



## **MDCAT – SAMPLE PAPER**

**Name:** \_\_\_\_\_

**Roll No:** \_\_\_\_\_

**CNIC:** \_\_\_\_\_

### **INSTRUCTIONS:**

- Number of Multiple Choice Questions (MCQs): **200**
- Time Allowed: **2 Hours 30 Minutes**
- Each MCQ shall carry 1 (One) mark with **No Negative Marking**.
- Each MCQ has 4 (Four) options. **Select the most appropriate (one best) option.**
- **Fill the correct bubble on the answer sheet, corresponding to the question paper code.**
- Answering with more than one option will not be considered for marking.
- Avoid cutting, overwriting and erasing.
- Fill the answer sheet with black / blue ball point only.

S.NO	Question	Key	Content / TOS	Difficulty Level
<b><u>BIOLOGY</u></b>				
<b>1.</b>	<b>Chief material present in the cell walls of plants, fungal and prokaryotic cells are:</b>	C	Cell Structure & Function (Cell wall)	Moderate
	a. Proteins			
	b. Lipids			
	c. Polysaccharides			
	d. Phospholipids			
<b>2.</b>	<b>Which of the following cells does not have nucleus?</b>	D	Cells Structure & Function (Nucleus)	Easy
	a. Muscle cell			
	b. Nerve cell			
	c. White Blood cell			
	d. Red blood cell			
<b>3.</b>	<b>Most abundant organic compound in mammalian cell is:</b>	D	Biological Molecules	Moderate
	a. Water			
	b. Lipids			
	c. Carbohydrates			
	d. Proteins			
<b>4.</b>	<b>Cysts are not resistant to _____ but spores are:</b>	D	Prokaryotes Reproduction (Fission and spore formation)	Moderate
	a. Light			
	b. Desiccation			
	c. pH			
	d. Heat			
<b>5.</b>	<b>The most successful land adapting plants are:</b>	D	Diversity among Plants (Angiosperms)	Easy
	a. Mosses			
	b. Ferns			
	c. Gymnosperms			
	d. Angiosperms			

<b>6.</b>	<b>Intrinsic factor is secreted by:</b>		C	Life Processes in Animals & Plants (Life processes in animal)	Moderate
	a.	Pancreas			
	b.	Liver			
	c.	Stomach			
	d.	Duodenum			
<b>7.</b>	<b>In human gut, chylomicrons are formed by the combination of:</b>		B	Life Processes in Animals & Plants (Intestine)	Hard
	a.	Proteins and carbohydrates			
	b.	Fats and proteins			
	c.	Fats and carbohydrates			
	d.	Vitamins and fats			
<b>8.</b>	<b>Which organ is called as the body's thermostat?</b>		C	Homeostasis	Easy
	a.	Pituitary gland			
	b.	Kidneys			
	c.	Hypothalamus			
	d.	Adrenal gland			
<b>9.</b>	<b>Myofibrils within the muscle fibres contain thick and thin filaments made up of _____ and _____ respectively:</b>		A	Support and Movement	Moderate
	a.	Myosin and actin			
	b.	Globulin and albumin			
	c.	Troponin and Tropomyosin			
	d.	Fibrin and Fibrinogen			
<b>10.</b>	<b>Which hormone is chemically a steroid?</b>		C	Coordination and Control (Chemical Coordination - Hormones)	Moderate
	a.	ADH			
	b.	Thyroxin			
	c.	Cortisone			
	d.	Insulin			
<b>11.</b>	<b>Which brain portion is responsible for controlling body coordination?</b>		C	Coordination and Control (Human Nervous System)	Easy
	a.	Medulla			
	b.	Amygdala			
	c.	Cerebellum			
	d.	Pons			

<b>12.</b>	<b>Erythroblastosis foetalis occurs when mother is Rh –ve and father is:</b>		B	Variation and Genetics/ Inheritance	Hard
	a.	Also Rh –ve			
	b.	Rh +Ve			
	c.	Haemophilaic			
	d.	Color blind			
<b><u>CHEMISTRY</u></b>					
<b>13.</b>	<b>Many elements have fractional atomic masses. This is because:</b>		D	Intro to Fundamental Concepts of Chemistry (Basic Concepts/ Atomic masses)	Moderate
	a.	Mass of atom is itself fractional			
	b.	Atomic masses are average masses of isobars			
	c.	Atomic masses are average masses of isotopes			
	d.	Atomic masses are average masses of isotopes proportional to their abundance			
<b>14.</b>	<b>Identify the correct option with same empirical formula for both compounds:</b>		D	Intro to Fundamental Concepts of Chemistry (Basic Concepts/ Empirical Formula)	Hard
	a.	H <sub>2</sub> O & H <sub>2</sub> O <sub>2</sub>			
	b.	C <sub>6</sub> H <sub>12</sub> & C <sub>6</sub> H <sub>6</sub>			
	c.	H <sub>2</sub> S <sub>2</sub> O <sub>3</sub> & H <sub>2</sub> SO <sub>4</sub>			
	d.	C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> & CH <sub>3</sub> COOH			
<b>15.</b>	<b>1 mole of any substance contains _____ particles.</b>		A	Intro to Fundamental Concepts of Chemistry (Moles)	Easy
	a.	$6.02 \times 10^{23}$			
	b.	$6.02 \times 10^{24}$			
	c.	$6.02 \times 10^{22}$			
	d.	$3.01 \times 10^{23}$			
<b>16.</b>	<b>Which of the following orbital will be filled first than 4p?</b>		C	Atomic structure (Quantum Numbers)	Moderate
	a.	4s			
	b.	2p			
	c.	3d			
	d.	1s			

<b>17.</b>	<b>When number of moles of reactants and products are equal in reversible reactions, which parameter would not affect at equilibrium?</b>		B	Chemical Equilibrium (Le-Chatelier's Principle)	Moderate
	a.	Temperature			
	b.	Pressure			
	c.	Volume			
	d.	Catalyst			
<b>18.</b>	<b>Ice floats on the surface of water due to:</b>		D	Solids (Molecular solids)	Easy
	a.	Larger bond length			
	b.	Cubic structure of ice			
	c.	Weak intermolecular forces			
	d.	Empty spaces in the structure of ice			
<b>19.</b>	<b>Acidic buffer consists of :</b>		B	Chemical Equilibrium (Acid base /Buffer solutions)	Moderate
	a.	Strong acid and salt of it with a weak base			
	b.	Weak acid and salt of it with a strong base			
	c.	Strong acid and salt of it with a strong base			
	d.	Weak acid and salt of it with a weak base			
<b>20.</b>	<b>The breakdown of a substance with current is:</b>		C	Electrochemistry	Easy
	a.	Thermolysis			
	b.	Catalysis			
	c.	Electrolysis			
	d.	Photolysis			
<b>21.</b>	<b>Which statement is incorrect regarding a chemical bond?</b>		D	Chemical Bonding (Energetics of Bond)	Moderate
	a.	Bond is formed by the overlapping of half filled orbitals			
	b.	Bond is formed by the attraction of positive and negative ions			
	c.	Bond is formed by the overlapping of "s" orbital is strong			
	d.	Bond formed by the large sized atoms is strong			

**PHYSICS**

<b>22.</b>	<b>The product of force and time is equal to:</b>	C	Force and motion (Linear momentum)	Easy
a.	Angular momentum			
b.	Force			
c.	Change in momentum			
d.	Velocity			
<b>23.</b>	<b>Kilowatt-hour is unit of?</b>	A	Work and Energy	Moderate
a.	Electric Energy			
b.	Power			
c.	Momentum			
d.	Torque			
<b>24.</b>	<b>Trough of a wave acts as:</b>	A	Waves / Trough	Moderate
a.	Concave lens			
b.	Convex lens			
c.	Convex mirror			
d.	Plane mirror			
<b>25.</b>	<b>Two positive point charges are placed 2m apart. The electric potential at mid point due to these two charges will be:</b>	A	Electrostatic / Electric potential	Moderate
a.	Added to double			
b.	Reduced to half			
c.	Remains same (no effect)			
d.	Cancel each other effect			
<b>26.</b>	<b>If length of the wire becomes two times to its original value and area becomes one half to its original value, then resistance of the wire becomes:</b>	B	Current Electricity (Resistivity and its dependence upon temperature)	Hard
a.	Double			
b.	Four times			
c.	One half			

	d.	One fourth			
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<b>27.</b>	<b>The conversion of alternating current into direct current is:</b>		B	Electronics (Rectification)	Easy
	a.	Amplification			
	b.	Rectification			
	c.	Oscillation			
	d.	Resonance			

**ENGLISH**

<b>28.</b>	<b>Choose the correct option.</b>		A	Subject verb agreement	Moderate
	a.	The Three Musketeers was written by Dumas.			
	b.	The Three Musketeers were written by Dumas.			
	c.	The Three Musketeers has written by Dumas.			
	d.	The Three Musketeers have written by Dumas.			

<b>29.</b>	<b>What is the antonym of “Mumbled”?</b>		C	Vocabulary	Easy
	a.	Unprovoked			
	b.	Quiver			
	c.	Loud			
	d.	Rarely			

<b>30.</b>	<b>Select the right sentence.</b>		A	Sentence structure	Hard
	a.	He opened the square red wooden box.			
	b.	He opened the red square wooden box.			
	c.	He opened the wooden red square box.			
	d.	He opened the red wooden square box.			