈ Z+ number line

6. Quadratic Equations

(1) Solve using quadratic formula:

(2) 10x^2 + 19x − 15 = 0

(3) x^2 = −x + 1

(4) 9x^2 + 12x − 4 = 0

7. Factorization

(1) Factorize using factor theorem:

(2) x^3 + x^2 − x − 1

(3) 6x^3 + 7x^2

(4) x^3 + x^2 − 20

(5) Coordinate geometry: Find other endpoint of diameter

8. Geometry Theorems

(1) Prove: Longer side has greater opposite angle

(2) Prove: Greater angle has longer opposite side

(3) Prove: Angle bisector theorem

9. Constructions

(1) Construct ▵ ABCwith∠A = 55°, ∠B = 40°, BC = 5.8cm

(2) Construct ▵ ABCwithBC = 6cm, AC = 4cm, AB = 5cm+ angle bisectors

(3) Construct ▵ STUwith given conditions + median

10. Geometry Proofs

(1) Prove: Unequal angles have unequal opposite sides

(2) Prove: Perpendicular from point to line is shortest distance

(3) Prove: Point on bisector is equidistant from arms

11. Factorization (Advanced)

(1) Factorize any 4:

(2) a^4 + 4b^4

(3) x^2y^2z^2 + 2xyz − 24

(4) 8x^3 + 36x^2y + 54xy^2 + 27y^3

(5) x^6 − y^6

12. Graphical Solutions

(1) Solve graphically:

(2) 3x − 5y = 2; 3x + 5y = 8

(3) 3x − 11 = y; x − 3y = 9

13. Triangle Congruence

(1) Prove: SSS congruence theorem

(2) Prove: RHS congruence theorem

(3) Show equilateral triangle using distance formula:L(0, \sqrt{3}), M(−1,0), N(1,0)

14. Coordinate Geometry

(1) Show parallelogram:A(−8,−3), B(−2,6), C(8,5), D(2,−4)

(2) Prove: Parallel lines with congruent intercepts theorem

(3) Show collinear points:P(−3,−4), Q(2,6), R(0,2)

15. Quadrilaterals & Triangles

(1) Prove: Opposite sides congruent & parallel → parallelogram

(2) Prove: Acute angle triangle theorem

(3) Show right-angled triangle:A(2,1), B(5,1), C(2,6)

KARACHI EDU

IX-PHYSICS SUPPLY PREPARATION PAPER

SECTION A

1. Basic Concepts

1. Define physics. Name its branches. Describe crucial role of physics in science & technology.
2. Define measurement. Which is more accurate - vernier caliper or screw gauge?
3. Define significant figures. Determine significant figures in: 1.33, 0.0012, 7.00, 0.00101.

2. Work & Energy

1. Define work. Derive equation $W = F.d \cos\theta$. Write three units of work.
2. Define density & relative density. Give formulas and units. Write measurement methods.

3. Differences & Laws

1. Differences: Mass & Weight OR g & G OR Distance & Displacement OR Speed & Velocity OR Rolling & Sliding Friction OR Like & Unlike forces OR Heat of Vaporization & Heat of Fusion.
2. State and explain: Hooke's Law OR Law of Inertia OR Boyle's Law OR Principle of Moment.

4. Equilibrium & Friction

1. Define equilibrium. Describe three states of equilibrium with examples.
2. Define coefficient of friction. Describe two types of friction. Write two uses of rolling friction.

5. Centrifuge & Center of Mass

1. Define centrifuge. Write applications of centrifuge.
2. Define center of mass and couple. Give center of gravity of regular and irregular objects.

6. Heat & Temperature

1. Define heat of fusion & heat of vaporization. Describe experiment of converting ice to water.
2. Differentiate heat & temperature. Write conversion formulas: °C to K & °F to °C.

7. Power & Vectors

1. Define power. Give unit and formula. Why power is scalar? Show that P = F.v.
2. Write three uses of Wind Energy OR three characteristics of Gravitational force.
3. Differentiate scalar and vector quantities. How to add vectors by head to tail rule?

8. Numerical Problems

1. Mechanic uses double arm spanner: Force 15N each end, torque 60Nm. Find moment arm length.
2. Ball dropped from 70m height. Find time to strike ground.
3. Man pushes car 18m with force 2N in 4 seconds. Calculate power.

9. Force Components & Pressure

1. X & Y components of force: 6N & 8N. Find magnitude and direction of force.
2. Boy digging with spade edge 0.3cm², force 1000N. Calculate pressure.
3. Man pulls 25kg crate with 60N force, friction 20N. Find acceleration.

10. Gravitation & Heat Energy

1. Gravitational force between Hamza (60kg) and Ahmed (70kg) at 50m distance.
2. Heat energy required to raise 50g water from 40°C to 70°C (c=4200J/kgK).
3. Gun mass 8kg fires 40gm bullet at 100m/s. Calculate gun recoil.

11. Mass, Volume & Heat Capacity

1. Mass of iron wrecking ball radius 18cm (density 7.8gm/cm³).
2. Cylinder: 60cm³ air at 140kPa. Find volume at 420kPa.
3. 2kg copper requires 2050J for 10°C rise. Calculate heat capacity.
4. Force stopping 1000kg car from 72km/h over 40m distance.
5. Navera's weight 700N on Earth. Find weight on Moon (g=1.6m/s²).

12. Work, Energy & Momentum

1. Work to move body 20m horizontally by 30N force at 60° angle.
2. LED screen mass 10kg lifted to 2m height. Calculate potential energy.
3. Body mass 10kg moving at 10m/s. Force acts for 5s to reduce velocity to 2m/s. Find momentum before and after.
4. Empty car mass 1200kg, acceleration 4m/s². With 300kg load, find new acceleration.

13. Motion & Gravitation

1. Define v_i, vf, g, motion under gravity, uniform velocity.
2. Derive: $2gh = Vf^2 - V_i^2$ OR $S = V_it + \frac{1}{2}at^2$.
3. Define field force and gravitational field force.
4. State Law of Universal Gravitation.
5. Derive mathematical expression of Newton's Law of Gravitation.
6. Determine mass of Earth using Law of Gravitation.

14. Energy & Heat Capacity

1. Define kinetic and potential energy with units.
2. Derive $P.E = mgh$ OR $K.E = \frac{1}{2}mv^2$.
3. Define specific heat capacity with formula and unit.
4. Factors affecting specific heat capacity.
5. Explain effects of large specific heat of water with daily life examples.

15. Pressure & Pascal's Law

1. Define pressure.
2. State and explain Pascal's Law.
3. Describe construction and working of hydraulic lift with diagram.
4. Hydraulic press: Force 100N on pump area 0.01m². Find force on piston area 1m².
5. Define fluid pressure.
6. Derive expression for pressure inside liquid and factors affecting it.

7. Calculate pressure at 3m depth in swimming pool.

16. Motion & Circular Motion

1. Define relative motion.
2. Differentiate types of motion.
3. State Newton's 2nd & 3rd Laws of motion.
4. Derive F = ma.
5. Define uniform circular motion.
6. Define centripetal force (Fc).
7. Derive centripetal force formula and factors affecting it.

17. Momentum & Gases

1. Define momentum.
2. State and explain Law of Conservation of Momentum.
3. Show that $\Delta p = F \times t$.
4. Variables describing gas behavior based on K.M.T.
5. Explain any one gas variable.
6. Oxygen gas: Initial volume $9cm^3$, pressure doubled at fixed temperature. Find new volume.

18. Energy & Forces

1. Define energy.
2. State law of conservation of energy.
3. Explain any five renewable energy sources.
4. Define resolution of force.
5. Process reverse to resolution of force.
6. Prove: $F = \sqrt{(Fx^2 + Fy^2)}$ and $\theta = \tan^{-1}(Fy/Fx)$.

KARACHI EDU

IX - URDU SUPPLY PREPARATION PAPER

تاریخ: _____ • دورانیہ: _____ • کل نمبر: _____

حصہ اول (تمام موضوعات کا احاطہ)

.1

مختصر جوابات (کوئی دو)

١. حضرت شاہ ولی اللہ کی تحریک کا مقصد

٢. ماں بچے کو کیا لوری دیتی ہے؟

٣. رسول اللہ ﷺ حضرت جریر بن عبد اللہ کو دیکھ کر کیا کرتے تھے؟

٤. ڈاکو کو بچوں کے علاج میں کیسے مہارت حاصل ہوئی؟

٥. رو پانے بوڑھی کو تھال دے کر کیا کہا؟

٦. برٹش میوزیم میں کیا چیزیں موجود ہیں؟

٧. رویا کار کس نے لکھی؟ اس میں کن باتوں کا تذکرہ کیا گیا ہے؟

٨. جاوید شہید کا تعلق کس شہر سے تھا؟

٩. ایک کٹی نے آغاز وتی میں آپ ﷺ کو کن الفاظ میں تسلی دی؟

١٠. قانون ادب سے کیا مراد ہے؟

١١. نظریہ پاکستان کا مفہوم

١٢. حضرت ہند بن ابی ہالہ کیا فرماتے ہیں؟

١٣. اُمید ہماری زندگی میں کیا تبدیلی لا سکتی ہے؟

١٤. خیالات کی دنیا کی ترقی اور تیزی پر کیا اثر ہوتا ہے؟

١٥. تصور کر مرنے کے بعد کے بارے میں

١٦. پوریوں کے ٹکڑے چن چن کر کھاتے دیکھ کر روپا کا کیا حال ہوا؟

.2

سبق کا مرکزی خیال یا خلاصہ (کوئی ایک)

ھیانا باغ

ھاہ نامہ دیو مالا

ھوشی

ھظریہ پاکستان

ھہید

.3

حمد یا نظریہ پاکستان (مصنف کے حوالے کے ساتھ)

.4

شعری اصطلاحات (کوئی دو)

ھخلص، مطلع، تشبیہ، قافیہ، ردیف، بند، مقطع

ھثنوی، صنعت تضاد، مسیحا

ھسن مطلع، استعارہ، ہر مصرعہ

.5

اصناف ادب کی تعریف (کوئی دو)

ھفرنامہ، ناول، مرثیہ، غزل، نظم، افسانہ، ڈراما، مضمون

.6

گرامر اور زبان کی اصطلاحات

ھوک کہانی، حمد و نعت

ھرکب نام، جملہ فعلیہ، جملہ اسمیہ

اسم مصغر، مبتدا اور خبر

ھابقہ لاحقہ، روز مرہ، محاورہ

اصل بول، ہمزہ، مشاق، اسم جامد

.7

سابقے اور لاحقے علیحدہ کرنا

بد نصیب، داداکار، شکر گزار، نیک وار، بدانجا، دار

.8

محاورات کو جملوں میں استعمال

دم بخود رہ جانا

سعادت مند ہونا

بالا قباحت ہونا

آتش محبت

خندہ پیشانی

محنت کا پھل

بالا رکھنا

کپکپاہٹ ہونا

بخل کرنا

اطراف و جوانب

ناک کٹوانا

لٹو ہونا

حصہ دوم (بیانیہ جوابات)

.9

عبارت کی تشریح (سیاق و سباق کے حوالے کے ساتھ)

a. **(الف)**

"اگر تم اپنے ماں باپ سے خود سر ہو تو عجب نہیں کہ تمھاری اولاد بھی تم سے سرکش رہے۔ اس وقت نہ عقل مندوں کے نزدیک نہ خدا کی جانب میں کہیں تمھارا دعویٰ پیش کیا جا سکتا ہے۔ کیونکہ تم نے اپنے بزرگوں سے کیا سلوک کیا جو آج اپنے بچوں سے توقع رکھتے ہو۔"

.b **(ب)**

"تیرے ہی شاداب اور سرسبز باغ سے ہر ایک کو محبت کا پھل ملتا ہے۔ تیرے ہی پاس ہر درد کی دوا ہے تجھی سے ہر ایک رنج میں آسودگی ہے۔ قتل کے درمیان جنگلوں میں بھٹکتے بھٹکتے تھکا ہوا مسافر تیرے ہی گھنے باغ کے سرسبز درختوں کے سائے کو ڈھونڈتا ہے۔ وہاں کی ٹھنڈی ہوا، خوش الحان جانوروں کے راگ، بہتی نہروں کی لہریں اس کے دل کو راحت دیتی ہیں۔ اس کے مرے ہوئے خیالات کو پھر زندہ کرتی ہیں۔ تمام فکریں دل سے دور ہوتی ہیں۔"

.c **(ج)**

"سینکڑوں آدمیوں نے کھانا کھایا۔ میں ان کے اشارہ کی تعمیل بنی ہوئی تھی، اپنے نام کے لیے اپنی بڑائی کے لیے سینکڑوں روپے خرچ کر دیے لیکن جس کی بدولت ہزاروں روپے کھائے، اس تقریب کے دن بھی پیٹ بھر کر کھانا نہ دے سکی محض اس لیے کہ وہ بڑھیا ہے، بے کس ہے، بے زبان ہے۔"