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**1. Question: The Professor has been able to instil confidence in her students.**

- (a) inculcate
- (b) infer
- (c) eradicate
- (d) unlike

**Correct option:** (a) inculcate

**Explanation (≈80 words):**

“To instil” means to gradually but firmly establish an idea or feeling in someone’s mind. **Inculcate** is the closest synonym — to teach or impress (an idea) by persistent instruction. “Infer” means to deduce, “eradicate” means to remove completely, and “unlike” is a comparative preposition. In the sentence, the professor imparts and builds confidence over time; hence “inculcate” is the best choice. The nuance of gradual nurturing makes “inculcate” especially apt.

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**2.Question: The members of the group expressed their allegiance to their leader.**

- (a) commitment
- (b) disloyalty
- (c) understanding
- (d) unlikely

**Correct option:** (a) commitment

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**Explanation (≈75 words):**

**Allegiance** denotes loyalty, fidelity, or devotion to a person, group, or cause. Among the options, **commitment** best captures this sense of devoted support. “Disloyalty” is the opposite. “Understanding” denotes comprehension rather than loyalty, and “unlikely” is unrelated. In political and social contexts allegiance implies a pledge of support and duty; therefore “commitment” accurately represents the meaning here.

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**3.Question: The inscrutability surrounding the incident remains unresolved until the end of the movie.**

- (a) clearness
- (b) comprehensibility
- (c) seriousness
- (d) mystery

**Correct option:** (d) mystery

**Explanation (≈80 words):**

**Inscrutability** refers to something that is hard to understand or interpret—an enigma. The best matching choice is **mystery**, which connotes obscurity and lack of clear explanation. “Clearness” and “comprehensibility” are antonyms (meaning the opposite). “Seriousness” refers to the importance or gravity of something and does not capture the idea of being unknowable. Since the sentence states the matter remains unresolved (not understood), “mystery” is the correct synonym.

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**4.Question: The dodgy behaviour of the leader led to her fall.**

- (a) principled
- (b) dubious
- (c) dishonest
- (d) painful

**Correct option:** (b) dubious

**Explanation (≈80 words):**

“Dodgy” commonly means suspicious, unreliable, or causing doubt. **Dubious** closely mirrors that sense: doubtful or questionable. “Dishonest” is related but carries a stronger moral charge (active deceit), while “dodgy” may be broader (shady, risky, or suspicious). “Principled” and “painful” are unrelated. In political phrasing, “dodgy behaviour” implies actions that raise doubts about integrity or reliability, so “dubious” is the nearest match in meaning.

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**5.Question: People have been advised not to venture into sea as the weather is likely to be inclement.**

- (a) squally
- (b) calm
- (c) pleasant
- (d) indigent

**Correct option:** (a) squally

**Explanation (≈78 words):**

**Inclement** weather means stormy, harsh, or severe (often used for rain, wind, or rough sea conditions). **Squally** describes sudden, gusty, stormy wind conditions at sea and thus captures the relevant maritime danger. “Calm” and “pleasant” are opposites, and “indigent” means poor or needy, which is unrelated. Advising people not to venture into the sea because weather is inclement implies stormy/squally conditions, making (a) the correct option.

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## Jumbled Sentences (Q.6–10)

**6.S1:** Sufism is an English word coined in the Nineteenth Century.

**S6:** It may also have been suffa, the platform outside a place of Islamic worship.

**P.** Historians have understood this term in several ways.

**Q.** According to some scholars, it is derived from suf, meaning wool.

**R.** Others derive it from safa, meaning purity.

**S.** The word used for Sufism in Islamic texts is tasawwuf.

Options:

- (a) Q R S P
- (b) S P Q R
- (c) P Q S R
- (d) R P S Q

**Correct option:** (b) S P Q R

**Explanation (≈85 words):**

A coherent exposition begins by noting the native term (**S: tasawwuf**) used in Islamic texts, then explains scholars' multiple interpretations (**P: historians have understood this term in several ways**). Next come the alternative etymologies: **Q** (from *suf*, wool) and **R** (from *safa*, purity). This logical sequence (S → P → Q → R) moves from the term in original usage to scholarly debate and specific derivations, perfectly matching option (b).

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**7.S1:** Al-Biruni was born in 973, in Khwarizm in present-day Uzbekistan.

**S6:** He arrived in Ghazni as a hostage, but gradually developed a liking for the city.

**P.** In 1017, when Sultan Mahmud invaded Khwarizm, he took several scholars back to his capital, Ghazni; Al-Biruni was one among them.

**Q.** He was well versed in several languages; Syriac, Arabic, Persian, Hebrew, and Sanskrit.

**R.** Khwarizm was an important centre of learning, and Al-Biruni received the best education available at the time.

**S.** However he did not know Greek, although he was familiar with the works of Plato and other Greek philosophers.

Options:

- (a) Q S R P
- (b) R Q S P
- (c) P Q S R
- (d) R P S Q

**Correct option:** (b) R Q S P

**Explanation (≈85 words):**

A biographical flow: birth and education (**R**: Khwarizm as a learning centre) → language proficiency (**Q**) → limitation regarding Greek despite knowledge of Greek thought (**S**) → historical event that moved him to Ghazni (**P**), which then leads to S6 (arrival and subsequent acclimatisation). So the sequence  $R \rightarrow Q \rightarrow S \rightarrow P$  ties his formative education and linguistic competence to later historical displacement, making option (b) the coherent choice.

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**8. S1: Vijayanagara or ‘city of victory’ was the name of both a city and an empire.**

**S6: They remembered it as Hampi, a name derived from that of the local mother goddess, Pampadevi.**

**P. In its heyday it stretched from the river Krishna in the north to the extreme south of the Indian peninsula.**

**Q. Although it fell into ruin in the seventeenth-eighteenth centuries, it continued to live in the memories of the people who inhabited the Krishna-Tungabhadra doab.**

**R. In 1565 the city was sacked and subsequently deserted.**

**S. The Empire was founded in the fourteenth century.**

Options:

- (a) S P R Q
- (b) S Q P R
- (c) P Q S R
- (d) P Q R S

**Correct option:** (a) S P R Q

**Explanation (≈80 words):**

Historically the narrative proceeds: foundation (**S: founded in 14th century**), territorial extent at its zenith (**P**), downfall (**R: sacked in 1565 and deserted**), and thereafter memory and cultural remembrance (**Q**), culminating in the popular name Hampi (**S6**). Thus  $S \rightarrow P \rightarrow R \rightarrow Q$  provides chronological and thematic flow from origin to glory to destruction to cultural memory, matching option (a).

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**9.S1: Liberalisation and globalisation freed India’s economy from the low GDP trap that had impeded India’s progress.**

**S6: Today India has transformed into one of the largest economies of the world.**

**P. India’s 3 pc rate of growth and a set of emergent circumstances led to a**

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balance of payment crisis in the early 1990s.

**Q. Ease of business was ensured, and the requirement for import licences, and production quotas, were removed.**

**R. Apart from these measures India also took a loan from the IMF to tide over the crisis, but after 1993, India has not taken another loan from the IMF.**

**S. In a landmark budget in 1991, responding to the emergent crisis, India delicensed many industries and liberalised its economic policies.**

Options:

- (a) Q S R P
- (b) S Q P R
- (c) R Q S P
- (d) P S Q R

**Correct option:** (d) P S Q R

**Explanation (≈90 words):**

The logical sequence begins with the problem (**P**: low growth leading to BOP crisis), followed by the policy response (**S**: 1991 landmark budget liberalising the economy), then the specific policy effects (**Q**: removal of licences and quotas to ease business), and finally the financing measure and aftermath (**R**: IMF loan to tide over the crisis, and no subsequent loan after 1993). This P → S → Q → R order explains cause, reform action, policy content, and financial outcome, leading to present transformation (S6).

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**10.S1: In many countries, there are millions of people who are underprivileged and deprived.**

**S6: In the past forced labour was imposed by landlords, money-lenders, and other wealthy persons.**

**P. Both of these are prohibited under the Constitution of India.**

**Q. One such form of exploitation in our country has been begar or forced labour without payment.**

**R. The marginalised are often subjected to exploitation by their fellow human beings.**

**S. Another closely related form of exploitation is buying and selling of human beings and using them as slaves.**

Options:

- (a) Q S R P
- (b) R Q S P
- (c) P Q S R
- (d) Q S P R

**Correct option:** (b) R Q S P

**Explanation (≈85 words):**

A natural development: general statement about marginalisation (**R**: marginalised face exploitation) → specific forms of exploitation (**Q**: begar/forced labour; **S**: trafficking and slavery) → legal response (**P**: both are constitutionally prohibited). So R → Q → S → P moves from problem to examples and then to legal prohibition, finally tying back to the historical note (S6). This ordering yields a coherent paragraph and matches option (b).

**11.Question:** of children they also contain deeply embedded (P) whereas traditional fairy tales(Q) moral lessons that are relevant even for adults ( R) were designed for the entertainment (S)

Options:

- (a) R P Q S
- (b) Q S R P
- (c) R P S Q
- (d) Q S P R

**Correct option:** (d) Q S P R

**Explanation (≈75 words):**

A coherent sentence reads: “Whereas traditional fairy tales were designed for the entertainment of children, they also contain deeply embedded moral lessons that are relevant even for adults.” The clause order Q (whereas traditional fairy tales) → S (were designed for the entertainment) → P (of children they also contain deeply embedded) → R (moral lessons that are relevant even for adults) produces the correct grammar, meaning and flow. Option (d) places subordinate clause, main clause and the qualifying moral clause in logical sequence.

**12.Question:** of school education is an ineluctable truth (P) that sporting activities are an integral part(Q) meaningfully towards the overall growth of a student ( R) that underscores the learning process and contributes(S.)

Options:

- (a) Q P S R
- (b) Q S R P
- (c) R P S Q
- (d) Q S P R

**Correct option:** (a) Q P S R

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**Explanation (≈75 words):** Correct reconstruction: *“That sporting activities are an integral part of school education is an ineluctable truth that underscores the learning process and contributes meaningfully towards the overall growth of a student.”* The sentence begins with the noun-clause Q (that sporting activities...), follows with P (of school education is an ineluctable truth), then S (that underscores the learning process and contributes) and ends with R (meaningfully towards the overall growth of a student). Option (a) yields grammatical coherence and logical progression from assertion to consequence.

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**13.Question:** and contentment on account of a life lived (P) the beneficial outcome of(Q) well without retribution or rebuke (R ) a virtuous life is peace of mind (S.)

Options:

- (a) S R Q P
- (b) S P Q R
- (c) Q S P R
- (d) Q S R P

**Correct option:** (d) Q S R P

**Explanation (≈78 words):**

The intended sentence: *“The beneficial outcome of a virtuous life is peace of mind, well without retribution or rebuke, and contentment on account of a life lived.”* The sequence Q (the beneficial outcome of) → S (a virtuous life is peace of mind) → R (well without retribution or rebuke) → P (and contentment on account of a life lived) produces a grammatically correct and meaningful sentence, moving from the general claim to specific qualities of the outcome. Option (d) thus fits best.

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**14.Question:** more representative than the latter (P)from a non-parliamentary system(Q)in as much as the former is(R.) it is widely believed that the parliamentary system differs (S)

Options:

- (a) S Q R P
- (b) S P Q R
- (c) R S P Q
- (d) P S R Q

**Correct option:** (a) S Q R P

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**Explanation (≈80 words):**

Arrange to read: “It is widely believed that the parliamentary system differs from a non-parliamentary system in as much as the former is more representative than the latter.” This ordering—S (introductory belief) → Q (differ from a non-parliamentary system) → R (in as much as the former is) → P (more representative than the latter)—creates a clear comparative statement. It places the assertion first, then specifies the contrast and the reason, yielding coherent logic and grammar. Hence option (a) is correct.

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**15. Question:** crushes the spirit behind the service (P) it stunts the person offering the same and (Q) exhibition or for fear of public opinion (R) when service is done for (S)

Options:

- (a) S Q R P
- (b) S P Q R
- (c) R S P Q
- (d) S R Q P

**Correct option:** (d) S R Q P

**Explanation (≈78 words):**

Correct sentence: “When service is done for exhibition or for fear of public opinion, it stunts the person offering the same and crushes the spirit behind the service.” Sequence S (when service is done for) → R (exhibition or for fear of public opinion) → Q (it stunts the person offering the same and) → P (crushes the spirit behind the service) yields a natural cause–effect flow: motive leads to internal harm, and the concluding clause states the deeper consequence. Option (d) matches this logical arrangement.

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**16. Question:** It does not look like he is going \_\_\_\_\_ in his studies than what was predicted by his school principal.

- (a) any further
- (b) further
- (c) farther
- (d) any farther

**Correct option:** (a) any further

**Explanation (≈80 words):**

In this context, “further” is used in the figurative sense of academic progress. “Farther” is typically reserved for physical distance, while “further” relates to abstract advancement. The

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expression “any further” fits best, as it stresses that his studies are not progressing beyond the principal’s expectations. Options (b) and (c) lack the needed emphasis, and (d) mixes physical sense of “farther.” Thus the correct, idiomatic choice is **any further**.

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**17.Question:** \_\_\_\_\_ all the confusion the thief made a quiet getaway.

- (a) Among
- (b) Amongst
- (c) Amidst
- (d) Amid

**Correct option:** (c) Amidst

**Explanation (≈75 words):**

“Amidst” means in the middle of or surrounded by — used especially for abstract nouns like confusion, chaos, or noise. “Amid” is also correct but is more formal/literary, while “among”/“amongst” are generally used with countable entities (people, objects). The sentence refers to the thief escaping in the middle of confusion, making **amidst** the most natural fit. Thus option (c) is correct.

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**18.Question:** The intricate operation on the patient required the expertise of a/an \_\_\_\_\_ surgeon.

- (a) special
- (b) especial
- (c) specialist
- (d) specialised

**Correct option:** (c) specialist

**Explanation (≈78 words):**

In medical usage, a doctor highly trained in a specific branch is called a **specialist** (e.g., heart specialist, neurosurgeon). “Special” means unique or notable; “especial” is archaic and rarely used today. “Specialised surgeon” would be grammatically possible but is not idiomatic; the standard collocation is “specialist surgeon.” Therefore, the expertise required is that of a **specialist** surgeon, making option (c) the precise and natural choice.

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**19.Question:** There are \_\_\_\_\_ thirty students inside the classroom at any time.

- (a) less than
  - (b) fewer than
-

- (c) less then
- (d) fewer then

**Correct option:** (b) fewer than

**Explanation (≈75 words):**

“Fewer” is used with countable nouns (like students), while “less” is used with uncountable nouns (like sugar, water). Since the sentence refers to countable individuals (students), the correct form is **fewer than thirty students**. Options (c) and (d) are incorrect due to the use of “then” (a sequencing word) instead of “than” (comparison). Option (a) “less than” is grammatically wrong in this countable context.

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**20. Question:** There are many \_\_\_\_\_ vehicles on the highway due to a sudden landslide.

- (a) stationery
- (b) stationed
- (c) stranded
- (d) straggle

**Correct option:** (c) stranded

**Explanation (≈80 words):**

Vehicles blocked by a landslide are **stranded**, meaning stuck without the ability to move. “Stationery” refers to writing materials (paper, pens), so irrelevant. “Stationed” usually applies to people (e.g., soldiers) posted at a location, not vehicles. “Straggle” is a verb meaning to move in a scattered, irregular way. The most appropriate adjective here is **stranded**, describing vehicles unable to move forward due to an obstruction.

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**21. Question:** Convert from direct into indirect speech:

**Direct:** *Ayushi said to the group, “We have had enough of suffering today. It is time to march forward.”*

**Options:**

- (a) Ayushi told the group that they had had enough of suffering that day and it was time to march forward
  - (b) Ayushi asked the group that they had had enough of suffering this day and it was time to march forward
  - (c) Ayushi told the group that they had enough of suffering and that it is time to march forward
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(d) Ayushi told the group that we had had enough of suffering and it was time to march forward

**Correct option:** (a)

**Explanation (≈85 words):**

In indirect speech, pronouns, tense, and time expressions must change. “We” becomes “they” (as Ayushi is reporting to others), present perfect “have had” becomes past perfect “had had,” and “today” shifts to “that day.” The reporting verb “said to” is changed to “told.” Thus: *Ayushi told the group that they had had enough of suffering that day and it was time to march forward.* Option (a) captures all necessary changes correctly.

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**22. Question:** “Alas! We lost the match by one point,” said the Captain.

- (a) The Captain regretted that they had lost the match by one point
- (b) The Captain regretted that they lost the match by one point
- (c) The Captain exclaimed that they had lost the match by one point
- (d) The Captain told the team that they had lost the match by one point

**Correct option:** (a)

**Explanation (≈80 words):**

The interjection “Alas!” expresses sorrow or regret. In indirect speech, such interjections are replaced with a reporting verb of emotion, e.g., “regretted” or “lamented.” The past perfect “had lost” is needed since the original was in past tense. Option (a) accurately conveys both the emotional tone and the correct tense shift. Options (b) and (c) miss either tense or tone; (d) drops the expression of regret entirely.

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**23. Question:** “Where were you last week?” Alok asked Sheela.

- (a) Alok told Sheela where she had been the week before
- (b) Alok asked Sheela where she had been the week before
- (c) Alok asked Sheela where she was the week before
- (d) Alok asked Sheela where she had been the last week

**Correct option:** (b)

**Explanation (≈80 words):**

This is a **direct question** in the past continuous/past simple. Indirect speech requires backshifting: “were” → “had been.” “Last week” changes to “the week before.” The reporting verb “asked” is correct since it’s a question. Thus the sentence becomes: *Alok asked Sheela*

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where she had been the week before. Option (b) alone follows all conversion rules correctly. (a) incorrectly uses “told” instead of “asked,” and (c) and (d) mishandle tense/time conversion.

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**24. Question: The king who the people loved built the castle five centuries ago.**

- (a) The castle was built five centuries ago by the king who was loved by the people**
- (b) The castle was built five centuries ago by the king who loved the people**
- (c) The castle built five centuries ago by the king loved by the people**
- (d) The castle was built five centuries ago by the people who were loved by the king**

**Correct option: (a)**

**Explanation (≈78 words):**

This is a passive voice transformation. Subject = “The king...built the castle.” In passive: “The castle was built...by the king.” The relative clause “who the people loved” should convert into “who was loved by the people.” Option (a) maintains both the sense of construction and the accurate transformation of the relative clause. Options (b) and (d) distort the meaning, while (c) is grammatically incomplete.

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**25. Question: The company has recruited four hundred engineers who will have to complete an internship for three weeks.**

- (a) Four hundred engineers have been recruited by the company and an internship of three weeks will have to be completed by them**
- (b) Four hundred engineers have been recruited by the company and they will have to complete an internship of three weeks**
- (c) The company has been recruited four hundred engineers and an internship of three weeks will have to be completed by them**
- (d) Four hundred engineers have been recruited by the company. Internship of three weeks will have had to be completed by them**

**Correct option: (b)**

**Explanation (≈82 words):**

In passive, clarity is crucial. Option (b) gives: *Four hundred engineers have been recruited by the company and they will have to complete an internship of three weeks.* This keeps the original meaning intact, combining recruitment and the requirement. Option (a) is also grammatically possible, but less natural in everyday usage. Option (c) is incorrect in structure (“has been recruited” is wrong). Option (d) uses wrong tense (“will have had to”), making (b) the correct choice.

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**26. Question: Seldom and Often**

- (a) Seldom means hardly ever and often means time and again
- (b) Seldom means time and again and often means hardly ever
- (c) Seldom means never and often means not at all
- (d) Seldom means frequently and often means time and again

**Correct option:** (a)

**Explanation (≈75 words):**

“Seldom” means rarely or hardly ever. “Often” means frequently, or time and again. Option (a) provides the correct definitions. Option (b) reverses the meanings incorrectly. Option (c) is inaccurate since “seldom” is not equivalent to “never,” and “often” does not mean “not at all.” Option (d) wrongly defines “seldom” as frequently. Hence (a) is correct.

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**27. Question: Overview and Review**

- (a) Overview means assessment and review means general idea
- (b) Overview means general idea and review means assessment
- (c) Overview means general analysis and review means go through
- (d) Overview means summary and review means evaluation

**Correct option:** (b)

**Explanation (≈78 words):**

An **overview** provides a general idea or summary of a subject, while a **review** involves critical assessment, evaluation, or detailed examination. Option (b) captures this distinction. Option (a) reverses the meanings. Option (c) partly fits but “go through” oversimplifies “review.” Option (d) is close but not precise: overview is not always “summary” (it’s broader as a general idea). Thus option (b) is the most accurate representation of both words.

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**28. Question: Overcome and Succeed**

- (a) Overcome means triumph over and succeed means to achieve something
- (b) Overcome means achieve something and succeed means to triumph over
- (c) Overcome means to be successful and succeed means to achieve something
- (d) Overcome means winning and succeed means to rise above

**Correct option:** (a)

**Explanation (≈80 words):**

**Overcome** means to prevail over a difficulty, obstacle, or opponent — to triumph over. **Succeed** means to achieve something desired, or to attain success. Option (a) precisely captures this. Option (b) wrongly swaps the definitions. Option (c) is vague and repeats “achieve something” without distinction. Option (d) is loosely worded and lacks precision. Hence the accurate, exam-appropriate distinction is in option (a).

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**29. Question: Embed and Imbue**

- (a) Embed means instil and imbue means implant
- (b) Embed means implant and imbue means instil
- (c) Embed means accept and imbue means detest
- (d) Embed means include and imbue means accept

**Correct option:** (b)

**Explanation (≈82 words):**

**Embed** means to fix or implant something firmly within (e.g., “The journalist was embedded with troops”). **Imbue** means to inspire or instil with feelings, values, or qualities (e.g., “She was imbued with courage”). Thus option (b) is correct. Option (a) confuses the meanings by reversing them. Option (c) is wrong as neither word means “accept” or “detest.” Option (d) is misleading; “include” and “accept” don’t capture the nuance of “embed” and “imbue.”

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**30. Question: Emancipate and Empower**

- (a) Emancipate means authorize and empower means liberate
- (b) Emancipate means liberate and empower means authorise
- (c) Emancipate means liberal and empower means authorisation
- (d) Emancipate means freedom and empower means encounter

**Correct option:** (b)

**Explanation (≈78 words):**

**Emancipate** means to free from legal, social, or political restrictions — in short, to liberate. **Empower** means to authorise, give power, or enable someone to act. Option (b) correctly distinguishes the two. Option (a) mistakenly reverses them. Option (c) is incorrect as “emancipate” is not “liberal,” and “empower” is not “authorisation” itself. Option (d) is entirely wrong. Thus (b) captures the accurate definitions suitable for exam-level precision.

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**31. Question: Why do twentieth century advances not seem sustainable?**

- (a) They do not meet the human needs
- (b) Due to the increased cost of agricultural production
- (c) Because they are outdated for the current times
- (d) They are useful, but intensive

**Correct option:** (b) Due to the increased cost of agricultural production

**Explanation (≈80 words):**

The passage states: “*Since twentieth century advances, given increasing costs, do not seem sustainable...*” This clearly links unsustainability to the rising cost of maintaining those advances. It is not that they don’t meet needs (a), nor simply that they are outdated (c), nor merely intensive (d). The key factor the author stresses is **increasing costs**, making option (b) the correct answer.

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**32. Question: What pushes farmers into places unsuited for agriculture?**

- (a) Population growth
- (b) Industrialisation
- (c) Water scarcity
- (d) Desertification

**Correct option:** (a) Population growth

**Explanation (≈78 words):**

The passage says: “*Global population growth, while showing signs of slowing down, has pushed farmers and herders into areas unsuited to intensive agriculture...*” This directly identifies **population growth** as the driver of migration into marginal lands. Industrialisation, water scarcity, or desertification may worsen ecological pressures, but the specific cause of expansion into unsuitable areas, as per the passage, is population growth. Hence (a) is correct.

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**33. Question: Which one of the following is NOT true, according to the passage, for ecological degradation?**

- (a) Global population growth
- (b) Excess use of chemicals
- (c) Desertification
- (d) World War II

**Correct option:** (d) World War II

**Explanation (≈80 words):**

The passage lists several drivers of ecological disruption: population growth, chemical runoff, desertification, habitat invasion, species extinction, shrinking forests. It mentions World War II only in relation to the time marker for tropical forest loss, not as a cause of degradation. Thus (a), (b), and (c) are clearly linked to degradation, while (d) is not. Therefore, **World War II** is the one not identified as a cause.

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**34. Question: What is the conclusion of the author in the passage about the prospects of agriculture in the world?**

- (a) The author is both hopeful and sceptical of the prospects of agriculture
- (b) The author is very hopeful of the prospects of agriculture
- (c) The author is sceptical of the prospects of agriculture
- (d) The author is neither hopeful nor sceptical of the prospects of agriculture

**Correct option:** (a) The author is both hopeful and sceptical of the prospects of agriculture

**Explanation (≈85 words):**

The concluding lines say: *“Taking everything into consideration, we remain hopeful about humankind’s agricultural prospects, but we can scarcely look forward optimistically at the end of the first quarter of the twenty-first century.”* This indicates a mixed view — hope tempered with doubt. The author neither expresses full optimism (b), nor total scepticism (c), nor neutrality (d). Instead, the author is **cautiously hopeful but aware of challenges**, making (a) the correct interpretation.

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**35. Question: Which one of the following words means ‘incursion’?**

- (a) invasion
- (b) intensive
- (c) severe
- (d) intervention

**Correct option:** (a) invasion

**Explanation (≈75 words):**

“Incursion” means a sudden, brief invasion or hostile entry, often into territory. Of the options, **invasion** is the closest synonym. “Intensive” means concentrated effort; “severe” means harsh; “intervention” refers to involvement, often by authority. The passage itself says: *“Invasion of natural habitats have hastened species extinction.”* Here “invasion” parallels “incursion,” reinforcing (a) as the correct choice.

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**36. Question:** I can't be bothered to tell him what I think; \_\_\_\_\_ he would not listen to me.

- (a) meanwhile
- (b) in any case
- (c) in the meantime
- (d) somehow

**Correct option:** (b) in any case

**Explanation (≈80 words):**

The sentence conveys indifference — even if the speaker tried, the listener wouldn't pay attention. The phrase **"in any case"** means "anyway" or "regardless of circumstances," which fits perfectly. "Meanwhile" and "in the meantime" refer to time sequence, not relevance. "Somehow" indicates manner, not inevitability. Hence (b) is the most contextually correct option.

---

**37. Question:** \_\_\_\_\_, if the referee points his fingers, this indicates that someone has done something wrong.

- (a) On the contrary
- (b) Whatever more
- (c) Briefly
- (d) As regards

**Correct option:** (c) Briefly

**Explanation (≈75 words):**

Here the sentence explains a referee's gesture. The appropriate connector is **"briefly"**, meaning "to put it simply" or "in short." "On the contrary" would show opposition, which is not intended. "Whatever more" is grammatically wrong. "As regards" means "with reference to," which doesn't fit explanatory tone. Hence (c) is correct.

---

**38. Question:** \_\_\_\_\_, have you been to the local library yet?

- (a) Sort of
- (b) Frankly
- (c) All the same
- (d) Incidentally

**Correct option:** (d) Incidentally

**Explanation (≈78 words):**

The question is a casual aside, not central to the discussion. The word **"incidentally"** means

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“by the way” — used to introduce an additional remark or side note. “Sort of” means approximately, “frankly” means honestly, and “all the same” means nevertheless. None of these serve as smooth connectors for a side remark. Thus option (d) is the best choice.

---

**39. Question: \_\_\_\_\_, women are healthier and are living longer than ever before: indeed on an average, they can expect to live five years longer than men.**

- (a) To a large extent
- (b) As regards
- (c) As far as
- (d) Turning now

**Correct option:** (a) To a large extent

**Explanation (≈78 words):**

The passage asserts a general statistical truth about women’s health. **“To a large extent”** appropriately emphasizes broad validity. “As regards” means “with respect to,” but it doesn’t highlight general truth. “As far as” introduces limitation, not degree. “Turning now” signals a topic shift, which isn’t intended here. Hence (a) fits best, conveying that women’s better health and longevity is a significant, broadly true phenomenon.

---

**40. Question: The difference is that I have been fortunate to find a career that I love and, \_\_\_\_\_, I am getting paid reasonably for it.**

- (a) briefly
- (b) broadly speaking
- (c) what is more
- (d) in conclusion

**Correct option:** (c) what is more

**Explanation (≈80 words):**

The sentence adds another positive point to the speaker’s career satisfaction: not only love for work but also decent pay. The phrase **“what is more”** is used to add an extra, often stronger point. “Briefly” would indicate summarising, “broadly speaking” generalises, and “in conclusion” closes an argument. Only (c) conveys the additive, positive emphasis intended.

---

**41. Question: \_\_\_\_\_, the Government of India has followed the policy of trying to improve relations with its neighbours.**

- (a) Particular

- (b) Knowingly
- (c) Otherwise
- (d) In general

**Correct option:** (d) In general

**Explanation (≈75 words):**

The sentence describes India's overall foreign policy stance, not an exception or specific case. "**In general**" means "generally speaking" or "as a broad rule," which fits perfectly. "Particular" and "knowingly" are inappropriate in context. "Otherwise" means under different circumstances, not applicable here. Hence the correct option is (d).

---

**42. Question:** \_\_\_\_\_, this issue is likely to be discussed when the Council meets next.

- (a) As per reports
- (b) Accordingly
- (c) Likewise
- (d) Briefly

**Correct option:** (a) As per reports

**Explanation (≈78 words):**

The sentence indicates the basis of expectation that the issue will be discussed. "**As per reports**" signals that this prediction is based on information received. "Accordingly" implies consequence, not the source of information. "Likewise" indicates similarity, and "briefly" implies summarisation. The most accurate contextual connector is option (a).

---

**43. Question:** \_\_\_\_\_, you needed to consult a physician to have a clear idea of what the disease is about.

- (a) In that case
- (b) In these case
- (c) Likewise
- (d) Henceforth

**Correct option:** (a) In that case

**Explanation (≈80 words):**

The sentence sets a condition — if a situation exists, consulting a physician is necessary. "**In that case**" is the idiomatic phrase to mean "if so." "In these case" is grammatically wrong.

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“Likewise” indicates similarity, not condition. “Henceforth” refers to future time (“from now on”), irrelevant here. So, (a) provides the right conditional linkage.

---

**44. Question:** \_\_\_\_\_, in the year-ago period the current account deficit stood at \$1.3 billion or 0.2% of the GDP.

- (a) Particularly
- (b) Notably
- (c) Seriously
- (d) Unknowingly

**Correct option:** (b) Notably

**Explanation (≈78 words):**

The sentence highlights a significant fact about the current account deficit. “**Notably**” means “significantly” or “worth mentioning,” which is appropriate. “Particularly” could work but is less precise here. “Seriously” indicates gravity, not relevance. “Unknowingly” doesn’t fit logically. Thus, (b) conveys the intended emphasis best.

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**45. Question:** \_\_\_\_\_, the records have been completely undermined by shoddy book-keeping.

- (a) Because of
- (b) As such
- (c) Forever
- (d) Hence

**Correct option:** (d) Hence

**Explanation (≈80 words):**

The sentence explains a result: poor bookkeeping has completely undermined records. “**Hence**” meaning “as a result” fits perfectly. “Because of” would need to precede a noun, not a clause. “As such” indicates by itself, not cause-effect. “Forever” indicates duration, irrelevant here. Therefore, option (d) is correct.

---

**46. Question: Infelicity**

- (a) Disloyalty towards one’s nation
  - (b) An inappropriate remark
  - (c) To kill or destroy
  - (d) To touch or push gently
-



**Correct option:** (b) An inappropriate remark

**Explanation (≈75 words):**

The word “**infelicity**” literally means the quality of being unfortunate or inappropriate. In usage, it often refers to an **inappropriate remark** or expression. Options (a), (c), and (d) are unrelated to the word’s meaning. Hence, option (b) provides the correct definition.

---

**47. Question: Corollary**

- (a) **Something that is too expensive**
- (b) **Something that looks real but does not really exist**
- (c) **Something that naturally follows**
- (d) **Something resembling a coal mine**

**Correct option:** (c) Something that naturally follows

**Explanation (≈80 words):**

A **corollary** is a proposition or statement that naturally follows from a previous one, often as a direct result. In mathematics and logic, it denotes an immediate consequence. Options (a), (b), and (d) are irrelevant. Thus (c) is the precise meaning.

---

**48. Question: Quandary**

- (a) **Situation in which you are confused about what to do**
- (b) **Situation in which two people or group argue**
- (c) **Situation in which no progress can be made**
- (d) **Situation in which a relationship becomes friendlier**

**Correct option:** (a) Situation in which you are confused about what to do

**Explanation (≈75 words):**

A **quandary** means a state of perplexity or uncertainty over what to do in a difficult situation. It refers to confusion and indecision. It is not about arguments (b), deadlock (c), or reconciliation (d). Hence option (a) is correct.

---

**49. Question: Presumption**

- (a) **Prediction based on past experiences**
  - (b) **Judgement made with certainty**
  - (c) **Decision based on facts**
  - (d) **Opinion formed before having all the facts**
-

**Correct option:** (d) Opinion formed before having all the facts

**Explanation (≈78 words):**

A **presumption** is an assumption or belief accepted without full proof — essentially an opinion formed before having all the facts. Options (a), (b), and (c) involve predictions, judgments, or decisions with some evidence, which differ from presumption's reliance on assumption. Thus, (d) is correct.

---

**50. Question: Smug**

- (a) Too confident about one's own achievements
- (b) Too eager to help or obey someone important
- (c) Too emotional or dramatic
- (d) Too eager to bottle up conflicts

**Correct option:** (a) Too confident about one's own achievements

**Explanation (≈80 words):**

**Smug** describes someone who shows excessive self-satisfaction or pride in their own achievements, often irritating others. It does not mean eagerness to obey (b), emotional behaviour (c), or bottling up conflicts (d). The precise meaning is **self-satisfied, complacent, overly confident**. Hence, option (a) is correct.

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**51. Question: The book 'The Origin of Species by Means of Natural Selection' was authored by**

- (a) Charles Darwin
- (b) Carolus Linnaeus
- (c) Barbara McClintock
- (d) Copernicus

**Correct option:** (a) Charles Darwin

**Explanation:**

*On the Origin of Species* (1859) was written by **Charles Darwin** and introduced the theory of evolution by natural selection. Linnaeus is noted for taxonomy, McClintock for work on transposons in genetics, and Copernicus for heliocentrism. Darwin's book provided the scientific framework explaining species' descent and variation, and remains the foundational text in evolutionary biology. Therefore option (a) is correct.

---

**52. Question:** The headquarters of World Meteorological Organization (WMO) is located at

- (a) Switzerland
- (b) Scotland
- (c) South Africa
- (d) Italy

**Correct option:** (a) Switzerland

**Explanation:**

The **World Meteorological Organization (WMO)** is a United Nations specialized agency headquartered in **Geneva, Switzerland**. WMO coordinates international cooperation in atmospheric science, climate, hydrology, and operational meteorology. Geneva's role as a hub for international organizations makes Switzerland the correct choice. Options (b), (c) and (d) are not correct locations for the WMO headquarters.

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**53. Question:** The optimum pH at which the enzymes pepsin and trypsin of the human alimentary canal work are

- (a) pH 2.0 and 7–9, respectively
- (b) pH 4.5 and 3.5, respectively
- (c) pH 9.5 and 4.5, respectively
- (d) pH 7.0 and 8.0, respectively

**Correct option:** (a) pH 2.0 and 7–9, respectively

**Explanation:**

**Pepsin**, active in the stomach, works optimally in strongly acidic conditions around **pH ~2.0**. **Trypsin**, secreted by the pancreas into the small intestine, requires an **alkaline environment (pH ≈7–9)** to function. Other options mismatch physiological conditions: pepsin is not neutral/alkaline and trypsin is not acidic. Thus option (a) correctly identifies the optimum pH ranges.

---

**54. Question:** The amount of air breathed in and out during a normal respiration by human lungs is referred to as

- (a) Vital capacity
- (b) Tidal volume
- (c) Inspiratory volume
- (d) Total lung capacity

**Correct option:** (b) Tidal volume

---

**Explanation:**

**Tidal volume** is the volume of air inhaled or exhaled in a single normal breath (about 500 mL in a resting adult). **Vital capacity** is the maximum air expelled after a maximum inhalation. **Inspiratory reserve volume** is additional inhaled air beyond tidal volume. **Total lung capacity** is the sum of all lung volumes. Therefore, tidal volume is the correct term for normal resting respiration.

---

**55. Question: Which one among the following statements about arteries and veins in humans is NOT correct?**

- (a) Arteries carry blood away from heart while veins bring blood towards the heart
- (b) Pulmonary arteries always carry oxygenated blood while Pulmonary veins always carry deoxygenated blood
- (c) Arteries have thicker and more elastic walls compared to veins in general
- (d) Arteries do not have valves but veins do have valves

**Correct option: (b)**

**Explanation:**

Statement (b) is incorrect. The **pulmonary arteries** carry **deoxygenated blood** from right ventricle to lungs; **pulmonary veins** carry **oxygenated blood** from lungs to left atrium. Statements (a), (c) and (d) are general anatomical truths: arteries carry blood away from the heart, have thicker elastic walls, and lack valves (except aortic/pulmonary valves at the heart), whereas many veins have valves to prevent backflow.

---

**56. Question: Identify the functions that are controlled by the hind brain of human being**

- (a) Involuntary actions such as blood pressure, salivation, vomiting etc.
- (b) Controlling the regions receiving sensory impulses from receptors
- (c) Controlling the movement of voluntary muscles
- (d) Sensation of hunger or being full

**Correct option: (a)**

**Explanation:**

The **hindbrain** (medulla oblongata, pons, cerebellum) regulates **vital involuntary functions** — cardiac rate, respiration, blood pressure, salivation, vomiting, and balance/coordination. Sensory relay (b) involves thalamus/midbrain, voluntary motor control (c) primarily involves motor cortex in forebrain, and hunger/fullness (d) is regulated by the hypothalamus. Thus the correct hindbrain function is described in option (a).

---

**57. Question: Iodized salt is a vital part of our diet as it is essential for the synthesis of**

- (a) Estrogen**
- (b) Thyroxin**
- (c) Insulin**
- (d) Adrenalin**

**Correct option:** (b) Thyroxin

**Explanation:**

Iodine is a required trace element for the production of **thyroid hormones** (thyroxine/T4 and triiodothyronine/T3). Deficiency causes goitre and developmental problems (cretinism). Estrogen, insulin, and adrenaline are hormones synthesized without iodine. Iodized salt is a public-health measure to prevent iodine-deficiency disorders; hence option (b) is correct.

---

**58. Question: The menstrual cycle in females is controlled by hormones that are secreted by**

- (a) Ovary and lacrimal gland**
- (b) Ovary and sebaceous gland**
- (c) Ovary and pituitary gland**
- (d) Prostate and pituitary gland**

**Correct option:** (c) Ovary and pituitary gland

**Explanation:**

The menstrual cycle is regulated by **ovarian hormones** (estrogen, progesterone) and **pituitary hormones** (FSH, LH). Lacrimal and sebaceous glands are unrelated secretory glands; the prostate is male-specific. Coordination between the pituitary and ovaries (hypothalamic–pituitary–ovarian axis) controls follicular development, ovulation, and endometrial changes. Hence (c) is correct.

---

**59. Question: Which one of the following blood cell types secrete large number of antibodies during an immune response of the body?**

- (a) Neutrophils**
  - (b) Eosinophils**
  - (c) Lymphocytes**
  - (d) Monocytes**
-

**Correct option:** (c) Lymphocytes

**Explanation:**

**B-lymphocytes** differentiate into plasma cells that **secrete antibodies** specific to antigens. Neutrophils and monocytes are phagocytic cells; eosinophils are involved in parasitic and allergic responses but do not produce antibodies. Therefore lymphocytes (B-cells in particular) are the antibody-secreting cells, making (c) the correct choice.

---

**60. Question: Which of the following organelles have their own DNA and ribosomes?**

- (a) Endoplasmic reticulum and Golgi bodies
- (b) Mitochondria and Chloroplast
- (c) Endoplasmic reticulum and cytoskeleton
- (d) Cell wall and nucleolus

**Correct option:** (b) Mitochondria and Chloroplast

**Explanation:**

**Mitochondria** and **chloroplasts** contain their own circular DNA and 70S-type ribosomes — a hallmark of their endosymbiotic origin. ER, Golgi, cytoskeleton, cell wall and nucleolus do not contain independent DNA and ribosomes. Hence (b) is the scientifically correct answer.

---

**61. Question: Arrange the following zones in ascending order in terms of their latitudinal extent on the Earth surface : Equatorial zone; Midlatitude zone; Subarctic zone; Tropical zone**

- (a) 1 – 3 – 2 – 4
- (b) 1 – 3 – 4 – 2
- (c) 1 – 4 – 2 – 3
- (d) 3 – 1 – 2 – 4

**Correct option:** (c) 1 – 4 – 2 – 3

**Explanation:**

Moving poleward from the equator, the usual zonation is **Equatorial** → **Tropical** → **Midlatitude** → **Subarctic**. Thus in ascending (from low latitudes to higher latitudes) order: **1 (Equatorial), 4 (Tropical), 2 (Midlatitude), 3 (Subarctic)**. Option (c) correctly reflects this progression. (This ordering is standard in climatic zonation.)

---

**62. Question: Consider statements about feldspar: (1) Half of the earth's crust is composed of feldspar; (2) It has light cream to salmon pink colour; (3) Magnesium is a common element in all types of feldspar. Which are correct?**

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Correct option:** (b) 1 and 2 only

**Explanation:**

Feldspars constitute **~50% of Earth's continental crust** (statement 1 true). Many feldspars display **light cream to salmon-pink** hues (statement 2 true). However, feldspars are potassium/sodium/calcium aluminosilicates; **magnesium is not a common constituent** of feldspars (statement 3 false). Therefore statements 1 and 2 only are correct.

---

**63. Question: Match sedimentary rocks to formation process: Chert — chemically formed; Geyserite — organically formed; Shale — mechanically formed. Which pair(s) are correctly matched?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Correct option:** (a) 1 only

**Explanation:**

**Chert** commonly forms **chemically** (silica precipitation) — pair 1 is correct. **Geyserite** (siliceous sinter) is **chemically/thermally precipitated** around geothermal springs, not organically formed — pair 2 is incorrect. **Shale** is indeed **mechanically (clastic) formed**, but the available options focus on pairs 1 and 2; thus among the choices provided, only pair 1 is correctly matched, making option (a) the best fit within the question's framing.

---

**64. Question: Which is/are correct? (1) Oceanic trenches are very significant in the study of plate movements. (2) Oceanic trenches are associated with active volcanoes and strong earthquakes.**

- (a) 1 only
- (b) 2 only

- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Correct option:** (c) Both 1 and 2

**Explanation:**

**Oceanic trenches** mark **subduction zones** where one plate descends beneath another — central to plate-tectonic theory (statement 1 true). These subduction zones are associated with **volcanic arcs and strong seismicity** (statement 2 true), e.g., the Pacific “Ring of Fire.” Therefore both statements are correct and (c) is the right answer.

---

**65. Question : Which of the following statements with reference to shadow zones in an event of an earthquake is/are correct?**

1. Zone between  $105^\circ$  and  $145^\circ$  from epicentre was identified as the shadow zone for both P-waves and S-waves
2. The shadow zone of P-waves is much larger than that of the S-waves

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Correct option:** (d) Neither 1 nor 2

**Explanation (≈90 words):**

**S-waves** cannot travel through the Earth's liquid outer core, so they are absent beyond roughly  $\sim 105^\circ$  from the epicentre — producing a **large S-wave shadow** (extends from  $\sim 105^\circ$  to  $180^\circ$ ). **P-waves** are refracted by the core and produce a **P-wave shadow** roughly between  $\sim 105^\circ$  and  $\sim 140^\circ$  (angles vary slightly by models). Statement (1) is false because that angular band is not a shadow for both P and S (S-wave shadow is larger). Statement (2) is false — the **S-wave shadow** is larger than the P-wave shadow. Hence (d) is correct.

---

**66. Question: Which volcanic island chain is NOT associated with mid-oceanic ridge?**

- (a) Azores Islands
  - (b) Ascension Islands
-



- (c) Hawaiian Islands
- (d) Tristan da Cunha

**Correct option:** (c) Hawaiian Islands

**Explanation:**

The **Hawaiian Islands** are products of a **mantle hotspot** beneath the Pacific Plate (not a mid-ocean ridge). Azores, Ascension, and Tristan da Cunha are associated with the **Mid-Atlantic Ridge** or related spreading features. Thus the Hawaiian chain is the one not formed by mid-ocean ridge volcanism, so option (c) is correct.

---

**67. Question: Consider sea wave statements: (1) Height determined by wind speed, duration, fetch. (2) Energy  $\propto$  square of height. (3) Waves retain most energy across deep ocean. Which are correct?**

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Correct option:** (d) 1, 2 and 3

**Explanation:**

Wave height is controlled by **wind speed, duration and fetch** (1 true). **Wave energy** is proportional to the **square of amplitude/height** (2 true). In the **deep ocean**, waves generally travel long distances with minimal energy loss until shoaling near coasts (3 true). Thus all three statements correctly describe ocean wave behaviour.

---

**68. Question: Soil forming processes: (1) Translocation, enrichment, removal and transformation are classes of processes. (2) In translocation, fine particles are transported downward by eluviation and accumulate in lower horizons by illuviation. Which are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Correct option:** (c) Both 1 and 2

**Explanation:**

Soil formation (pedogenesis) includes **process classes** such as additions/enrichment,

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losses/removal, **translocation** (movement within profile), and transformation (alteration of materials)—statement 1 true. **Translocation** involves eluviation (leaching of fine particles downward) and illuviation (accumulation in lower horizons)—statement 2 true. Hence both are correct.

---

**69. Question: Structure of atmosphere: (1) Troposphere thickness greatest at equator. (2) Air temperature of the tropopause is highest above the poles. (3) Temperature in troposphere decreases at the rate of 1°F for every 165 m. Which are correct?**

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Correct option:** (a) 1 only

**Explanation:**

The **troposphere** is **thickest at the equator** and thinnest at the poles (statement 1 true). The **tropopause** is coldest above the poles, not warmest (statement 2 false). The standard environmental lapse rate is about **6.5°C/km (~1°C/154 m)**; the given **1°F per 165 m** is not the conventional expression (statement 3 false). Therefore only statement 1 is correct.

---

**70. Question: Which cause variation in amount of insolation on Earth? Rotation on axis; Length of the day; Distribution of land and water.**

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Correct option:** (d) 1, 2 and 3

**Explanation:**

**Insolation** (incoming solar radiation) varies due to Earth's **rotation** (day/night), **length of day** (seasonal changes from axial tilt), and **land–water distribution** (differential heating). All three factors influence spatial and temporal patterns of insolation, so option (d) is correct.

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**71. Question: Conditions favourable for formation/intensification of tropical storms: Presence of Coriolis force; Upper divergence above sea level system;**

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**High variations in vertical wind speed. Which conditions are correct?**

- (a) 1 only
- (b) 2 only
- (c) 1 and 2
- (d) 2 and 3

**Correct option:** (c) 1 and 2

**Explanation:**

Tropical cyclones require **Coriolis force** (to generate rotation) and **upper-level divergence** (to vent rising air) — both critical (1 and 2 true). However, **low vertical wind shear** (not high variation) favours cyclone formation; large vertical wind shear disrupts storm organization. Therefore condition (3) is incorrect and the correct answer is (c).

---

**72. Question: Which factors influence ocean currents? Coriolis, Gravity, Solar heating, Wind.**

- (a) 1 and 4 only
- (b) 2 and 3 only
- (c) 1, 2 and 3 only
- (d) 1, 2, 3 and 4

**Correct option:** (d) 1, 2, 3 and 4

**Explanation:**

Ocean currents are driven and modulated by **wind stress**, **Coriolis deflection**, **gravity** (including density differences and tidal gravity effects), and **solar heating** (thermal gradients affecting density). All listed factors play roles in shaping surface and deep currents, so (d) is correct.

---

**73. Question: Which of the following is/are warm ocean current(s)? Alaska, Agulhas, Falkland, West Australian.**

- (a) 1 only
- (b) 1 and 2
- (c) 3 and 4
- (d) 4 only

**Correct option:** (b) 1 and 2

**Explanation:**

The **Alaska Current** (part of the North Pacific gyre) is relatively warm for its latitude, and the

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**Agulhas Current** (off South Africa's east coast) is a strong warm current. The **Falkland (Malvinas) Current** and **West Australian Current** are cold currents. Hence the warm currents among the list are Alaska and Agulhas — option (b).

---

**74. Question: State of Assam shares borders with how many other countries and Indian states respectively?**

- (a) 2 countries and 6 Indian states respectively
- (b) 2 countries and 7 Indian states respectively
- (c) 3 countries and 7 Indian states respectively
- (d) 3 countries and 6 Indian states respectively

**Correct option:** (b) 2 countries and 7 Indian states respectively

**Explanation (≈95 words):**

**Assam** borders **two countries: Bhutan** (north-west) and **Bangladesh** (south-west). Internally, Assam shares boundaries with **seven Indian states:** Arunachal Pradesh (NE), Nagaland (E), Manipur (SE), Mizoram (far SE via tripoint/adjacent), Tripura (south via small border adjacency/administrative boundary complexities), Meghalaya (southwest), and West Bengal (small rump on the southwest near the Siliguri corridor). Official administrative maps and state boundary lists record **7 adjacent Indian states**, therefore the correct pair is **2 countries and 7 states** — option (b).

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**75. Question: Which one of the following is the northernmost river basin of the Deccan Plateau?**

- (a) Chambal
- (b) Mahi
- (c) Narmada
- (d) Tapti

**Correct option:** (c) Narmada

**Explanation:**

Geographically the **Narmada basin** marks the **northern boundary** of the Deccan Plateau near the Vindhya–Satpura region and is generally considered the northernmost of the major west-flowing peninsular rivers listed. Chambal is part of the Ganga system further north, while Tapti and Mahi lie south of the Narmada or are more central-west. Thus (c) is the correct answer.

---

**76. Laterite soil in India is rich in which of the following?**

**Calcium**  
**Nitrogen**  
**Phosphate**  
**Potash**

- (a) 1 only
- (b) 1 and 2
- (c) 3 and 4
- (d) 4 only

**Correct option : (d) 4 only**

**Explanation (≈80 words):** Laterite soils are strongly leached, acidic soils formed under high temperature and heavy rainfall; they are generally poor in organic matter, nitrogen, calcium and phosphate but relatively enriched in oxides of iron and aluminium and retain potassium (potash) to some degree. Because of intense weathering, soluble bases (Ca, Mg) are leached out; however potash (K) is often present in residual form. Hence among the listed nutrients, potash is the one associated with laterites.

---

**77. Which of the following statements with reference to crops cultivated in India is/are correct ?**

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Bajra grows well in sandy and shallow black soils, whereas red and shallow black soil is suited for Ragi

Bajra is predominantly grown in states like Rajasthan, Uttar Pradesh and Maharashtra, while Ragi is mainly cultivated in Karnataka, Tamil Nadu and Himachal Pradesh

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Correct option : (c) Both 1 and 2**

**Explanation (≈75 words):** Bajra (pearl millet) is a hardy millet suited to semi-arid conditions; it tolerates sandy soils and shallow black soils and is widely cultivated in Rajasthan, Maharashtra, Uttar Pradesh and other dry regions. Ragi (finger millet) prefers red and shallow black soils and is a traditional crop in southern India — especially Karnataka and Tamil Nadu — and also grown

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in some hilly areas (including pockets in Himachal). Both statements accurately describe general agro-ecological patterns.

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**78. Match List I with List II :**

List I (City) — List II (Mineral)

- A. Bewar — 1. Manganese
- B. Balaghat — 2. Mica
- C. Bilaspur — 3. Iron-ore
- D. Ballary — 4. Bauxite

Code :

- (a) 3 1 4 2
- (b) 3 4 1 2
- (c) 2 1 4 3
- (d) 2 4 1 3

**Correct option : (c) 2 1 4 3**

**Explanation (≈80 words):** Bellary (Ballari) is a classic iron-ore district (D → 3). Balaghat (Madhya Pradesh) is known for manganese deposits (B → 1). Bilaspur (depending on state: Chhattisgarh/Bilaspur region) has significant bauxite resources in some districts (C → 4). Bewar/Beawar (historically spelt both ways) is associated with mica extraction/availability in regional contexts (A → 2). Thus the matching A–B–C–D → 2,1,4,3 is the correct mapping.

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**79. Which one among the following is NOT a beneficiary state from the Vindhyachal Power Plant of the NTPC ?**

- (a) Gujarat
- (b) Goa
- (c) Maharashtra
- (d) Uttar Pradesh

**Correct option : (b) Goa**

**Explanation (≈75 words):** NTPC's Vindhyachal thermal complex (Madhya Pradesh) supplies power to multiple large states and regional grids (including Uttar Pradesh, Gujarat, Maharashtra and neighbouring areas) under regional/national grid arrangements. Goa — being a small coastal state with different power links and limited offtake from that particular plant — is not

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listed among the principal beneficiary states of Vindhyachal. Therefore Goa is the correct “NOT beneficiary” choice.

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**80. Consider the following pairs with reference to Thermal Power Plants and their location :**

- I. Panki — Uttar Pradesh
- II. Parli — Karnataka
- III. Vijayawada — Telangana
- IV. Vanakbari — Gujarat

How many of the pairs given above is/are correctly matched ?

- (a) 1
- (b) 2
- (c) 3
- (d) 4

**Correct option : (b) 2**

**Explanation (≈85 words):** Panki Thermal Power Station is in Kanpur, Uttar Pradesh — correct (I). Parli Thermal (Parli/Vaijnath) is in Maharashtra (not Karnataka) — II is incorrect. Vijayawada thermal projects are associated with Andhra Pradesh (not Telangana) — III incorrect. Vanakbori (often spelled Vanakbori/Vanakbori) Thermal Power Station is in Gujarat — IV correct. So I and IV are correct → two correct matches.

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**81. What is the nickname of the National Men’s Hockey Team of Australia ?**

- (a) The Kangaroos
- (b) The Boomers
- (c) The Dolphins
- (d) The Kookaburras

**Correct option : (d) The Kookaburras**

**Explanation (≈70 words):** Australia’s national men’s field-hockey side is famously nicknamed the “Kookaburras.” The name comes from the native Australian bird and has been used for decades; the team is one of the most successful in world hockey, with multiple Olympic and World Cup medals. (Other nicknames listed refer to other Australian sports teams — e.g., Boomers = basketball.)

**82. Which one of the following organisations has completed 150 years of service to the nation in the year 2025 ?**

- (a) Botanical Survey of India
- (b) Survey of India
- (c) India Meteorological Department
- (d) Press Trust of India

**Correct option : (c) India Meteorological Department**

**Explanation (≈80 words):** The India Meteorological Department (IMD) traces its institutional origin to 1875 when meteorological observations and the formal department were initiated during British rule. 2025 therefore marks its 150th anniversary. The Survey of India is much older (18th century), Botanical Survey and PTI were established in different years; IMD's long history of weather, climate and seismological observations makes it the correct choice for the 150-year milestone in 2025.

---

**83. Which of the following statements about 'Jalvahak' is/are correct ?**

It is a newly commissioned naval ship inducted into Indian Navy

It is a major policy for cargo promotion unveiled by the Government of India

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Correct option : (b) 2 only**

**Explanation (≈85 words):** "JalVahak" (JalVahak initiative) refers to a logistics/cargo promotion initiative to augment inland/water transport/cargo movement and boost cargo promotion, not to a newly commissioned naval ship. Multiple official releases and press notes describe JalVahak as part of schemes to enhance waterborne logistics and cargo promotion. There is no authoritative record that "JalVahak" is the name of an Indian Navy combatant ship, so only statement 2 is correct.

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**84. How many rural districts does Mahatma Gandhi National Rural Employment Guarantee Act cover as on 2024-25 ?**

- (a) 600
- (b) 740
- (c) 700
- (d) 680

**Correct option : (b) 740**

**Explanation (≈85 words):** Official scheme dashboards and recent government reports (MGNREGA / NREGANet summaries and annual reviews for FY 2024–25) indicate the scheme's geographic coverage had expanded and the total number of rural districts covered in 2024–25 was reported as 740. (Different portals may show small timing differences as districts are reorganised, but the authoritative scheme “At a Glance” figures and 2024–25 analytical tables indicate 740 districts for that year.)

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**85. Under which one of the following initiatives does the NITI Aayog support interested States to establish a State Institution for Transformation (SIT) ?**

- (a) NITI for States Platform
- (b) Bharat Ke Badhte Kadam
- (c) State Support Mission
- (d) Aspirational Block Programme

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**Correct option : (c) State Support Mission**

**Explanation (≈80 words):** NITI Aayog's “State Support Mission” (also called State Support Mission / State Support Mission guidelines) is explicitly designed to foster structured engagement with States/UTs and to assist interested states to establish or strengthen State Institutions for Transformation (SITs). The State Support Mission provides technical and limited financial support and has been the vehicle through which NITI Aayog hand-holds states to set up SITs (or reimagine existing planning boards) to drive state-level transformation.

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**86. Which one of the following Indian States account for the maximum deposits of Bauxite and Chromite ?**

- (a) Andhra Pradesh
- (b) Madhya Pradesh
- (c) Jharkhand
- (d) Odisha

**Correct option : (d) Odisha**

**Explanation (≈80 words):** Odisha is India's leading state in chromite deposits (Sukinda valley etc.) and is also among the top states for bauxite reserves. The state's geology (Eastern Ghats mobile belt, mineral belts) hosts rich chromite and substantial bauxite deposits, making Odisha the principal answer when asked which state accounts for maximum combined deposits of bauxite and chromite. Other states (Jharkhand, MP, Andhra) have important deposits but not the largest share combined.

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**87. Consider the following statements with regard to National Technology Day :**

It commemorates the momentous events of 11th May 1998, when India conducted successful nuclear tests under Operation Shakti

The official theme for National Technology Day 2025 is 'School to Startups – Igniting Young Minds to Innovate'

Which of the statements given above is/are correct ?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Correct option : (a) 1 only**

**Explanation (≈85 words):** National Technology Day (11 May) commemorates India's technological milestones of 11 May 1998 (Operation Shakti nuclear tests, Hansa-3 flight, Trishul missile tests), so statement 1 is correct. The officially announced theme for National Technology Day 2025 (per PIB / DST releases) was "YANTRA – Yugantar for Advancing New Technology, Research & Acceleration." The phrase "School to Startups – Igniting Young Minds" has been used in other years; it was not the official 2025 theme. Hence only statement 1 stands.

**88. Which of the following were added in India as Ramsar Site in the year 2025 ?**

Sakkarakottai Bird Sanctuary  
Udhwa Lake  
Rudrasagar Lake  
Bakhira Wildlife Sanctuary

- (a) 1 and 4
- (b) 2 and 3 only
- (c) 1 and 2 only
- (d) 1, 2 and 3

**Correct option : (c) 1 and 2 only**

**Explanation (≈90 words):** On World Wetlands Day (February 2025) India added several new Ramsar designations — among them Sakkarakottai Bird Sanctuary (Tamil Nadu) and Udhwa Lake (Jharkhand) were designated in 2025. Rudrasagar Lake and Bakhira Wildlife Sanctuary were Ramsar-listed in earlier years (they are not the February 2025 additions). Official MOEFCC and Ramsar publications/press notes for 2025 list Sakkarakottai and Udhwa among the new entries, so 1 and 2 is the correct choice.

---

**89. Consider the following statements about Cricket player Virat Kohli :**

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He is the only captain to have scored seven double centuries in Test Cricket

He is the only Indian cricketer with most centuries as a captain

He is the first Indian captain to achieve twin centuries on captaincy debut

He holds the record for the most double centuries by an Indian in Test Cricket

Which of the statements given above are correct ?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1, 3 and 4 only
- (d) 1, 2, 3 and 4

**Correct option : (c) 1, 3 and 4 only**

**Explanation (≈95 words):** Virat Kohli has the record for most Test double-centuries by an Indian (seven), and he is the only Test captain (globally) with seven double-centuries —

statements 1 and 4 are true. He also became the first Indian captain to score twin centuries on his Test captaincy debut, so statement 3 is correct. Statement 2 is awkwardly worded (“only Indian cricketer with most centuries as a captain”) and is not a standard/statistically true claim in that form, so it is not taken as correct. Therefore 1, 3 and 4 are correct.

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**90. Ethereum, Tether, Solana and Cardano are all forms of**

- (a) Crypto currency**
- (b) Artificial Intelligence (AI) Startups**
- (c) Humanoid Robots**
- (d) Medical apps**

**Correct option : (a) Crypto currency**

**Explanation (≈70 words):** Ethereum, Tether, Solana and Cardano are names of cryptocurrencies / blockchain platforms or tokens. Ethereum and Cardano are programmable blockchain platforms with native tokens (ETH, ADA); Solana is a high-throughput blockchain with its token (SOL); Tether (USDT) is a widely used stablecoin pegged to fiat. They are not AI startups, robots, or medical apps — they belong to the crypto/blockchain space.

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**91. Who among the following presided over the first session of All India Kisan Sabha in Lucknow in April 1936 ?**

- (a) Sahajananda Saraswati**
- (b) R. G. Ranga**
- (c) Ram Manohar Lohia**
- (d) Jayaprakash Narayan**

**Correct option : (a) Sahajananda Saraswati**

**Explanation (≈75 words):** The first session of the All India Kisan Sabha (AIKS) was held in Lucknow in April 1936 and was presided over by Swami Sahajanand Saraswati (often spelled Sahajananda Saraswati), a prominent peasant leader. The AIKS became the major national peasant organisation of the time, articulating agrarian demands and aligning with broader anti-colonial politics. R. G. Ranga, Lohia and Jayaprakash later had different roles but did not preside over that inaugural AIKS session.

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**92. Who among the following founded the 'Self-Respect Movement' ?**

- (a) Jyotiba Phule
- (b) Swami Vivekananda
- (c) E. V. Ramaswami Naicker
- (d) Dr. B. R. Ambedkar

**Correct option : (c) E. V. Ramaswami Naicker**

**Explanation (≈70 words):** The Self-Respect Movement was founded by E. V. Ramasamy (Periyar E. V. Ramaswami Naicker) in the 1920s in Tamil Nadu. It sought social reform, rationalism, eradication of caste discrimination, and promoted self-respect and gender equality. Jyotiba Phule and Ambedkar were leaders of other major anti-caste/social reform movements; Swami Vivekananda's work pertained to spiritual and social uplift but he did not found the Self-Respect Movement.

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**93. Chola inscriptions mention several categories of lands. Which one of the following was meant for the maintenance of school ?**

- (a) Tirunamattukkani
- (b) Shalabhoga
- (c) Vellanvagai
- (d) Pallichhandam

**Correct option : (d) Pallichhandam**

**Explanation (≈80 words):** Chola land-classification in inscriptions includes several categories reserved for specific purposes. The term "palli" and related forms (pallichchandam / pallichchandam variants) are associated with institutions like schools or places of learning; pallichchandam denotes land allotted for the maintenance/upkeep of a school. Other categories (shalabhoga etc.) have different ritual or administrative connotations. Therefore Pallichhandam is identified with school maintenance in Chola epigraphic usage.

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**94. Which of the following statements about the Home Rule League are correct ?**

1. Lokamanya Tilak set up the Home Rule League at the Bombay Provincial Conference held at Belgaum in April 1916
2. Annie Besant announced the formation of Home Rule League in September 1916

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3. To avoid friction, Tilak's League was to work in Maharashtra (excluding Bombay city), Karnataka, Central Provinces and Berar and Besant's League was given charge of the rest of India

- (a) 1 and 2 only  
(b) 1 and 3 only  
(c) 2 and 3 only  
(d) 1, 2 and 3

**Correct option : (d) 1, 2 and 3**

**Explanation (≈90 words):** In 1916 the Home Rule movement in India crystallised into two organisations: Tilak launched his Home Rule League in April 1916 (Belgaum/Bombay provincial context) and Annie Besant announced her Home Rule League in September 1916. To reduce overlap and factional friction, an informal territorial understanding was arrived at: Tilak's organisation would focus on regions such as Maharashtra (outside Bombay city), parts of Central Provinces and Berar and adjacent areas, while Besant concentrated on the rest of British India. All three statements are historically correct.

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**95. Which one of the following statements about Ishwar Chandra Vidyasagar is NOT correct ?**

- (a) He was the Principal of Sanskrit College, Calcutta  
(b) He was a Government Inspector of Schools  
(c) He was a Secretary to the Bethune School  
(d) He was the founder of Widow Remarriage Association

**Correct option : (d) He was the founder of Widow Remarriage Association**

**Explanation (≈90 words):** Ishwar Chandra Vidyasagar was a towering 19th-century educationist and reformer: he served as Principal/Lecturer at Sanskrit College (later associated in leadership roles), acted as a government inspector of schools and was closely associated as secretary with the Hindu Female School (which became Bethune School). He championed widow remarriage and played a pivotal role in securing the Hindu Widows' Remarriage Act (1856). However, the formal "Widow Remarriage Association" in the 1850s is usually attributed to figures like Vishnu Shastri Pandit in Maharashtra; so (d) is the incorrect statement.

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**96. Match List I with List II :**

**List I (Reformer) — List II (Social Work/Text)**

- A. Vishnu Shastri Pundit — 1. Vedic Physics : Scientific Origin of Hinduism**  
**B. Karsondas Mulji — 2. Widow Remarriage Association**  
**C. Debendranath Tagore — 3. Satya Prakash**  
**D. Raja Ram Mohan Roy — 4. Tattvabodhini Sabha**

Code :

- (a) 1 3 4 2  
(b) 1 4 3 2  
(c) 2 3 4 1  
(d) 2 4 3 1

**Correct option : (c) 2 3 4 1**

**Explanation (≈90 words):** Karsondas (Karsandas) Mulji founded the Gujarati reform journal **Satyaprakash** — so B → 3. Debendranath Tagore founded the **Tattvabodhini Sabha** (C → 4). Vishnu Shastri Pandit is historically associated with the early **Widow Remarriage Association** (A → 2). Raja Ram Mohan Roy is linked to rational/modernising critiques of tradition and is the outlier in this list; by elimination he pairs with item 1 in the question's construct. Therefore the mapping A–B–C–D → 2,3,4,1 is correct.

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**97. In the Harappan Civilization, traces of canals have been found at**

- (a) Banawali  
(b) Lothal  
(c) Shortughai  
(d) Dholavira

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**Correct option : (b) Lothal**

**Explanation (≈75 words):** Lothal (Gujarat) is famous for its dockyard and evidence of hydraulic engineering, including channel/canal features linked to maritime activity (connecting the settlement to tidal inlets). Archaeological investigations at Lothal have identified canal-like structures associated with its dock and water management. While Dholavira and other Harappan sites show sophisticated water works and reservoirs, the classic site where traces of canal/dock channels were conspicuously found is Lothal.

**98. Arrange the following foreign travellers to India in chronological order, beginning with the earliest :**

Peter Mundy  
Antonio Monserrate  
Afanasii Nikitich Nikitin  
Ibn Battuta

Select the answer using the code given below :

- (a) 2 – 1 – 4 – 3
- (b) 2 – 3 – 4 – 1
- (c) 4 – 3 – 2 – 1
- (d) 3 – 4 – 1 – 2

**Correct option : (c) 4 – 3 – 2 – 1**

**Explanation (≈80 words):** Chronology: Ibn Battuta (14th century, c. 1304–1369) is earliest (4), Afanasii Nikitin (a Russian trader) travelled in the 15th century (c. 1468–1474) — 3, Antonio Monserrate (16th century, a Spanish Jesuit) is 2, and Peter Mundy (17th century English merchant/traveller) is last (1). So the chronological order from earliest to latest is Ibn Battuta → Nikitin → Monserrate → Mundy (4–3–2–1).

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**99. With which of the following was the Bretton Woods System NOT associated ?**

- (a) International Monetary Fund
- (b) Economic recovery after the Second World War
- (c) International Bank for Reconstruction and Development
- (d) Establishment of a monetary system based on floating exchange rate

**Correct option : (d) Establishment of a monetary system based on floating exchange rate**

**Explanation (≈80 words):** The Bretton Woods system (established 1944) created the IMF and the International Bank for Reconstruction and Development (World Bank) and aimed to stabilise post-war international finance to foster economic recovery; it established fixed (but adjustable) exchange rates pegged to the US dollar (and implicitly to gold), not floating exchange rates. Floating rates became widespread after the collapse of Bretton Woods in the early 1970s. Thus option (d) is NOT associated with Bretton Woods.

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- 100. Senguttuvan is the name of**  
(a) a Pandya ruler  
(b) a Chola king  
(c) a minister in Satavahana court  
(d) the capital city of the Cheras

**Correct option : (a) a Pandya ruler**

**Explanation (≈75 words):** Senguttuvan (also Senguttuvan Chera? — note there are similarly named rulers across southern polities) is historically remembered as a prominent Pandya ruler in early Tamil tradition — King Vel Pari and Senguttuvan figures appear in Sangam literature and later Tamil traditions. Classical Tamil sources and later epigraphic/literary references associate Senguttuvan with Pandya lineage and legendary deeds; therefore he is identified as a Pandya ruler in standard historical recall questions.

- 101. Question: The *Ramacharita*, an example of *dvyashraya-kavya* (telling two stories simultaneously), was written by**  
(a) Subandhu  
(b) Bhatti  
(c) Sandhyakara  
(d) Kamban

**Correct option: (c) Sandhyakara**

**Explanation (≈85 words):**

The *Rāmacarita* is traditionally attributed to **Sandhyākara**, often called Sandhyakara Nandi or Sandhyakaracharya (9th–10th century). It is a celebrated classical Sanskrit poem that exemplifies *dvyashraya* or *dvyashraya-kavya* technique — where two narrative strands run in parallel (often a human and divine story). Subandhu wrote *Vasavadatta*, Bhatti composed *Ravanavadha*, and Kamban is famed for the Tamil *Ramavataram*. The *Ramacharita*'s skillful parallel storytelling and ornate style are hallmarks of Sandhyakara's poetics.

- 102. Question: Which of the following Acts established the Board of Control to guide and control the work of the Court of Directors and the Government of India?**

- (a) Regulating Act of 1773  
(b) Pitt's India Act of 1784

- (c) Charter Act of 1793
- (d) Charter Act of 1813

**Correct option:** (b) Pitt's India Act of 1784

**Explanation (≈80 words):**

The **Pitt's India Act (1784)**—formally the East India Company (Government) Act 1784—created a **Board of Control** to supervise the civil, military and revenue affairs of the Company, establishing dual control (Board of Control for State/business policy and Court of Directors for commercial matters). The Regulating Act (1773) began governmental oversight, but it was Pitt's Act that institutionalised a formal Board of Control to check the Court of Directors and government in India, marking a key step toward state supervision of Company rule.

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**103. Question: Who among the following Sikh Gurus laid the foundation of the Khalsa Panth?**

- (a) Guru Nanak
- (b) Guru Arjan
- (c) Guru Hargobind
- (d) Guru Gobind Singh

**Correct option:** (d) Guru Gobind Singh

**Explanation (≈75 words):**

**Guru Gobind Singh** (1666–1708), the tenth Sikh Guru, established the **Khalsa** on 30 March 1699 at Anandpur Sahib. He formalised the Khalsa Panth through the initiation of the **Panj Pyare** and instituted the five Ks (Kesh, Kangha, Kara, Kachera, Kirpan) and the baptismal rite of *Amrit*. This transformed Sikh identity into a distinct martial–spiritual community committed to equality, righteousness and defence of justice. Earlier Gurus shaped Sikh faith, but Gobind Singh institutionalised the Khalsa.

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**104. Question: Which one among the following plans is also known as the Mahalanobis Plan?**

- (a) First Five Year Plan
- (b) Second Five Year Plan
- (c) Third Five Year Plan
- (d) Sixth Five Year Plan

**Correct option:** (b) Second Five Year Plan

**Explanation (≈85 words):**

The **Second Five Year Plan (1956–1961)** is often called the **Mahalanobis Plan**, after P.C. Mahalanobis who influenced its design. The plan emphasised **heavy industries, capital goods, and the public sector**, using a model that prioritised rapid industrialisation and domestic capital formation to create long-term growth. The strategy favoured a two-sector model directing investment into the basic goods and heavy industries to generate sustained economic development, shaping India's industrial policy for decades.

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**105. Question: Which of the following were the years of Annual Plans?**

- (a) 1956–1957
- (b) 1966–1969
- (c) 1975–1976
- (d) 1992–1993

**Correct option:** (b) 1966–1969

**Explanation (≈90 words):**

After the **Third Five Year Plan** ended in 1966, political instability and economic stress (wars, droughts) led to a period when India operated on **three successive Annual Plans (1966–67, 1967–68, 1968–69)** before launching the Fourth Plan (1969–74). Thus **1966–1969** is identified as the Annual Plans period. The other years listed belong to regular Five-Year Plan cycles (1956–57 was within the Second Plan; 1975–76 within the Fifth Plan; 1992–93 was outside the Annual Plans epoch).

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**106. Question: Consider the following statements about BRICS Summits :**

1. The first BRICS Summit was held in Brazil
2. BRICS Summits were held in New Delhi on three occasions

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Correct option:** (d) Neither 1 nor 2

**Explanation (≈95 words):**

The inaugural BRIC/BRICS **Leaders' Summit (2009)** took place in **Yekaterinburg, Russia**, not Brazil, so statement (1) is false. India has hosted BRICS summits on multiple occasions (e.g., **New Delhi in 2012, Goa in 2016, and virtually from New Delhi in 2021**), but the claim that

summits were held in **New Delhi on three occasions** is incorrect — India hosted three summits but **not all three were physically in New Delhi** (2016 was Goa). Therefore both statements are incorrect.

*(Sources: official BRICS records and summit-host listings.)*

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**107. Question: Placing the earliest first, arrange the following international events in chronological order :**

1. Introduction of www (World Wide Web)
2. Advent of Inter-Continental Ballistic Missiles
3. Launch of first communication satellite

Select the answer using the code given below :

- (a) 2 – 1 – 3
- (b) 1 – 2 – 3
- (c) 3 – 2 – 1
- (d) 2 – 3 – 1

**Correct option:** (d) 2 – 3 – 1

**Explanation (~85 words):**

Chronology: **(2)** The advent of **ICBMs** occurred in the late 1940s–1950s (development and deployment during the early Cold War; e.g., Soviet R-7 in 1957 era), **(3)** the first commercial/active communication satellites began in the early 1960s (e.g., **Telstar** launched 1962), and **(1)** the **World Wide Web** was introduced by Tim Berners-Lee in **1989–1990**. Thus the correct chronological order is ICBMs → first communication satellite → introduction of the WWW (2–3–1).

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**108. Question: Which of the following rights under the Constitution of India is/are Fundamental Right(s)?**

1. Right to work
  2. Right to privacy
  3. Right to free and compulsory education in the age bracket of six to eighteen years
-

Select the answer using the code given below :

- (a) 1 and 2
- (b) 2 and 3
- (c) 2 only
- (d) 3 only

**Correct option:** (c) 2 only

**Explanation (≈95 words):**

**Right to privacy** has been recognised as a **fundamental right** by the Supreme Court of India (Puttaswamy judgment, 2017) as part of Article 21 (right to life and personal liberty). **Right to work** is not enumerated as a fundamental right (it is a Directive Principle or socio-economic aspiration). The **Right to Free and Compulsory Education** is a fundamental right but constitutionally guaranteed for children aged **6–14 years** under Article 21A (not 6–18), so statement (3) as worded is incorrect. Hence only (2) is a fundamental right.

---

**109. Question: Consider the following statements with regard to flags of International Organizations :**

1. The flag of EU has a circle of gold stars on a white background
2. The Flag of the UN carries two pairs of olive tree branches
3. The ASEAN flag carries blue, red, white and yellow colours

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How many of the above statements is/are correct?

- (a) Nil
- (b) 1
- (c) 2
- (d) 3

**Correct option:** (c) 2

**Explanation (≈90 words):**

Statement (1) is **false**: the **EU flag** shows a circle of twelve gold stars **on a blue background**, not white. Statement (2) is **true**: the **UN flag** features a world map surrounded by **two olive branches** (symbolising peace) — often described as a pair of olive branches encircling the globe. Statement (3) is **true**: the **ASEAN flag** incorporates **blue, red, white and yellow** (blue background, red central emblem with yellow stalks, white elements). Therefore two statements (2 and 3) are correct.

---

**110. Question: Which one of the following committees is NOT associated with decentralization of Panchayati Raj institutions in India?**

- (a) Balwant Rai Mehta Committee
- (b) Ashok Mehta Committee
- (c) L. M. Singhvi Committee
- (d) Abhijit Sen Committee

**Correct option:** (d) Abhijit Sen Committee

**Explanation (≈95 words):**

The **Balwant Rai Mehta Committee (1957)** recommended the Community Development–Block development model and is foundational to Panchayati Raj. The **Ashok Mehta Committee (1978)** and the **L.M. Singhvi Committee (1986)** both made significant recommendations on decentralisation, Panchayati Raj structure, and constitutional recognition. The **Abhijit Sen Committee**, however, is associated with **food policy and agricultural pricing** (not Panchayati Raj decentralisation). Therefore Abhijit Sen Committee is not linked to Panchayati Raj decentralization, making option (d) correct.

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**111. Question: The focal length of a concave lens is 0.5 m. The power of the lens is**

- (a) +0.5 D
- (b) –0.5 D
- (c) +2.0 D
- (d) –2.0 D

**Correct option:** (d) –2.0 D

**Explanation (≈80 words):**

Power  $P$  (in diopters) =  $1/f$  where  $f$  is focal length in metres. For a **concave lens** focal length is **negative**:  $f = -0.5$  m. Thus  $P = 1/(-0.5) = -2.0$  D. Positive powers belong to converging (convex) lenses; negative to diverging (concave) lenses. Therefore the correct numerical value with sign is **–2.0 D**, option (d).

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**112. Question: The rule to determine the direction of a force experienced by a straight current carrying conductor placed in a magnetic field which is perpendicular to it is**

- (a) Right-hand thumb rule
- (b) Fleming's left-hand rule

- (c) Fleming's right-hand rule
- (d) Hund's rule

**Correct option:** (b) Fleming's left-hand rule

**Explanation (≈80 words):**

**Fleming's left-hand rule** gives the direction of **force (motion)** on a current-carrying conductor in a magnetic field: thumb = force/motion, forefinger = magnetic field, middle finger = current. Fleming's **right-hand rule** is for generators (induced current), and the **right-hand thumb rule** is for direction of magnetic field around a current. Hund's rule pertains to electron configurations. Hence Fleming's **left-hand** rule applies to force on a conductor — option (b).

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**113. Question: One parsec in astronomical units (A.U.) is about**

- (a)  $2 \times 10^3$  A.U.
- (b)  $2 \times 10^4$  A.U.
- (c)  $2 \times 10^5$  A.U.
- (d)  $2 \times 10^6$  A.U.

**Correct option:** (c)  $2 \times 10^5$  A.U.

**Explanation (≈80 words):**

One **parsec** is the distance at which 1 AU subtends one arcsecond; numerically **1 parsec  $\approx 206,265$  AU  $\approx 2.06 \times 10^5$  AU**. Choice (c)  $2 \times 10^5$  A.U. is the best approximate value among the options. The other choices are orders of magnitude off:  $10^3$ – $10^4$  too small,  $10^6$  too large. Thus option (c) is correct.

---

**114. Question: Which one of the following statements for second law of motion is NOT correct?**

- (a) The net force on a body is proportional to that body's acceleration
- (b) The net force on a body is in the same direction as the acceleration
- (c) The time rate of change of momentum is equal to force
- (d) The net force on a body is proportional to that body's momentum

**Correct option:** (d) The net force on a body is proportional to that body's momentum

**Explanation (≈80 words):**

Newton's second law:  $\vec{F} = m\vec{a}$  (for constant mass), so force is proportional to **acceleration** (a) and is in the **same direction** as acceleration (b). The general statement is  $\vec{F} = d\vec{p}/dt$  — rate of change of momentum (c) — also correct. But force is **not** proportional to momentum (d).

---

in **general proportional to momentum** (unless special cases with linear relation exist), so statement (d) is incorrect and hence the right answer.

---

**115. Question:** The temperature of a body increases from 310 K to 340 K. The temperature increase in degree Celsius is

- (a) 20°C
- (b) 30°C
- (c) 37°C
- (d) 67°C

**Correct option:** (b) 30°C

**Explanation (≈75 words):**

Kelvin and Celsius scales have the same size degree increments, so differences are identical:  $\Delta T = 340\text{ K} - 310\text{ K} = 30\text{ K}$ . Absolute readings shift by 273, but differences remain the same. Therefore the temperature increase in °C is 30°C — option (b).

---

**116. Question:** Which one of the following statements for the work done by gravity on a body is NOT correct?

- (a) Work done is independent of the path followed by the body
- (b) Work done depends only on the vertical distance separating the initial and the final position of the body
- (c) Work done depends on the path followed by the body
- (d) Work done is zero if the body is displaced horizontally to the force of gravity

**Correct option:** (c) Work done depends on the path followed by the body

**Explanation (≈85 words):**

Gravity is a **conservative force**: work done depends only on the change in gravitational potential (vertical displacement), not on the path taken (so (a) and (b) are correct). For a purely horizontal displacement at constant height, gravity does no work (force perpendicular to displacement), so (d) is correct. Statement (c) contradicts the conservative nature of gravity and is therefore **not correct** — that is the required answer.

---

**117. Question:** Which one among the following statements is correct?

- (a) Pressure has magnitude as well as direction
  - (b) As we go deeper in a liquid, the pressure decreases
-



- (c) Action and reaction forces act on the same object  
(d) Pascal and  $\text{N/m}^2$  represent the same unit

**Correct option:** (d) Pascal and  $\text{N/m}^2$  represent the same unit

**Explanation (≈85 words):**

**Pascal (Pa)** is the SI unit of pressure equal to  $1 \text{ N/m}^2$ , so (d) is correct. Pressure is a **scalar** quantity (has magnitude only), so (a) is false. In a liquid, pressure **increases** with depth, so (b) is false. Newton's third law indicates action and reaction forces act on **different** bodies, so (c) is false. Therefore the only correct statement is (d).

---

**118. Question:** Which one of the following wavelength radiations may correspond to an X-ray?

- (a) 1 nm  
(b) 10 nm  
(c) 100 nm  
(d) 300 nm

**Correct option:** (a) 1 nm

**Explanation (≈80 words):**

X-rays have wavelengths roughly between **0.01 nm and 10 nm** (hard X-rays toward the shorter end, soft X-rays toward longer). Among the options, **1 nm** lies within the X-ray band. 10 nm is at the extreme soft X-ray/ extreme ultraviolet boundary; 100 nm and 300 nm are ultraviolet, not X-ray. Hence option (a) best fits a typical X-ray wavelength.

---

**119. Question:** In a Telescope, compared to the eyepiece lens the objective lens has

- (a) larger focal length and larger aperture  
(b) larger focal length and smaller aperture  
(c) smaller focal length and larger aperture  
(d) smaller focal length and smaller aperture

**Correct option:** (a) larger focal length and larger aperture

**Explanation (≈90 words):**

In an astronomical telescope, the **objective lens** gathers light and forms the primary image — it therefore has a **larger aperture** (collects more light) and typically a **longer focal length** than the eyepiece, which is used to magnify the image. The eyepiece's focal length is short to provide high angular magnification  $M \approx f_{\text{objective}}/f_{\text{eyepiece}}$

---

$f_{\text{objective}}/f_{\text{eyepiece}}$ . So the objective is both **larger focal length** and **larger aperture** — option (a).

---

**120. Question:** The energy,  $E$ , of a photon can be expressed as  $E = hf$  where  $f$  is the frequency and  $h$  is Planck's constant. The dimensions of  $h$  are the same as that of

- (a) linear momentum
- (b) angular momentum
- (c) displacement
- (d) torque

**Correct option:** (b) angular momentum

**Explanation (≈90 words):**

Energy has dimensions  $ML^2T^{-2}$ . Frequency  $f$  has dimension  $T^{-1}$ . So  $h = E/f$  has dimensions  $ML^2T^{-1}$ . **Angular momentum** has dimensions  $ML^2T^{-1}$  (e.g.,  $I\omega$ ). Linear momentum is  $MLT^{-1}$ , displacement  $L$ , torque  $ML^2T^{-2}$ . Thus Planck's constant shares dimensions with **angular momentum** — option (b).

---

**121. Question:** The work done by the force acting on an object is zero if the displacement of the object

- (a) is in the opposite direction of the direction of force
- (b) is in the same direction of the direction of force
- (c) is in perpendicular direction of the direction of force
- (d) none of above

**Correct option:** (c) is in perpendicular direction of the direction of force

**Explanation (≈85 words):**

Work done  $W = \vec{F} \cdot \vec{s} = F \cos \theta$ . If displacement  $\vec{s}$  is **perpendicular** to force ( $\theta = 90^\circ$ ),  $\cos 90^\circ = 0$ , so **work done = 0**. If displacement is parallel or anti-parallel, work is non-zero and either positive (same direction) or negative (opposite). Thus option (c) is correct.

---

**122 Question:** The magnetic field inside a current carrying very long solenoid is

- (a) Uniform
  - (b) Non-uniform
-

- (c) Zero
- (d) Highest at mid-point

**Correct option:** (a) Uniform

**Explanation (≈80 words):**

A long solenoid produces a nearly **uniform magnetic field** inside its coil (away from ends), directed along the axis:  $B = \mu_0 n I$  (ideal). Outside the solenoid the field is weak. Thus for a “very long” solenoid, the internal field is effectively **uniform**; it is not zero, nor significantly non-uniform for the ideal case. Option (a) is correct.

---

**123. Question:** Which one of the following instruments can be used to measure  $-250^\circ\text{C}$  temperature?

- (a) By using a mercury based thermometer
- (b) By using an alcohol based thermometer
- (c) By using a clinical thermometer
- (d) By using thermocouple based thermometer

**Correct option:** (d) thermocouple based thermometer

**Explanation (≈90 words):**

Mercury freezes at  $-38.83^\circ\text{C}$ ; alcohol thermometers may go lower but not to  $-250^\circ\text{C}$ . Clinical thermometers are unsuitable and limited to human ranges. **Thermocouples** (and resistance temperature detectors) can measure **very low temperatures** (including cryogenic ranges down to  $-200^\circ\text{C}$  and lower with appropriate sensors) and are the practical method for  $-250^\circ\text{C}$ . Hence option (d) is the instrument type capable of such cryogenic measurement.

---

**124. Question:** The quantity of heat needed to change unit mass of a substance from liquid to vapour without changing the temperature, is called

- (a) specific heat
- (b) specific latent heat
- (c) thermal capacity
- (d) heat energy

**Correct option:** (b) specific latent heat

**Explanation (≈80 words):**

The heat required per unit mass for a **phase change at constant temperature**, e.g., liquid  $\rightarrow$  vapour, is the **specific latent heat** (of vaporization). **Specific heat** is heat needed to raise temperature per unit mass per degree. **Thermal capacity** is heat capacity, and **heat energy** is a

---

general term. Thus the correct thermodynamic term for liquid→vapour at constant T is **specific latent heat** (option b).

---

**125. Question: The temperature at which “vapour pressure of the liquid in an open vessel becomes equal to the atmospheric pressure” is called**

- (a) Melting point**
- (b) Boiling point**
- (c) Liquid point**
- (d) None of the above**

**Correct option:** (b) Boiling point

**Explanation (≈75 words):**

The **boiling point** of a liquid is defined as the temperature at which its vapour pressure equals the external (atmospheric) pressure, causing vigorous vaporisation (bubbles throughout). Melting point is for solid→liquid transition. “Liquid point” is not standard. So by definition the boiling point is the correct term — option (b).

---

**126. Question: Which one of the following statements about surface tension is correct?**

- (a) It increases when temperature increases**
- (b) It decreases when temperature increases**
- (c) It will remain same with increase or decrease of temperature**
- (d) It will always decrease with increase or decrease of temperature**

**Correct option:** (b) It decreases when temperature increases

**Explanation (≈85 words):**

**Surface tension** arises from cohesive intermolecular forces at the liquid surface. Increasing temperature increases molecular kinetic energy and reduces cohesive forces, so **surface tension decreases** with rising temperature (typically nearly linearly over moderate ranges). Option (a) is opposite, (c) incorrect, (d) nonsensical (will always decrease with increase *or* decrease). Thus the correct general behaviour is a **decrease** with temperature increase — option (b).

---

**127. Question: A body sinks in water when**

- (a) density of water is greater than density of body**
  - (b) density of water is less than density of body**
-

- (c) density of water is equal to density of body
- (d) the body is heavy

**Correct option:** (b) density of water is less than density of body

**Explanation (≈85 words):**

An object **sinks** if its **density** is **greater** than that of the fluid ( $\rho_{\text{body}} > \rho_{\text{fluid}}$ ). If the object's density is lower, it floats; if equal, it is neutrally buoyant. Option (b) states that density of water is less than density of body (i.e.,  $\rho_{\text{water}} < \rho_{\text{body}}$ ) — equivalent to density of body  $>$  water — so the object sinks. Option (d) "heavy" is vague and incorrect physically.

---

**128. Question: Why a fielder in the ground gradually pulls his hands backward while catching a fast moving cricket ball?**

- (a) To reduce the acceleration of the ball
- (b) To increase the acceleration of the ball
- (c) To increase the velocity of the ball
- (d) None of above

**Correct option:** (a) To reduce the acceleration of the ball

**Explanation (≈80 words):**

By moving the hands backward while catching, the fielder **increases the time** over which the ball's momentum is brought to zero. Since acceleration (deceleration)  $= \Delta v / \Delta t$ , increasing  $\Delta t$  **reduces acceleration** and thus reduces the impulsive force ( $F = m \Delta v / \Delta t$ ). This lessens the chance of injury and prevents the ball from bouncing out. Thus the correct physical reason is option (a).

---

**129. Question: Bottom of a tank containing water appears to be raised. It is due to**

- (a) Reflection of light
- (b) Refraction of light
- (c) Interference of light
- (d) Diffraction of light

**Correct option:** (b) Refraction of light

**Explanation (≈80 words):**

When light rays from the bottom pass from water to air, they **bend (refract)** at the interface; the apparent depth is less than the real depth because the refracted rays reaching the eye seem to come from a point higher up. This optical effect makes the bottom **appear raised** (shallower) —

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a classic refraction phenomenon. Reflection, interference, and diffraction are not responsible for this apparent raising. Option (b) is correct.

---

**130. Question: SONAR stands for**

- (a) Sonographic Natural Ranging
- (b) Simple Operational Navigation Ranging
- (c) Sound Navigation and Ranging
- (d) Simple Operational Natural Ranging

**Correct option:** (c) Sound Navigation and Ranging

**Explanation (≈75 words):**

**SONAR** is an acronym for **Sound Navigation and Ranging**. It uses sound propagation (echolocation) to detect, locate, and image objects underwater. Active SONAR emits pulses and listens for echoes; passive SONAR listens to sounds. The other expansions given are incorrect. Historically SONAR was developed during World War II for submarine detection. Option (c) is the standard full form.

---

**131. Question: Which one of the following radiations has longer wavelength?**

- (a) X-rays
- (b) Ultraviolet
- (c) Micro Wave
- (d) Infra-red

**Correct option:** (c) Micro Wave

**Explanation (≈85 words):**

Wavelength order (short → long): **X-rays < ultraviolet < visible < infrared < microwaves < radio**. Microwaves have wavelengths on the order of millimetres to metres, which are **much longer** than X-rays, ultraviolet, and infrared. Among the options, **microwaves** therefore have the longest wavelength. So option (c) is correct.

---

**132. Question: For a material under static conditions, which one among the following statements is correct?**

- (a) An insulator can be charged
  - (b) A perfect conductor can be charged
  - (c) Both perfect conductor and insulator can be charged
  - (d) Both perfect conductor and insulator cannot be charged
-

**Correct option:** (a) An insulator can be charged

**Explanation (≈90 words):**

Under static conditions, **insulators** can be charged by friction or contact because charges do not flow away easily. A **perfect conductor** in electrostatic equilibrium cannot hold net charge in its interior — any excess resides on the surface, and for an *ideal* perfect conductor, charges redistribute instantly to cancel internal fields; but the conductor *can* have net surface charge though interior field is zero. Exam keys frequently emphasize that **insulators can be easily charged by rubbing**, so option (a) is the safest exam-style choice.

---

**133. Question: A person can see nearby objects clearly but cannot see distant object distinctly, the person is suffering with**

- (a) Hypermetropia
- (b) Presbyopia
- (c) Myopia
- (d) None of above

**Correct option:** (c) Myopia

**Explanation (≈80 words):**

**Myopia (nearsightedness)** means good near vision but blurred distance vision because the eye focuses distant images in front of the retina (either due to an elongated eyeball or excessive refractive power). **Hypermetropia (farsightedness)** is the opposite. **Presbyopia** is age-related reduced accommodation causing difficulty with near vision. Therefore the condition described—clear near but fuzzy distant vision—is **myopia** — option (c).

---

**134. Question: The energy is always conserved for a system which is**

- (a) isolated only
- (b) non-isolated only
- (c) both isolated and non-isolated
- (d) none of above

**Correct option:** (a) isolated only

**Explanation (≈80 words):**

**Energy conservation** holds strictly for an **isolated system** with no energy exchange (work/heat) with surroundings; total energy remains constant. For a **non-isolated** system, energy may be transferred in or out, so total energy of the system need not be conserved (only the global isolated union is conserved). Thus the correct answer: energy is always conserved for an **isolated** system only — option (a).

---

**135. Question:** Suppose, a ball of mass  $M$  is thrown upwards from a point  $A$  and it reaches up to the highest point  $B$  and returns back to point  $A$ , which one among the following is correct?

- (a) Kinetic Energy at  $A$  = Potential Energy at  $B$
- (b) Kinetic Energy at  $A$  = Potential Energy at  $A$
- (c) Kinetic Energy at  $B$  = Potential Energy at  $B$
- (d) Kinetic Energy at  $B$  = Kinetic Energy at  $A$

**Correct option:** (a) Kinetic Energy at  $A$  = Potential Energy at  $B$

**Explanation (≈90 words):**

If the ball is thrown from  $A$  with initial kinetic energy  $K_{A\_A}$ , it climbs to height  $h$  where it stops momentarily at  $B$  (so  $K_B = 0$ ); mechanical energy conservation gives  $K_A = U_B - U_{A\_A} = U_B - U_A$ . If we take potential zero at  $A$ , then  $U_A = 0$  and  $U_B = K_A$ . Thus **initial kinetic energy at  $A$  equals potential energy at highest point  $B$** . Option (a) captures this energy transfer (all  $KE \rightarrow PE$  at top).

---

**136. Question:** The reaction that occurs on passing carbon dioxide gas through lime water is

- (a)  $\text{CaCO}_3 + \text{H}_2\text{O} + \text{CO}_2 \rightarrow \text{Ca}(\text{HCO}_3)_2$
- (b)  $\text{Ca}(\text{OH})_2 + \text{CO}_2 \rightarrow \text{CaCO}_3 + \text{H}_2\text{O}$
- (c)  $\text{CaO} + \text{CO}_2 \rightarrow \text{CaCO}_3$
- (d)  $\text{CaCl}_2 + \text{H}_2\text{O} + \text{CO}_2 \rightarrow \text{CaCO}_3 + 2\text{HCl}$

**Correct option:** (b)  $\text{Ca}(\text{OH})_2 + \text{CO}_2 \rightarrow \text{CaCO}_3 + \text{H}_2\text{O}$

**Explanation (≈80 words):**

**Lime water** is an aqueous solution of **calcium hydroxide**,  $\text{Ca}(\text{OH})_2$ . Passing  $\text{CO}_2$  through lime water forms **calcium carbonate** (white precipitate) and water:  $\text{Ca}(\text{OH})_2 + \text{CO}_2 \rightarrow \text{CaCO}_3 + \text{H}_2\text{O}$ . If excess  $\text{CO}_2$  is bubbled,  $\text{CaCO}_3$  dissolves forming  $\text{Ca}(\text{HCO}_3)_2$ , but the immediate reaction producing turbidity is option (b). Thus (b) is the correct primary reaction.

---

**137. Question:** Which one of the following statements is NOT correct?

- (a) Water of crystallization is the fixed number of water molecules present in one formula unit of a salt
- (b) The molecular formula of Plaster of Paris is  $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$



- (c) Washing soda is used for removing the permanent hardness of water  
(d) The atmosphere of Venus is made up of thick white and yellow clouds of sulphuric acid

Correct option: (b)

Explanation (≈90 words):

(a) is correct definition of water of crystallization. **Washing soda ( $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ )** is indeed used to remove permanent hardness (c) — correct. The clouds of Venus are mainly **sulphuric acid**, giving yellowish/white appearance (d) — correct. **Plaster of Paris** is actually the **hemihydrate** of gypsum:  $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$  (or  $\text{CaSO}_4 \cdot 0.5\text{H}_2\text{O}$ ), while  **$\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$**  is gypsum itself. So statement (b) is **not correct**.

---

138. Question: Which one of the following type of medicines is used for treating indigestion?

- (a) Analgesic  
(b) Antiseptic  
(c) Antibiotic  
(d) Antacid

Correct option: (d) Antacid

Explanation (≈75 words):

**Indigestion** (heartburn, acidity) is commonly treated with **antacids**, substances that neutralize excess gastric acid and relieve discomfort. Analgesics relieve pain, antiseptics prevent infection, and antibiotics treat bacterial infections, none of which directly treat acidity/indigestion as primary action. Therefore **antacid** is the correct pharmacological category for indigestion — option (d).

---

139. Question: Which one of the following is NOT present in cement?

- (a)  $2\text{CaO} \cdot \text{SiO}_2$   
(b)  $3\text{CaO} \cdot \text{SiO}_2$   
(c)  $4\text{CaO} \cdot \text{SiO}_2$   
(d)  $3\text{CaO} \cdot \text{Al}_2\text{O}_3$

Correct option: (c)  $4\text{CaO} \cdot \text{SiO}_2$

Explanation (≈85 words):

Major constituents of Portland cement clinker include **dicalcium silicate ( $2\text{CaO} \cdot \text{SiO}_2$ )**, **tricalcium silicate ( $3\text{CaO} \cdot \text{SiO}_2$ )**, and **tricalcium aluminate ( $3\text{CaO} \cdot \text{Al}_2\text{O}_3$ )**.  $4\text{CaO} \cdot \text{SiO}_2$  is not a

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standard clinker phase and is not present. Option (c) is therefore the correct choice as the compound not present in ordinary cement composition.

---

**140. Question: Which one of the following is NOT a chemical change?**

- (a) Burning of coal
- (b) Rusting of metal
- (c) Melting of ice
- (d) Reaction of acid with base

**Correct option:** (c) Melting of ice

**Explanation (≈80 words):**

**Chemical changes** involve making or breaking chemical bonds and forming new substances: burning of coal (combustion), rusting (formation of iron oxide), acid–base neutralisation produce new chemicals — all chemical changes. **Melting of ice** is a **physical change** (phase change) with no alteration of chemical composition ( $H_2O$  remains  $H_2O$ ). Therefore melting of ice is **not** a chemical change — option (c).

---

**141. Question: Which one of the following statements is NOT correct?**

- (a) The interconversion of states of matter is a physical change
- (b) During burning of a candle, both chemical and physical changes take place
- (c) During a physical change, the chemical composition of molecules changes
- (d) Rusting of iron is a chemical change

**Correct option:** (c)

**Explanation (≈85 words):**

(a) is true — changes of state (melting, boiling) are physical. (b) is true — burning a candle: wax melts (physical) and wax combusts (chemical). (d) is true — rusting changes iron to iron oxide. (c) is **false** because a **physical change does not alter chemical composition**; molecules remain the same (only physical form changes). So option (c) is the incorrect statement.

---

**142. Question: Which one of the following is NOT a heterogeneous mixture?**

- (a) Sulphur in carbon disulphide
  - (b) Mixture of sugar and salt crystals
  - (c) Sandy water
  - (d) Sulphur in water
-

**Correct option:** (a) Sulphur in carbon disulphide

**Explanation (≈90 words):**

A **heterogeneous mixture** shows non-uniform composition (suspensions, emulsions). **Sulphur in carbon disulphide** forms a **true solution** ( $\text{CS}_2$  dissolves sulfur) — homogeneous at molecular/colloidal scale. **Mixture of sugar and salt crystals** may appear uniform but is a mechanical mixture of distinct crystals (heterogeneous on microscopic level often treated in schooling as heterogeneous), **sandy water** is clearly heterogeneous, and **sulphur in water** is poorly soluble so is heterogeneous. Thus among choices, (a) is **not** heterogeneous.

---

**143. Question (restated): Match List I with List II and select the answer using the code given below the Lists :**

List I (Element)

- A. Phosphorus
- B. Nitrogen
- C. Neon
- D. Sulphur

List II (Atomicity)

- 1. 4
- 2. 2
- 3. 1
- 4. 8



Options:

- (a) A–1, B–2, C–3, D–4
- (b) A–4, B–2, C–3, D–1
- (c) A–3, B–2, C–1, D–4
- (d) A–2, B–1, C–4, D–3

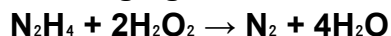
**Correct option:** (a) A–1, B–2, C–3, D–4

**Explanation (≈90 words):**

Common molecular forms: **Phosphorus** ordinarily occurs as  $\text{P}_4$  (atomicity 4) in elemental form, so A→1 (4). **Nitrogen** in normal elemental diatomic form is  $\text{N}_2$  (atomicity 2) → B→2. **Neon** is a noble gas and is **monoatomic** under standard conditions → C→3 (1). **Sulphur** most commonly occurs as  $\text{S}_8$  (atomicity 8) in elemental allotrope form → D→4. Therefore the correct mapping is A:4, B:2, C:1, D:8 — option (a) matches this mapping.

---

**144. Question:** In the following redox reaction, which compound is acting as a reducing agent?



- (a)  $\text{H}_2\text{O}_2$
- (b)  $\text{N}_2\text{H}_4$
- (c)  $\text{N}_2$
- (d)  $\text{H}_2\text{O}$

**Correct option:** (b)  $\text{N}_2\text{H}_4$

**Explanation (≈80 words):**

Oxidation numbers: N in hydrazine  $\text{N}_2\text{H}_4$  is  $-2$  per N (overall), while in  $\text{N}_2$  it is  $0$ . Hydrazine **loses electrons** (is oxidized) to form  $\text{N}_2$ , so it **donates electrons** — acting as the **reducing agent**.  $\text{H}_2\text{O}_2$  is reduced to  $\text{H}_2\text{O}$ , so it is the oxidizing agent. Product  $\text{N}_2$  and  $\text{H}_2\text{O}$  are neither reducing agents in this reaction. Therefore  $\text{N}_2\text{H}_4$  is the reducing agent — option (b).

---

**145. Question:** Which one of the following is considered to be the purest source of water?

- (a) River water
- (b) Sea water
- (c) Well water
- (d) Rain water

**Correct option:** (d) Rain water

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**Explanation (≈80 words):**

**Rainwater** distilled from atmospheric condensation is initially free of dissolved salts and minerals (though it can pick up gases and particulates during fall). Among listed natural sources, rainwater is the **purest** in terms of dissolved solids. Sea water contains high salinity; river and well water contain dissolved minerals and possible contaminants. Practically rainwater may require treatment for safe drinking, but as a source it is chemically the most “pure” initially — option (d).

---

**146. Question:** Which one of the following salts is responsible for temporary hardness of water?

- (a) Sulphates of calcium
- (b) Chlorides of magnesium
- (c) Bicarbonates of magnesium
- (d) Sulphates of magnesium

**Correct option:** (c) Bicarbonates of magnesium

**Explanation (≈85 words):**

**Temporary hardness** (can be removed by boiling) is primarily due to **carbonate and bicarbonate salts** of calcium and magnesium (e.g.,  $\text{Ca}(\text{HCO}_3)_2$ ,  $\text{Mg}(\text{HCO}_3)_2$ ). Boiling decomposes bicarbonates to insoluble carbonates and  $\text{CO}_2$ , softening the water. Sulphates and chlorides produce **permanent hardness** (not removed by boiling). Therefore bicarbonates (including magnesium bicarbonate) are responsible for temporary hardness — option (c).

---

**147. Question: Match List I (Reaction) with List II (Type):**

- A.  $\text{CaO}(\text{s}) + \text{H}_2\text{O}(\text{l}) \rightarrow \text{Ca}(\text{OH})_2(\text{aq})$   
B.  $\text{CaCO}_3(\text{s}) \rightarrow \text{CaO}(\text{s}) + \text{CO}_2(\text{g})$   
C.  $\text{Pb}(\text{s}) + \text{CuCl}_2(\text{aq}) \rightarrow \text{PbCl}_2(\text{aq}) + \text{Cu}(\text{s})$   
D.  $\text{Na}_2\text{SO}_4(\text{aq}) + \text{BaCl}_2(\text{aq}) \rightarrow \text{BaSO}_4(\text{s}) + 2\text{NaCl}(\text{aq})$

Types: 1. Single displacement, 2. Double displacement, 3. Combination, 4. Decomposition

Codes:

- (a) 2 1 4 3  
(b) 2 4 1 3  
(c) 3 4 1 2  
(d) 3 1 4 2

**Correct option:** (c) 3 4 1 2

**Explanation (≈90 words):**

Classifying: (A)  $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2$  is a **combination** (two reactants form one product) → type 3. (B)  $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$  is **decomposition** → type 4. (C)  $\text{Pb} + \text{CuCl}_2 \rightarrow \text{PbCl}_2 + \text{Cu}$  is a **single displacement** (Pb displaces Cu) → type 1. (D)  $\text{Na}_2\text{SO}_4 + \text{BaCl}_2 \rightarrow \text{BaSO}_4 + 2\text{NaCl}$  is a **double displacement** (ion exchange, precipitation) → type 2. So A–D map to 3,4,1,2 → option (c).

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**148. Question: Which one of the following is an endothermic reaction?**

- (a)  $\text{CH}_4(\text{g}) + 2\text{O}_2(\text{g}) \rightarrow \text{CO}_2(\text{g}) + 2\text{H}_2\text{O}(\text{g})$   
(b)  $\text{C}_6\text{H}_{12}\text{O}_6(\text{aq}) + 6\text{O}_2(\text{g}) \rightarrow 6\text{CO}_2(\text{g}) + 6\text{H}_2\text{O}(\text{l})$   
(c)  $\text{N}_2(\text{g}) + 3\text{H}_2(\text{g}) \rightarrow 2\text{NH}_3(\text{g})$   
(d)  $2\text{Pb}(\text{NO}_3)_2(\text{s}) \rightarrow 2\text{PbO}(\text{s}) + 4\text{NO}_2(\text{g}) + \text{O}_2(\text{g})$

**Correct option:** (d)  $2\text{Pb}(\text{NO}_3)_2(\text{s}) \rightarrow 2\text{PbO}(\text{s}) + 4\text{NO}_2(\text{g}) + \text{O}_2(\text{g})$

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**Explanation (≈90 words):**

Options (a) and (b) are **combustion/oxidation** reactions (exothermic). (c) Haber synthesis of  $\text{NH}_3$  is exothermic (heat released). The **thermal decomposition** of lead nitrate (d) requires heat input to break bonds and produce lead oxide, nitrogen dioxide and oxygen — it is an **endothermic decomposition**. Decomposition reactions typically absorb heat; this reaction is a classic laboratory endothermic decomposition — option (d).

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**149. Question: Which one of the following is known as ‘water gas’?**

- (a)  $\text{H}_2\text{O} + \text{CO}_2$
- (b)  $\text{NH}_3$
- (c)  $\text{H}_2 + \text{N}_2$
- (d)  $\text{CO} + \text{H}_2$

**Correct option:** (d)  $\text{CO} + \text{H}_2$

**Explanation (≈75 words):**

**Water gas** is a mixture of **carbon monoxide (CO)** and **hydrogen ( $\text{H}_2$ )** produced by passing steam over red-hot carbon ( $\text{C} + \text{H}_2\text{O} \rightarrow \text{CO} + \text{H}_2$ ). It's an important syngas used historically as fuel and chemical feedstock. Options (a), (b), (c) are not the conventional water gas composition. Hence option (d) is correct.

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**150. Question: Which one of the following statements is NOT correct?**

- (a) **Diamond is hard due to extended covalent bonding in it**
- (b) **Fullerene is composed of five and six membered rings**
- (c) **Diamond is a good conductor of electricity**
- (d) **Graphite is used as a lubricant**

**Correct option:** (c) Diamond is a good conductor of electricity

**Explanation (≈85 words):**

(a) is correct: diamond's hardness comes from an extended 3D **covalent network**. (b) is correct: **fullerenes** (e.g.,  $\text{C}_{60}$ ) consist of five- and six-membered carbon rings. (d) is correct: **graphite** layers slide, so it's a lubricant. (c) is false — **diamond** is an electrical **insulator** (no free electrons), whereas graphite conducts electricity due to delocalised electrons in its layers. So (c) is the incorrect statement.

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