GAT B Chemistry

Sample Paper – 3

Duration: 23 Minutes **Maximum Marks: 15**

Instructions

- This paper contains **15** Multiple Choice Questions (Single Correct Answer), modelled on the Chemistry portion of **GAT B** entrance.
- Each correct answer carries **+1 mark**. There is **a deduction of 0.5 marks for each incorrect answer**.
- Only **one** option is correct. Choose carefully.
- Syllabus level: **NCERT Class 11 & 12 Chemistry — Physical, Organic, and Inorganic Chemistry.**
- Use of mobile phones, calculators, or electronic gadgets is strictly prohibited.

Q1. In sucrose, glucose and fructose are joined by a glycosidic bond between:

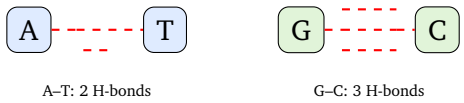
(A) C1-OH of glucose and C6-OH of fructose in a β-linkage

(B) C1-OH of glucose and C4-OH of fructose in an α-linkage

(C) C1-OH of glucose and C2-OH of fructose in a β-linkage

(D) C1 of α-glucose and C2 of β-fructose through an α,β-1,2-glycosidic bond

Q2. The DNA double helix is primarily stabilised by which two types of non-covalent forces?



A–T: 2 H-bonds G–C: 3 H-bonds

(A) Covalent bonds and ionic interactions

(B) Disulfide bonds and van der Waals forces

(C) Hydrogen bonds between complementary base pairs and hydrophobic base-stacking interactions

(D) Phosphodiester bonds between the two strands and electrostatic repulsion between phosphate groups

Q3. NAD^+ (nicotinamide adenine dinucleotide) acts as a coenzyme in:

(A) Phosphate group transfer reactions (kinase reactions)

(B) Oxidation–reduction reactions, accepting electrons and a proton to form NADH

(C) Carboxylation reactions involving CO_2 transfer

(D) One-carbon transfer reactions in amino acid metabolism

Q4. According to Lewis acid-base theory, BF_3 acts as a Lewis acid when it reacts with NH_3 because:

(A) BF_3 has an incomplete octet and accepts the lone pair of electrons from NH_3

(B) BF_3 donates a lone pair to the nitrogen of NH_3

(C) BF_3 is a Brønsted acid that donates H^+ to NH_3

(D) BF_3 and NH_3 both act as Lewis bases and share electrons

Q5. A solution contains $0.01\,\text{M}$ Pb^{2+} and $0.01\,\text{M}$ Ag^+. $K_{sp}(PbCl_2) = 1.6 \times 10^{-5}$; $K_{sp}(AgCl) = 1.8 \times 10^{-10}$. When NaCl is slowly added, which ion precipitates first?

(A) Pb^{2+} precipitates first because $PbCl_2$ has a lower molar solubility

(B) Both ions precipitate simultaneously

(C) Neither precipitates until a large excess of Cl^- is added

(D) Ag^+ precipitates first because AgCl reaches its K_{sp} at a much lower $[Cl^-]$ ($\approx 1.8 \times 10^{-8}\,\text{M}$ vs. $\approx 0.04\,\text{M}$ for $PbCl_2$)

Q6. According to the Third Law of Thermodynamics:

(A) Entropy of the universe decreases in every spontaneous process

(B) The entropy of a perfectly crystalline substance at absolute zero temperature (0 K) is zero

(C) The entropy of an isolated system always increases over time

(D) At absolute zero, all molecular motion — including zero-point vibrations — ceases completely

Q7. In a bomb calorimeter experiment, 0.5 g of a substance is completely combusted and the calorimeter temperature rises by 5 °C. If the heat capacity of the calorimeter system is $2.0\,\text{kJ}\,^\circ\text{C}^{-1}$, the heat released per gram of the substance is:

(A) $10\,\text{kJ}\,\text{g}^{-1}$

(B) $5\,\text{kJ}\,\text{g}^{-1}$

(C) $20\,\text{kJ}\,\text{g}^{-1}$

(D) $2.5\,\text{kJ}\,\text{g}^{-1}$

Q8. The chelate effect refers to the greater thermodynamic stability of complexes formed by polydentate ligands compared to analogous complexes with monodentate ligands. The primary origin of this enhanced stability is:

(A) A favourable increase in entropy ($\Delta S > 0$) when one polydentate ligand replaces several monodentate ligands

(B) Stronger individual metal–ligand σ-bonds in chelate rings

(C) Greater crystal field splitting energy (Δ_o) with polydentate ligands

(D) Decreased steric strain within the chelate ring system

Q9. A transition metal complex appears blue in visible light. The colour of light it **absorbs** is:

(A) Blue-violet

(B) Blue

(C) Green

(D) Orange-red (complementary to blue in the colour wheel)

Q10. In the base-catalysed nucleophilic addition of HCN to acetaldehyde (CH_3CHO), the first mechanistic step is:

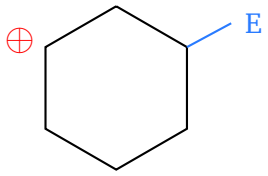
(A) Protonation of the carbonyl oxygen by H^+ to form a carbocation

(B) Attack of the cyanide nucleophile CN^- on the electrophilic carbonyl carbon

(C) Deprotonation of the methyl group to form an enolate

(D) Formation of a cyclic transition state without a discrete intermediate

Q11. In electrophilic aromatic substitution (EAS), the rate-determining step is:



Arenium ion (Wheland intermediate)

(A) Formation of the arenium ion (Wheland intermediate / σ-complex) by electrophilic attack on the aromatic ring

(B) Loss of a proton from the arenium ion to restore aromaticity

(C) Generation of the electrophile from the reagent system (e.g., $Br_2/FeBr_3$)

(D) Back-reaction of the electrophile with the departing leaving group

Q12. Given $E^\circ(Cu^{2+}/Cu) = +0.34\,V$ and $E^\circ(Zn^{2+}/Zn) = -0.76\,V$, the standard EMF of the electrochemical cell $Zn(s)\,|\,Zn^{2+}(aq)\,||\,Cu^{2+}(aq)\,|\,Cu(s)$ is:

(A) $-0.42\,V$

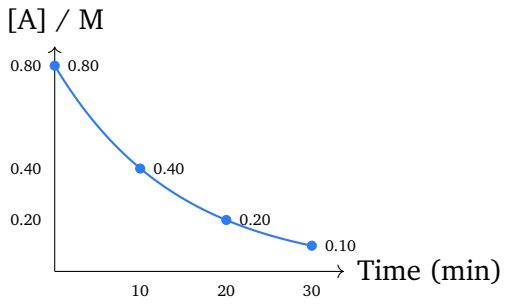
(B) $+0.42\,V$

(C) $+1.10\,V$

(D) $-1.10\,V$

Q13. For the reaction A $\rightarrow$ products, the following concentration-time data was recorded:

Time (min)	[A] (M)
0	0.80
10	0.40
20	0.20
30	0.10



The order of this reaction is:

(A) Zero order (linear decrease of [A] with time)

(B) Second order ([A] decreases rapidly early on)

(C) Third order

(D) First order (constant half-life of 10 min)

Q14. Which property of transition metals is primarily responsible for their widespread use as heterogeneous catalysts?

(A) Their high melting and boiling points ensure stability at reaction temperatures

(B) Their ability to adopt variable oxidation states and to adsorb reactant molecules on their surface

(C) Their large atomic radii favour surface area interactions

(D) Their high electrical conductivity facilitates electron transfer

Q15. Which of the following is a **biodegradable** polymer?

(A) Poly(glycolic acid) (PGA) — contains hydrolysable ester linkages that are broken down in biological environments

(B) Polyethylene (PE) — highly resistant to biological degradation

(C) Poly(vinyl chloride) (PVC) — non-biodegradable

(D) Polystyrene (PS) — accumulates in the environment as microplastics

Detailed Solutions

Q1.

Solution

Concept — Biomolecules (Sucrose Structure): Sucrose is a non-reducing disaccharide formed by a condensation reaction between α-D-glucose and β-D-fructose. The glycosidic bond involves the anomeric C1-OH of glucose and the anomeric C2-OH of fructose, giving an α,β-1,2-glycosidic bond. Because *both* anomeric (reducing) ends are involved in the bond, sucrose cannot open to the aldehyde or ketone form and is therefore a non-reducing sugar.

Why other options are wrong:

- Option A: A C1–C6 linkage would produce a different disaccharide (e.g., trehalose-type); also, glucose and fructose are not connected via a β linkage in sucrose.
- Option B: A C1–C4 α-linkage connects glucose units in maltose; this does not describe the sucrose linkage.
- Option C: Although the linkage is indeed at C1–C2, it is an α,β (mixed) bond, not a pure β-linkage.

Final Answer: Sucrose $=$ C1(α-Glc)–C2(β-Fru); α,β-1,2-glycosidic bond $\Rightarrow \boxed{D}$

Answer: (D) Go Back to Q 1

Q2.

Solution

Concept — DNA Double-Helix Stability: Two major non-covalent forces stabilise the DNA double helix:

1. **Hydrogen bonds** between complementary bases: A–T form 2 H-bonds; G–C form 3 H-bonds (shown in the question diagram).
2. **Hydrophobic base-stacking interactions** between adjacent planar aromatic rings, which contribute substantially to the enthalpy of stabilisation by minimising exposure of the hydrophobic bases to water.

Why other options are wrong:

- Option A: Covalent bonds hold the sugar-phosphate backbone together within each strand; ionic interactions (e.g., Mg^{2+} shielding) are secondary and not a primary stabilising force.

- Option B: Disulfide bonds occur between cysteine residues in proteins, not in DNA.
- Option D: Phosphodiester bonds are covalent bonds *within* each strand; they do not hold the two strands together. Electrostatic *repulsion* between phosphate groups actually destabilises the helix slightly.

Final Answer: H-bonds (A–T and G–C) + hydrophobic stacking $\Rightarrow \boxed{C}$

Answer: (C) Go Back to Q 2

Q3.

Solution

Concept — NAD$^+$ as a Redox Coenzyme: NAD$^+$ (nicotinamide adenine dinucleotide) is the primary coenzyme of biological oxidation–reduction reactions. It functions as a hydride (H^-) acceptor: when a metabolite is oxidised, NAD$^+$ accepts 2 electrons and 1 proton, converting to NADH.

Half-reaction:

$$NAD^+ + H^+ + 2e^- \longrightarrow NADH$$

Why other options are wrong:

- Option A: Kinase reactions transfer phosphate groups using ATP (adenosine triphosphate), not NAD$^+$.
- Option C: Carboxylation reactions use biotin (vitamin B_7) as the CO_2 carrier coenzyme (e.g., pyruvate carboxylase).
- Option D: One-carbon transfer reactions use tetrahydrofolate (THF) as the carrier, not NAD$^+$.

Final Answer: NAD$^+$ functions in oxidation–reduction reactions $\Rightarrow \boxed{B}$

Answer: (B) Go Back to Q 3

Q4.

Solution

Concept — Lewis Acid-Base Theory: G. N. Lewis defined a *Lewis acid* as an electron-pair *acceptor* and a *Lewis base* as an electron-pair *donor*.

Why BF_3 is a Lewis acid: Boron in BF_3 forms only three B–F bonds using its 3 valence electrons. This leaves boron with only **6 electrons** around it — an incomplete octet and an empty p-orbital. BF_3 therefore *accepts* a lone pair from the nitrogen of NH_3:

$$BF_3 + :NH_3 \longrightarrow F_3B{\leftarrow}NH_3$$

Why other options are wrong:

- Option B: In this reaction BF_3 is the *acceptor*, not the donor of a lone pair.
- Option C: BF_3 contains no H atom and cannot donate H^+; it is not a Brønsted–Lowry acid in this reaction.
- Option D: NH_3 alone is the Lewis base (donor); BF_3 is the Lewis acid (acceptor). They do not both act as Lewis bases.

Final Answer: BF_3 has an incomplete octet and accepts the lone pair from $NH_3 \Rightarrow \boxed{A}$

Answer: (A) Go Back to Q 4

Q5.

Solution

Concept — Selective Precipitation: The ion that requires the *lower* concentration of precipitating agent to reach its K_{sp} precipitates first.

Step 1 — Minimum $[Cl^-]$ to start precipitating Ag^+:

$$K_{sp}(AgCl) = [Ag^+][Cl^-] \implies [Cl^-]_{min} = \frac{1.8 \times 10^{-10}}{0.01} = 1.8 \times 10^{-8}\,\text{M}$$

Step 2 — Minimum $[Cl^-]$ to start precipitating Pb^{2+}:

$$K_{sp}(PbCl_2) = [Pb^{2+}][Cl^-]^2 \implies [Cl^-]_{min} = \sqrt{\frac{1.6 \times 10^{-5}}{0.01}} = \sqrt{1.6 \times 10^{-3}} \approx 0.040\,\text{M}$$

Step 3 — Comparison:

$$1.8 \times 10^{-8}\,\text{M} \ll 0.040\,\text{M}$$

AgCl begins to precipitate at a far lower $[Cl^-]$ than $PbCl_2$. Therefore Ag^+ precipitates first.

Final Answer: Ag^+ precipitates first $\Rightarrow \boxed{D}$

Answer: (D) Go Back to Q 5

Q6.

Solution

Concept — Third Law of Thermodynamics: The Third Law (Nernst–Planck) states: *The entropy of a perfect crystalline substance at absolute zero temperature is zero.* At $T = 0\,\text{K}$, there is only one possible microstate ($W = 1$), hence $S = k_B \ln W = k_B \ln 1 = 0$. This provides an absolute reference point for entropy calculations.

Why other options are wrong:

- Option A: This contradicts the Second Law, which states the entropy of the universe *increases* in every spontaneous process.
- Option C: This is a correct statement of the Second Law (entropy of an isolated system never decreases), but it is not the Third Law.
- Option D: Quantum mechanics shows zero-point energy persists at $0\,\text{K}$; molecular vibrations do not entirely cease. The Third Law refers to *entropy* becoming zero, not all motion ceasing.

Final Answer: Entropy of a perfect crystal at $0\,\text{K}$ is zero (Third Law) $\Rightarrow \boxed{B}$

Answer: (B) Go Back to Q 6

Q7.

Solution

Concept — Bomb Calorimetry: A bomb calorimeter measures heat at constant volume. The heat released by the combustion is absorbed entirely by the calorimeter system:

$$q = C_{\text{cal}} \times \Delta T$$

Step 1 — Total heat released by combustion of 0.5 g sample:

$$q_{\text{total}} = 2.0\,\text{kJ}\,^\circ\text{C}^{-1} \times 5\,^\circ\text{C} = 10\,\text{kJ}$$

Step 2 — Heat released per gram of substance:

$$q_{\text{per g}} = \frac{q_{\text{total}}}{m} = \frac{10\,\text{kJ}}{0.5\,\text{g}} = 20\,\text{kJ g}^{-1}$$

Why other options are wrong:

- Option A ($10\,\text{kJ g}^{-1}$): This is the *total* heat released, not the per-gram value; dividing by sample mass was omitted.
- Option B ($5\,\text{kJ g}^{-1}$): Arithmetic error; $10 \div 2 = 5$ confuses the heat capacity with the sample mass.
- Option D ($2.5\,\text{kJ g}^{-1}$): Likely from incorrectly dividing ΔT by the mass: $5/2 = 2.5$.

Final Answer: $q_{\text{per g}} = 20\,\text{kJ g}^{-1} \Rightarrow \boxed{C}$

Answer: (C) Go Back to Q 7

Q8.

Solution

Concept — Chelate Effect and Entropy: When a polydentate ligand (e.g., EDTA^{4-}, a hexadentate ligand) replaces six monodentate ligands from a metal complex, the net reaction releases more particles into solution:

$$[\text{M}(\text{H}_2\text{O})_6]^{n+} + \text{EDTA}^{4-} \longrightarrow [\text{M}(\text{EDTA})]^{(n-4)+} + 6\,\text{H}_2\text{O}$$

Two species on the left yield seven on the right. This large increase in the number of free particles gives $\Delta S \gg 0$. Since $\Delta G = \Delta H - T\Delta S$, the highly positive $T\Delta S$ term drives the reaction to be thermodynamically spontaneous.

Why other options are wrong:

- Option B: Individual M–L bond strengths are not significantly stronger in chelates than in comparable monodentate complexes with the same donor atoms.
- Option C: Δ_o (crystal field splitting) depends on the nature of donor atoms and orbital overlap, not simply on whether the ligand is chelating.
- Option D: Chelate ring formation actually introduces some ring strain; reduced steric strain is not the primary driver of the chelate effect.

Final Answer: Entropy increase ($\Delta S > 0$) is the primary origin of chelate stability $\Rightarrow \boxed{A}$

Answer: (A) Go Back to Q 8

Q9.

Solution

Concept — Colour and Complementary Colours: A transition metal complex *absorbs* photons of a specific wavelength (energy $= \Delta_o$, the crystal-field splitting). The colour *observed* is the **complementary colour** of the absorbed light.

Complementary colour pairs (approximate):

Colour Absorbed	Colour Seen
Violet (400–430 nm)	Yellow-green
Blue (430–490 nm)	Orange
Green (490–560 nm)	Red-purple
Yellow (560–600 nm)	Violet
Orange (600–640 nm)	Blue
Red (640–700 nm)	Blue-green

A complex that *appears* blue has absorbed its complementary colour: **orange-red** (≈ 600–640 nm).

Final Answer: Blue complex absorbs orange-red light $\Rightarrow \boxed{D}$

Answer: (D) Go Back to Q 9

Q10.

Solution

Concept — Base-Catalysed Nucleophilic Addition: In base-catalysed addition of HCN to a carbonyl compound, the base (OH^- or the reaction medium) first deprotonates HCN to generate the strong nucleophile CN^-. The **first step** of the mechanism is then nucleophilic attack by CN^- on the electrophilic carbonyl carbon.

Mechanism outline:

1. $HCN + \text{base} \rightarrow CN^- + BH^+$ (equilibrium; generates nucleophile)
2. CN^- attacks $\overset{\delta+}{C}{=}O$ of $CH_3CHO \rightarrow$ alkoxide anion intermediate **(rate-determining step)**
3. Alkoxide picks up H^+ from solvent $\rightarrow$ cyanohydrin product ($CH_3CH(OH)CN$)

Why other options are wrong:

- Option A: Protonation of the carbonyl oxygen by H^+ is the first step in *acid-catalysed* addition (e.g., acid-catalysed addition of water), not in base-catalysed addition.
- Option C: Deprotonation of the methyl group to form an enolate is an aldol-type pathway, unrelated to HCN addition.
- Option D: HCN nucleophilic addition proceeds via a distinct alkoxide intermediate; there is no cyclic transition-state pathway.

Final Answer: CN^- attacks the carbonyl carbon as the first step $\Rightarrow \boxed{B}$

Answer: (B) Go Back to Q 10

Q11.

Solution

Concept — EAS Mechanism and Rate-Determining Step: Electrophilic aromatic substitution (EAS) proceeds via two main steps:

1. **Electrophilic attack:** E^+ attacks the π-system to form the **arenium ion** (Wheland intermediate / σ-complex). The aromatic resonance is broken; this step has the *highest* activation energy and is **rate-determining**.
2. **Deprotonation:** The arenium ion loses H^+ rapidly to restore aromaticity. This step has a much lower activation energy.

Energy consideration: Disrupting aromaticity (resonance stabilisation $\approx 150\,\text{kJ mol}^{-1}$) costs significant energy. The transition state for step 1 is therefore much higher in energy than that for step 2.

Why other options are wrong:

- Option B: Deprotonation (step 2) is fast and not rate-limiting; the arenium ion is a relatively stable intermediate.
- Option C: Generation of the electrophile (e.g., Br^+ from $Br_2/FeBr_3$) is a fast pre-equilibrium; it does not determine the overall rate.
- Option D: In EAS, H^+ is the leaving group; there is no back-reaction of the electrophile with a departing species that is rate-determining.

Final Answer: Formation of the Wheland intermediate is the rate-determining step $\Rightarrow \boxed{A}$

Answer: (A) Go Back to Q 11

Q12.

Solution

Concept — Standard EMF of an Electrochemical Cell:

$$E^\circ_{\text{cell}} = E^\circ_{\text{cathode}} - E^\circ_{\text{anode}}$$

In the cell notation $\text{Zn}\,|\,\text{Zn}^{2+}\,||\,\text{Cu}^{2+}\,|\,\text{Cu}$, the anode (oxidation) is on the left and the cathode (reduction) is on the right:

- **Cathode (reduction):** $\text{Cu}^{2+} + 2e^- \rightarrow \text{Cu}$; $\quad E^\circ = +0.34\,\text{V}$
- **Anode (oxidation):** $\text{Zn} \rightarrow \text{Zn}^{2+} + 2e^-$; $\quad E^\circ_{\text{reduction}} = -0.76\,\text{V}$

Calculation:

$$E^\circ_{\text{cell}} = (+0.34) - (-0.76) = +0.34 + 0.76 = +1.10\,\text{V}$$

The positive value confirms this is a spontaneous galvanic cell.

Why other options are wrong:

- Options A and B ($\pm 0.42\,\text{V}$): Error from simply adding $E^\circ(\text{Cu}) + E^\circ(\text{Zn}) = +0.34 + (-0.76) = -0.42\,\text{V}$ instead of using the correct formula (cathode minus anode).
- Option D ($-1.10\,\text{V}$): Sign reversed; would imply a non-spontaneous cell, which contradicts the well-known Daniell cell.

Final Answer: $E^\circ_{\text{cell}} = +1.10\,\text{V} \Rightarrow \boxed{C}$

Answer: (C) Go Back to Q 12

Q13.

Solution

Concept — Identifying Reaction Order from Half-Life: For a first-order reaction, the half-life is *constant*: $t_{1/2} = \ln 2/k = 0.693/k$, independent of the initial concentration.

Step 1 — Check half-lives from the data:

- $t = 0 \rightarrow 10\,\text{min}$: [A] drops $0.80 \rightarrow 0.40\,\text{M}$; ratio $= 2 \Rightarrow t_{1/2} = 10\,\text{min}$ ✓
- $t = 10 \rightarrow 20\,\text{min}$: [A] drops $0.40 \rightarrow 0.20\,\text{M}$; ratio $= 2 \Rightarrow t_{1/2} = 10\,\text{min}$ ✓
- $t = 20 \rightarrow 30\,\text{min}$: [A] drops $0.20 \rightarrow 0.10\,\text{M}$; ratio $= 2 \Rightarrow t_{1/2} = 10\,\text{min}$ ✓

All three successive half-lives are equal (10 min) $\Rightarrow$ **first-order kinetics**.

Step 2 — Rate constant:

$$k = \frac{0.693}{t_{1/2}} = \frac{0.693}{10\,\text{min}} = 0.0693\,\text{min}^{-1}$$

Why other options are wrong:

- Option A (zero order): [A] would decrease *linearly* with time; the data show exponential decay.
- Option B (second order): Half-life $\propto 1/[\text{A}]_0$ for second order, meaning it would *increase* as [A] decreases; not observed here.
- Option C (third order): Half-life $\propto 1/[\text{A}]_0^2$; would show rapidly increasing half-lives, which is inconsistent with the data.

Final Answer: Constant half-life (10 min) confirms first-order kinetics $\Rightarrow \boxed{D}$

Answer: (D) Go Back to Q 13

Q14.

Solution

Concept — Transition Metals as Heterogeneous Catalysts: Two key properties make transition metals effective heterogeneous catalysts:

1. **Variable oxidation states:** Transition metals can readily cycle between oxidation states (e.g., Fe^{2+}/Fe^{3+}; V^{4+}/V^{5+}), providing low-energy alternative reaction pathways and facilitating electron transfer.
2. **Adsorption of reactants:** Reactant molecules adsorb onto the metal surface, weakening their bonds (e.g., N≡N in the Haber process on Fe), lowering the activation energy, and bringing reactants into close proximity (Langmuir–Hinshelwood mechanism).

Examples: Fe (Haber process: $N_2 + 3H_2 \rightarrow 2NH_3$); Ni (hydrogenation of alkenes); V_2O_5 (Contact process for H_2SO_4).

Why other options are wrong:

- Option A: High melting points give thermal stability but do not explain the catalytic activity mechanism.
- Option C: Atomic radii do not directly determine surface area; particle size (finely divided metal) controls surface area.

- Option D: Electrical conductivity is relevant in electrochemical processes, not in the mechanism of heterogeneous catalysis.

Final Answer: Variable oxidation states + surface adsorption of reactants $\Rightarrow \boxed{B}$

Answer: (B) Go Back to Q 14

Q15.

Solution

Concept — Biodegradable Polymers: A biodegradable polymer contains functional groups in the backbone (ester, amide, anhydride, etc.) that are susceptible to hydrolysis by water or enzymes in biological environments, yielding non-toxic monomers that are further metabolised.

Why PGA is biodegradable: Poly(glycolic acid) is a synthetic polyester with repeating unit $[-\mathrm{O}-\mathrm{CH_2}-\mathrm{C}(=\mathrm{O})-]_n$. The ester bonds are hydrolysed (enzymatically or by simple hydrolysis) to glycolic acid, which enters normal metabolic pathways via the glyoxylate cycle. PGA (and the related PLA, PLGA) are used clinically in biodegradable sutures and drug-delivery devices.

Why other options are wrong:

- Option B (Polyethylene): Contains only C–C and C–H bonds with no hydrolysable linkages; essentially inert to biological degradation.
- Option C (PVC): The C–Cl bond and C–C backbone are highly stable to microbial attack; PVC persists in the environment.
- Option D (Polystyrene): Aromatic ring and C–C backbone make it recalcitrant to biodegradation; it is a major source of persistent microplastic pollution.

Final Answer: PGA (polyester with hydrolysable ester linkages) is biodegradable $\Rightarrow \boxed{A}$

Answer: (A) Go Back to Q 15

Answer Key

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