

SAMPLE PAPER — USAT PRE-MEDICAL

Fully Solved Version with Answers & Explanations

This solved paper highlights the correct choice for every MCQ and gives a short explanation underneath it. Both required essays are also solved in full at the end.

VERBAL REASONING

1. She usually is a careful driver but yesterday she had a/an _____.

✓ A. accident (Correct Answer)

B. event

C. happening

D. incident

Explanation: An “accident” is an unintentional, unexpected mishap — exactly what happens to a normally careful driver. “Event,” “happening,” and “incident” are too neutral/general and don't carry the specific sense of an unfortunate mishap while driving.

2. She was fishing from the river _____.

✓ A. bank (Correct Answer)

B. basin

C. cliff

D. valley

Explanation: The “bank” is the land alongside a river — the natural place to stand while fishing. A basin, cliff, or valley are broader landforms, not the riverside edge itself.

3. RAIN : DRIZZLE :: (choose the pair with the most similar relationship)

- A. hop : shuffle
- B. juggle : bounce

✓ C. run : jog (Correct Answer)

- D. walk : path

Explanation: Rain is the intense/full form of the action, while drizzle is its lighter, gentler version. In the same way, “run” is the more intense form of moving on foot and “jog” is its lighter version — a matching intensity relationship.

4. ANKLE : FOOT :: (choose the pair with the most similar relationship)

- A. eye : retina
- B. leg : calf
- C. tooth : tongue

✓ D. wrist : hand (Correct Answer)

Explanation: An ankle is the joint that connects the leg to the foot. Likewise, the wrist is the joint that connects the arm to the hand — the same “joint : body part it leads into” relationship.

5. If you are UNFAMILIAR to something it means you are not _____ it.

- A. angry about
- B. happy with
- C. sure about

✓ D. used to (Correct Answer)

Explanation: “Familiar with” something means being “used to” it through experience, so its opposite, “unfamiliar,” means you are not used to it.

6. Your SUPERCILIOUS ideals won’t work. You must _____ your standards.

- A. change
- B. define
- C. give up

✓ D. lower (Correct Answer)

Explanation: “Supercilious” ideals are arrogantly high and unrealistic, so the sensible fix is to “lower” them, bringing the standards down to a practical level — the closest match to what an excessively high, disdainful standard needs.

Passage (for Q7–Q9): Pakistan is the country blessed with all types of seasons. The people of the country enjoy all the seasons along with different natural gifts such as snowfall, rain, leaf fall, vegetables, and fruits. There are four seasons: Spring, Summer, Autumn, and Winter. Spring, the “king of all seasons,” runs from late February to May, bringing new leaves and blossoms. Summer (June–August) is very hot on the

plains, though hilly areas stay pleasant, with long days and short nights. Autumn, also called “Fall,” runs from September to December and is dry and windy, with leaves changing colour. Winter is the coldest season, bringing snowfall in parts of the country, with long nights and short days.

7. Which season comes between summer and winter?

✓ **A. Autumn (Correct Answer)**

- B. Monsoon
- C. Spring
- D. Winter

Explanation: The passage lists the seasons in order — Spring, Summer, Autumn, Winter — so Autumn is the season that falls between Summer and Winter.

8. Which season is called the king of all seasons?

A. Autumn

✓ **B. Spring (Correct Answer)**

- C. Summer
- D. Winter

Explanation: The passage explicitly states that “Spring is called the king of all seasons.”

9. In which season does snowfall come?

- A. Autumn
- B. Spring
- C. Summer

✓ D. Winter (Correct Answer)

Explanation: The passage says winter brings a lot of snowfall in some parts of Pakistan, along with severe cold.

QUANTITATIVE REASONING

10. $38 - [36 - 2\{5 + 7 - 6\}] \div 3 = \underline{\hspace{2cm}}$.

A. 8

✓ B. 30 (Correct Answer)

C. 46

D. 80

Explanation: Work from the innermost bracket outward:
 $\{5+7-6\}=6$, so $2 \times 6=12$. Then $36-12=24$, and $24 \div 3=8$. Finally $38-8=30$.

11. Ahmed has $95/3$ litres of paint. After using $59/12$ litres in the room and $37/12$ litres in the kitchen, how much paint is left?

A. $7/12$ litres

B. $5/3$ litres

C. $71/6$ litres

✓ D. $71/3$ litres (Correct Answer)

Explanation: Convert everything to twelfths: $95/3 = 380/12$. Subtract the used paint: $380/12 - 59/12 - 37/12 = 284/12 = 71/3$ litres.

12. Sum of roots of $9x^2 + 21x - 8 = 0$ is _____.

✓ A. $-7/3$ (Correct Answer)

B. $-8/9$

C. $8/9$

D. $7/3$

Explanation: For $ax^2+bx+c=0$, the sum of roots is $-b/a$. Here $-b/a = -21/9 = -7/3$.

13. What is the sum of exterior angles of a triangle?

A. 180°

B. 270°

✓ C. 360° (Correct Answer)

D. 450°

Explanation: The exterior angles of any convex polygon, including a triangle, always add up to 360° .

14. The median in the data 2, 3, 4, 5, 6, 8, 5, 2, 3 is _____.

A. 3

✓ B. 4 (Correct Answer)

C. 4.5

D. 6

Explanation: Arrange the 9 values in order: 2, 2, 3, 3, 4, 5, 5, 6, 8. With 9 values, the median is the 5th value, which is 4.

15. The cost of a book is Rs. 720 with a profit of 5%. What is the sale price of the book?

A. Rs. 700

✓ B. Rs. 756 (Correct Answer)

C. Rs. 766

D. Rs. 775

Explanation: $\text{Sale price} = \text{cost} \times (1 + \text{profit}\%) = 720 \times 1.05 = \text{Rs. } 756.$

16. What is the value of m in the ratio $14 : m - 3 = 7 : 4$?

A. -11

B. 3

C. 8

✓ D. 11 (Correct Answer)

Explanation: Cross-multiplying: $14 \times 4 = 7 \times (m - 3) \rightarrow 56 = 7m - 21 \rightarrow 7m = 77 \rightarrow m = 11.$

PHYSICS

17. Which of the following Laws best describes “action and reaction are equal in magnitude but opposite in direction”?

- A. Newton's First Law
- B. Newton's Law of Interference
- C. Newton's Second Law

✓ D. Newton's Third Law (Correct Answer)

Explanation: This is the textbook statement of Newton's Third Law of Motion: for every action there is an equal and opposite reaction.

18. If no external torque acts on a system, the total angular momentum of the system remains constant. This statement is the basis of _____.

✓ A. Law of conservation of angular momentum (Correct Answer)

- B. Law of conservation of energy
- C. Law of conservation of mass
- D. Law of conservation of momentum

Explanation: This is precisely the definition of the Law of Conservation of Angular Momentum — angular momentum stays constant when net external torque is zero.

CHEMISTRY

19. The conversion of a gas into a liquid requires high pressure and _____.

A. high temperature

B. high volume

✓ C. low temperature (Correct Answer)

D. low volume

Explanation: Liquefying a gas needs conditions that bring molecules closer together — high pressure combined with low temperature, which slows molecules down enough for intermolecular forces to condense the gas into liquid.

20. Which one of the following is a metallic solid?

✓ A. Mg (Correct Answer)

B. MgO

C. SiC

D. SiO₂

Explanation: Magnesium (Mg) is a pure metal and forms a metallic solid held together by metallic bonding. MgO is an ionic solid, while SiC and SiO₂ are covalent (network) solids.

BIOLOGY

21. Photolysis of water during photosynthesis occurs at _____.

- A. cytochrome bf complex
- B. photosystem I
- ✓ C. photosystem II (Correct Answer)
- D. stroma

Explanation: Water is split (photolysis) at Photosystem II, which replaces the electrons it loses to the electron transport chain by extracting them from water, releasing oxygen as a by-product.

22. How many net ATP molecules are formed at the end of glycolysis from one glucose molecule?

- A. 1
- ✓ B. 2 (Correct Answer)
- C. 3
- D. 4

Explanation: Glycolysis uses 2 ATP to start the reaction and produces 4 ATP in total, giving a net gain of 2 ATP molecules per glucose.

23. Which one of the following plants has tiny leaves with tentacles having glands on their tips to trap the insect sitting on it?

A. Cucuta

B. Pitcher plant

✓ C. Sundew (Correct Answer)

D. Venus fly trap

Explanation: The Sundew (*Drosera*) has small leaves covered in glandular tentacles that secrete a sticky substance, trapping insects that land on them — unlike the Venus flytrap, which uses a snap-trap leaf instead of tentacles.

ESSAY SECTION — SOLVED

Below are complete, ready-to-write solutions for one argumentative essay and one narrative essay, chosen from the given options.

Q24 (Argumentative Essay, 15 Marks) — Topic Chosen: “Does technology limit creativity?”

Technology has become the backdrop of almost every creative act today, from the way music is composed to how stories are illustrated and shared. Whether it limits creativity or expands it depends less on the tools themselves and more on how people choose to use them.

Critics argue that technology narrows creativity because it offers ready-made templates, filters, and algorithms that do much of the creative work automatically. A student writing an essay can lean on autocomplete suggestions instead of developing their own voice, and a designer can drag a pre-built template instead of sketching an original idea. Social media algorithms also reward content that resembles what is already popular, quietly pushing creators toward imitation rather than originality. Over time, this can make people passive consumers of technology’s suggestions rather than active creators of their own ideas.

On the other hand, technology has opened doors that simply did not exist before. A teenager with a smartphone can now

shoot, edit, and publish a short film that once required an entire studio crew. Digital art software gives painters an infinite canvas and undo button that encourages experimentation without fear of ruining expensive materials. Musicians can layer instruments they do not even own using software, and writers can research and cross-reference ideas in seconds, freeing up mental space for imagination rather than logistics. Used this way, technology does not replace creativity — it removes the technical barriers that used to stand in its way.

The real determining factor is intent. A person who uses technology as a shortcut to avoid thinking will find their creativity shrinking, while a person who uses it as an extension of their imagination will find it growing. Schools and workplaces can support this second path by teaching students to use digital tools critically: to question a suggested design instead of accepting it instantly, and to treat software as a paintbrush rather than a painting.

In conclusion, technology itself does not limit creativity; the way it is used does. When approached passively, it can dull original thought, but when approached with curiosity and purpose, it becomes one of the most powerful creative tools humanity has ever had.

Q25 (Narrative Essay, 10 Marks) — Beginning

Chosen: “A day at the Amusement Park”

A day at the Amusement Park. The gates had barely opened when my cousins and I rushed inside, the smell of popcorn and candy floss already pulling us toward the rides. We had been planning this trip for weeks, marking the calendar and arguing over which ride we would try first, and now that the day had finally arrived, none of the plans mattered — we simply ran toward whatever looked the most thrilling.

The roller coaster was our first stop. Standing in line, my heart was already racing faster than the ride itself would go, and my younger cousin kept insisting she was not scared even though she was gripping my sleeve the entire time. When the safety bar clicked into place and the car began to climb the first steep hill, the noise of the park faded and all I could hear was my own breathing. Then came the drop — a rush of wind and screams and laughter all at once — and by the time we came to a stop, we were already begging the attendant to let us go again.

After a break for lunch, where we shared a giant tray of fries by a small artificial lake, we spent the afternoon moving from ride to ride: the spinning teacups that left us dizzy, the haunted house that made my cousin jump into my arms at the very first creaking door, and the Ferris wheel, which we saved for last so we could watch the sun begin to set from the very top. From

up there, the whole park looked like a toy model, its lights just beginning to flicker on against the darkening sky.

By the time we walked back to the car, our feet were sore, our clothes smelled of fried food, and our voices were hoarse from laughing and screaming all day. Yet none of us wanted to leave. It was one of those rare days where every hour felt both impossibly long and far too short, and even now, whenever I hear the distant clatter of a roller coaster, I am transported straight back to that afternoon at the amusement park.