Recruitment Test for the Post of Junior Science Teacher (BPS-14), School Education & Literacy Department, Government of Sindh, Question Paper-I — 2026 · Solved Past Paper

Body: Sindh Testing Service (STS) · **Post:** Recruitment Test for the Post of Junior Science Teacher (BPS-14), School Education & Literacy Department, Government of Sindh, Question Paper-I · **Year:** 2026 · **Questions:** 100 in the original paper — **100 solved and verified**, none excluded · **Price:** Free

> **How to use this paper:** each question shows the stem, the four options, and the correct answer. Click “Why each option?” under a question to see all four options explained — one question teaches four topics. General Knowledge answers are as of the 2026 sitting.

Source note: trickipoint.com scan of the original SIBA STS booklet, 'IBA JST BPS-14 SINDH EDUCATION DEPARTMENT PAST PAPER 10 APRIL 2026' (accessed 9 Nov 2026; 9 scanned pages, Q1–Q100). No printed key exists on the source scan. All answers rest on worked derivations, reference facts and standard textbook rules, checked independently.

Question 1 English

English. Reading Comprehension (1–4). Passage for reading comprehension (Q1–Q4). Read the passage and answer the questions at the end. Dr Martin Luther King Jr.'s 'I Have a Dream' is one of the most powerful speeches in history, delivered during the March on Washington in 1963. In it, King passionately speaks against racial segregation,

on, and inequality faced by African Americans in the United States. He reminds the audience that, despite the promises of the American Constitution and the Declaration of Independence, Black citizens are still denied freedom and justice. King's central vision is a dream of equality, where people are judged not by the colour of their skin but by the content of their character. He imagines a future where children of all races can join hands and live in harmony. With references to American ideals, the Bible, and the natural right to freedom, he emphasizes that justice must no longer be delayed. His speech calls for peaceful struggle, non-violence, and perseverance until freedom rings across the nation. Ultimately, 'I Have a Dream' is both a demand and a hope: a demand for civil rights and an inspiring hope for a society based on justice, brotherhood, and equality. King's words continue to inspire movements for human rights across the world. Q1. The theme of the first paragraph is about:

- A. Segregation of African and Americans
- B. Discrimination inflicted by Americans
- C. Deprivation of basic rights of Africans ✓ **Correct answer**
- D. African and Americans harmony

A. Wrong: the first paragraph is about more than segregation alone — it is about the denial of freedom and justice

B. Wrong: discrimination is named, but the paragraph's theme is the denial of rights, not who inflicted it

C. Correct: the first paragraph centres on Black citizens still being denied freedom and justice despite constitutional promises — the deprivation of their basic rights

D. Wrong: harmony belongs to the second paragraph's dream, not to the first paragraph's theme

Question 2 English

English. (From the passage printed under Q1.) The theme of the second paragraph is about:

racter, justice and hope

- B. Freedom, equality and peace ✓ **Correct answer**
- C. Vision, judgement and slavery
- D. Equality, hostility and struggle

A. Wrong: character and justice are named, but hope is not the paragraph's ruling theme

B. Correct: the second paragraph is King's dream of equality, of children of all races living in harmony, and of peaceful struggle until freedom rings — freedom, equality and peace

C. Wrong: slavery is not mentioned in the second paragraph

D. Wrong: hostility is the opposite of the harmony the paragraph describes

Question 3 English

English. (From the passage printed under Q1.) Had there been a violence call by Martin, then there would have been:

- A. Chaos and less support from people ✓ **Correct answer**
- B. Rise in credibility
- C. Dominancy over people
- D. Harmony in both nations

A. Correct: the speech calls for peaceful struggle and non-violence; a call to violence would have brought chaos and cost the movement public support

B. Wrong: violence would have damaged, not raised, King's credibility

C. Wrong: dominance over people is not what a violent call would have produced

D. Wrong: harmony is what the peaceful struggle aimed at, not what violence would have brought

4 English

English. (From the passage printed under Q1.) The last sentence is about:

- A. Human rights globally ✓ **Correct answer**
- B. Human rights in the US
- C. Human rights of Black citizens
- D. Human rights locally

A. Correct: the last sentence says King's words continue to inspire movements for human rights across the world — globally

B. Wrong: the last sentence speaks of the world, not of the US alone

C. Wrong: the last sentence speaks of human rights movements across the world, not of Black citizens alone

D. Wrong: the last sentence speaks of the world, not of one locality

Question 5 English

English. Select the most appropriate meaning of the underlined word from the given choices. The girl who used to be very vociferous does not talk much anymore.

- A. Vehement ✓ **Correct answer**
- B. Deep
- C. Silent
- D. High

A. Correct: vociferous means loud and outspoken, expressing strong feeling — vehement

B. Wrong: deep is not the meaning of vociferous

C. Wrong: silent is the opposite of vociferous

D. Wrong: high does not give the meaning of vociferous

6 English

English. Identify the adjective from the given sentence: What book are you reading in the library? (The four underlined words in the sentence are: What / reading / in / library.)

- A. What ✓ **Correct answer**
- B. reading
- C. in
- D. library

A. Correct: "What" is an interrogative adjective here, qualifying the noun "book" ("What book")

B. Wrong: "reading" is a verb (present participle), not an adjective

C. Wrong: "in" is a preposition, not an adjective

D. Wrong: "library" is a noun, not an adjective

Question 7 English

English. Identify the sentence with correct punctuation:

- A. He said to me "he listens music every night."
- B. He said to me, he listens music every night.
- C. He said to me, "he listens music every night." ✓ **Correct answer**
- D. He said to me, "he listens music every night"

A. Wrong: there is no comma after "me" before the reported speech

B. Wrong: the reported speech must be enclosed in quotation marks

C. Correct: the comma after "me", the quotation marks, and the full stop inside the closing quotes are all correct

D. Wrong: the sentence has no closing full stop

8 English

English. You have been working with him since noon. Change into the Future Perfect Continuous Tense:

- A. You will be working with him since noon
- B. You have been working with him since noon
- C. You will have been working with him since noon ✓ **Correct answer**
- D. You will has been working with him since noon

A. Wrong: "will be working" is the future continuous, not the future perfect continuous

B. Wrong: "have been working" is the present perfect continuous, not the future perfect continuous

C. Correct: the future perfect continuous is "will have been working"

D. Wrong: "will has been" is ungrammatical — "has" cannot follow "will"

Question 9 English

English. He was driving a car with his family from the village to the city during the rain. Change the Voice:

- A. A car was being driven by him with his family from the village to the city during the rain ✓ **Correct answer**
- B. A car was driving by him with his family from the village to the city during the rain
- C. A car was driven by me with his family from the village to the city during the rain
- D. A car is driven by him with his family from the village to the city during the rain

A. Correct: the past continuous active "was driving" becomes the past continuous passive "was being driven"

B. Wrong: "was driving" is still active, not passive

C. Wrong: "was driven" is simple past passive, and "me" is the wrong pronoun

s driven" is present passive, but the original is past

Question 10 English

English. Kashif said to me, "Will you come with us tomorrow?" Change the Narration:

- A. Kashif told I would go with them the following day
- B. Kashif told I would go with the following day
- C. Kashif inquired of I would go with them the following day
- D. Kashif asked me if I would go with them the following day ✓ **Correct answer**

A. Wrong: "told I would" is ungrammatical, and "told" is not used for a yes/no question

B. Wrong: "told I would" is ungrammatical, and the words "with them" are missing

C. Wrong: "inquired of I would" is ungrammatical, and the reporting structure is wrong

D. Correct: a yes/no question is reported with "asked" + "if", "will" becomes "would", and "tomorrow" becomes "the following day"

Question 11 General Knowledge

General Knowledge. The percentage of the Earth's surface covered with water is:

- A. 29%
- B. 50%
- C. 71% ✓ **Correct answer**
- D. 85%

A. Wrong: 29% is about the share of land, not water

B. Wrong: 50% is far below the share of water

C. Correct: about 71% of the Earth's surface is covered with water

D. Wrong: 85% is well above the share of water

12 General Knowledge

General Knowledge. The following is a major Kharif crop in Pakistan, sown at the beginning of the monsoon season:

- A. Wheat
- B. Gram
- C. Mustard
- D. Rice ✓ **Correct answer**

A. Wrong: wheat is a Rabi crop, sown in winter

B. Wrong: gram is a Rabi crop

C. Wrong: mustard is a Rabi crop

D. Correct: rice is the major Kharif crop, sown at the beginning of the monsoon season

Question 13 General Knowledge

General Knowledge. The Indus Waters Treaty was signed in the year:

- A. 1958
- B. 1960 ✓ **Correct answer**
- C. 1962
- D. 1965

A. Wrong: the Indus Waters Treaty was not signed in 1958

B. Correct: the Indus Waters Treaty was signed in 1960

C. Wrong: the Indus Waters Treaty was not signed in 1962

D. Wrong: the Indus Waters Treaty was not signed in 1965

14 General Knowledge

General Knowledge. Zulfiqar Ali Bhutto introduced the policy of nationalization in:

- A. 1975
- B. 1974
- C. 1972 ✓ **Correct answer**
- D. 1977

A. Wrong: nationalization was not introduced in 1975

B. Wrong: nationalization was not introduced in 1974

C. Correct: Bhutto introduced nationalization in 1972

D. Wrong: 1977 is the year Bhutto's government ended, not when nationalization began

Question 15 General Knowledge

General Knowledge. A country produces a large surplus of cotton cloth and sells it to other nations. This activity is an example of:

- A. Import
- B. Domestic trade
- C. Export ✓ **Correct answer**
- D. Barter trade

A. Wrong: import is buying from other nations, not selling to them

B. Wrong: domestic trade is trade within the country, not with other nations

C. Correct: selling a surplus to other nations is export

D. Wrong: barter trade is exchange without money, not the sale described here

16 General Knowledge

General Knowledge. Determine which climatic region a hot, dry area with less than 250 mm of annual rainfall on the western side of a continent is most likely to be:

- A. Equatorial Region
- B. Monsoon Region
- C. Hot Desert Region ✓ **Correct answer**
- D. Tundra Region

A. Wrong: an equatorial region is hot and wet, not dry

B. Wrong: a monsoon region has heavy seasonal rain, not under 250 mm a year

C. Correct: a hot, dry area with under 250 mm of annual rainfall is a hot desert region

D. Wrong: a tundra region is cold, not hot

Question 17 General Knowledge

General Knowledge. Name the institution in Pakistan responsible for formulating the country's five-year plans for economic development:

- A. State Bank of Pakistan
- B. Federal Board of Revenue
- C. Planning Commission ✓ **Correct answer**
- D. National Economic Council

A. Wrong: the State Bank of Pakistan is the central bank, not the planning body

B. Wrong: the Federal Board of Revenue collects taxes, it does not formulate five-year plans

C. Correct: the Planning Commission formulates Pakistan's five-year plans

D. Wrong: the National Economic Council approves plans, it does not formulate them

Question 18 General Knowledge

General Knowledge. The primary consequence of the Liaquat-Nehru Pact (1950) was that it:

- A. Resolved the Kashmir dispute permanently
- B. Forced India to give Pakistan its share of financial assets
- C. Mechanism to protect the rights of minorities in both countries ✓ **Correct answer**
- D. Established the boundary commission for Punjab

A. Wrong: the Liaquat-Nehru Pact did not resolve the Kashmir dispute

B. Wrong: the Pact was not about the division of financial assets

C. Correct: the Liaquat-Nehru Pact (1950) set up a mechanism to protect the rights of minorities in both countries

D. Wrong: the Pact did not establish a boundary commission for Punjab

Question 19 General Knowledge

General Knowledge. Compare the reasons for the voyages of Christopher Columbus and Vasco da Gama and identify their common underlying economic motive for European sea exploration during this period:

- A. To spread Christianity around the world
- B. To discover new lands for European settlement
- C. To find new sea routes for trade and access to the wealth of Asia ✓ **Correct answer**
- D. To conduct scientific research on ocean currents

A. Wrong: spreading Christianity was a motive, but not the common underlying economic motive

B. Wrong: settlement was not the common economic motive of these voyages

both voyages were driven by the search for new sea routes for trade and access to the wealth of Asia

D. Wrong: scientific research on ocean currents was not the motive of these voyages

Question 20 General Knowledge

General Knowledge. Comparing the economic policies of the Ayub Khan era (1958-1969) and the Zulfikar Ali Bhutto era (1971-1977) reveals a fundamental shift from:

- A. A focus on heavy industry to a focus on cottage industries
- B. A policy of nationalization and state control to a policy of privatization and liberalization
- C. Industrial growth via the private sector to a policy of nationalization and socialist reforms ✓ **Correct answer**
- D. An agrarian economy to a purely service-based economy

A. Wrong: the shift was not from heavy industry to cottage industries

B. Wrong: the direction of the shift was the reverse: nationalization came after Ayub, not before

C. Correct: Ayub's era grew industry through the private sector; Bhutto's era moved to nationalization and socialist reforms

D. Wrong: neither era was a shift to a purely service-based economy

Question 21 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. A learner who prefers hands-on lab work and field trips would be classified as:

- A. Visual
- B. Kinesthetic ✓ **Correct answer**
- C. Aural

d/write

A. Wrong: a visual learner prefers seeing diagrams and pictures, not hands-on work

B. Correct: hands-on lab work and field trips are the preference of a kinesthetic learner

C. Wrong: an aural learner prefers listening, not hands-on work

D. Wrong: a read/write learner prefers text, not hands-on work

Question 22 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. The teaching method allows free ideas, no criticism:

- A. Case Study
- B. Brainstorming ✓ **Correct answer**
- C. Story Telling
- D. Team Teaching

A. Wrong: a case study is the study of a real case, not free idea-generation

B. Correct: brainstorming is the method in which free ideas are welcomed and criticism is withheld

C. Wrong: story telling is narration, not free idea-generation

D. Wrong: team teaching is two or more teachers teaching together

Question 23 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. The teacher delivers his lecture and tells a tale in history class refers to:

- A. Brainstorming
- B. Story Telling ✓ **Correct answer**
- C. Case Study
- D. Discussion

brainstorming is idea-generation, not telling a tale

B. Correct: telling a tale in a history class is story telling

C. Wrong: a case study is the study of a real case

D. Wrong: a discussion is an exchange of views, not a tale told by the teacher

Question 24 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. A teacher notices a student remembers diagrams well but forgets spoken instructions. Which adaptation fits the student's learning style?

- A. Provide more text-based notes
- B. Offer more physical activities
- C. Use colour-coded visual aids ✓ **Correct answer**
- D. Increase oral presentations

A. Wrong: text-based notes do not match a learner who remembers diagrams

B. Wrong: physical activities do not match a learner who remembers diagrams

C. Correct: a learner who remembers diagrams is a visual learner, so colour-coded visual aids fit

D. Wrong: more oral presentations would worsen the problem, since spoken instructions are what the student forgets

Question 25 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. Vygotsky's concept of the Zone of Proximal Development refers to:

- A. Skills children can perform independently
- B. Skills children can perform with guidance ✓ **Correct answer**
- C. Unlearned reflexive behaviours

ks beyond a child's capacity

A. Wrong: skills performed independently are below the zone, not in it

B. Correct: the Zone of Proximal Development is the gap between what a child can do alone and what the child can do with guidance

C. Wrong: unlearned reflexive behaviours are not the Zone of Proximal Development

D. Wrong: tasks beyond a child's capacity even with help lie outside the zone

Question 26 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. A child who is shorter than peers but shows a normal growth rate over time is most likely:

- A. Experiencing a normal growth variation ✓ **Correct answer**
- B. Malnourished
- C. Physically delayed
- D. In need of medical intervention immediately

A. Correct: a child who is shorter but growing at a normal rate is most likely showing a normal growth variation

B. Wrong: malnutrition would slow the growth rate, which is normal here

C. Wrong: a normal growth rate rules out physical delay

D. Wrong: a normal growth rate does not call for immediate medical intervention

Question 27 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. In lesson planning, Bloom's Taxonomy is primarily used to:

- A. Arrange students into groups
- B. Define learning objectives ✓ **Correct answer**

- D. Select teaching aids

A. Wrong: Bloom's Taxonomy does not arrange students into groups

B. Correct: Bloom's Taxonomy is used to define learning objectives at different cognitive levels

C. Wrong: Bloom's Taxonomy does not prepare classroom rules

D. Wrong: Bloom's Taxonomy does not select teaching aids

Question 28 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. The correct sequence for lesson planning is:

- A. Activities, then SLOs, then Assessment
- B. SLOs, then Activities, then Assessment ✓ **Correct answer**
- C. Assessment, then Activities, then SLOs
- D. Activities, then Assessment, then SLOs

A. Wrong: activities cannot come before the objectives they serve

B. Correct: lesson planning runs: student learning outcomes (SLOs), then activities, then assessment

C. Wrong: assessment cannot come before the objectives and activities

D. Wrong: assessment comes last, not before the outcomes

Question 29 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. The use of praise, nods, and encouraging words by a teacher refers to:

- A. Reinforcement skill ✓ **Correct answer**
- B. Probing skill

sure skill

- D. Introduction skill

A. Correct: praise, nods and encouraging words are reinforcement of the learner

B. Wrong: probing is asking follow-up questions, not praising

C. Wrong: closure is ending the lesson, not praising

D. Wrong: introduction is opening the lesson, not praising

Question 30 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. A teacher asks follow-up questions to deepen a student's response, which refers to:

- A. Stimulus variation
- B. Probing skill ✓ **Correct answer**
- C. Demonstration skill
- D. Non-verbal communication skills

A. Wrong: stimulus variation is changing the teacher's style and media, not follow-up questions

B. Correct: asking follow-up questions to deepen a response is the probing skill

C. Wrong: demonstration is showing a process, not asking follow-up questions

D. Wrong: follow-up questions are verbal, not non-verbal

Question 31 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. A quick quiz given at the end of a lesson to check for student understanding is best described as:

- A. A summative assessment
- B. A diagnostic assessment

rmative assessment ✓ **Correct answer**

- D. A standardized assessment

A. Wrong: a summative assessment comes at the end of a course or unit, not a single lesson

B. Wrong: a diagnostic assessment comes before teaching, to find what learners already know

C. Correct: a quick quiz during or at the end of a lesson to check understanding is a formative assessment

D. Wrong: a standardized assessment is administered uniformly to large groups, not a quick class quiz

Question 32 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. Feedback is information about a student's progress toward reaching a goal(s). The following are all good sources of Feedback EXCEPT:

- A. Teacher, parent
- B. Peer, book
- C. Self, experience
- D. Vague comments ✓ **Correct answer**

A. Wrong: a teacher or parent is a good source of feedback

B. Wrong: a peer or a book is a good source of feedback

C. Wrong: the self and one's own experience are good sources of feedback

D. Correct: vague comments give no usable information, so they are not a good source of feedback

33 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. Why was 'Reading' added to the traditional STREAM model?

- A. To make the acronym longer
- B. To encourage creativity, reading and thinking ✓ **Correct answer**
- C. To reduce focus on English
- D. To emphasize only literacy skills

A. Wrong: lengthening the acronym is not a reason to add Reading

B. Correct: Reading was added to STREAM to encourage creativity, reading and thinking

C. Wrong: Reading was not added to reduce focus on English

D. Wrong: Reading was not added to emphasize only literacy skills

Question 34 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. In a STEAM project, learners often use programming to design and draw circuit diagrams of an electricity model. Which disciplines are mixed here?

- A. Science + Arts + Technology ✓ **Correct answer**
- B. Mathematics + History only
- C. Engineering + Geography
- D. Arts + Physical Education

A. Correct: an electricity model with programming mixes science, arts and technology — the closest of the four combinations

B. Wrong: mathematics and history do not cover an electricity model with programming

C. Wrong: geography has nothing to do with this project

D. Wrong: physical education has nothing to do with this project

35 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. Flipped Learning is a:

- A. A theory of behaviour
- B. A model of instructional design
- C. A pedagogical approach that inverts conventional classroom learning ✓ **Correct answer**
- D. A theory of cognition

A. Wrong: flipped learning is not a theory of behaviour

B. Wrong: flipped learning is not a model of instructional design

C. Correct: flipped learning is a pedagogical approach that inverts conventional classroom learning — content at home, practice in class

D. Wrong: flipped learning is not a theory of cognition

Question 36 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. Blended Learning is:

- A. Digital approach for M-learning in Instructional Design
- B. Combines online educational materials and opportunities for interaction online with traditional place-based ✓ **Correct answer**
- C. Conventional notion of classroom-based learning
- D. Traditional pedagogical method and approach

A. Wrong: blended learning is not only M-learning

B. Correct: blended learning combines online materials and online interaction with traditional place-based learning

C. Wrong: blended learning is not purely classroom-based learning

D. Wrong: blended learning is not a traditional pedagogical method

37 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. The following are all the suggestions to make feedback more effective and valuable in terms of student learning EXCEPT:

- A. Make students understand what a good performance or goal means
- B. Providing quality information to students about their learning
- C. Simplifies the improvement process of self-assessment or reflections in learning
- D. Always use one mode of feedback ✓ **Correct answer**

A. Wrong: making students understand what good performance means is a sound suggestion

B. Wrong: providing quality information about their learning is a sound suggestion

C. Wrong: simplifying self-assessment and reflection is a sound suggestion

D. Correct: always using one mode of feedback is not a sound suggestion — effective feedback uses varied modes

Question 38 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. The following are all the misconceptions about classroom management EXCEPT:

- A. Classrooms are not homogeneous ✓ **Correct answer**
- B. The quietest classrooms are the best managed
- C. The goal of classroom management is peace and discipline
- D. Classroom management relies on threats and punishment

A. Correct: classrooms are genuinely not homogeneous — this is a fact, not a misconception

B. Wrong: the quietest classrooms are not necessarily the best managed — this is a misconception

eace and discipline alone are not the goal of classroom management — this is a misconception

D. Wrong: classroom management does not rely on threats and punishment — this is a misconception

Question 39 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. A teacher notices that 80% of the class missed the same question on a multiple-choice test. The teacher should first conclude that:

- A. The students did not study enough
- B. The question may be poorly worded, or the concept may not have been taught effectively ✓ **Correct answer**
- C. The material was too difficult for this grade level
- D. These students are low-achieving

A. Wrong: 80% missing the same question points at the question or the teaching, not at the students' study habits

B. Correct: when most of the class misses one question, the teacher should first suspect poor wording or ineffective teaching of the concept

C. Wrong: difficulty alone does not explain one question failing for 80% of the class

D. Wrong: 80% of a class cannot be dismissed as low-achieving on the strength of one question

Question 40 Teaching & Learning Pedagogies

Teaching & Learning Pedagogies. Two students are whispering and passing notes during direct teaching. The teacher moves to stand near their desks while continuing to teach. This non-verbal strategy is an example of:

- A. A logical consequence for their actions

- C. Ignoring the behaviour so as not to give it attention
- D. Using proximity to manage minor misbehaviour without disrupting the flow of the lesson ✓ **Correct answer**

A. Wrong: standing near the desks is not a logical consequence

B. Wrong: standing near the desks is not negative reinforcement

C. Wrong: the teacher is not ignoring the behaviour — the teacher is moving closer

D. Correct: moving to stand near the desks is using proximity to manage minor misbehaviour without disrupting the lesson

Question 41 Biology

Biology. If the checkpoints regulating cell division are altered, the person will most likely get:

- A. Hypertension
- B. Cancer ✓ **Correct answer**
- C. Diabetes
- D. Cataract

A. Wrong: altered cell-division checkpoints do not cause hypertension

B. Correct: when the checkpoints that regulate cell division fail, cells divide without control — cancer

C. Wrong: altered cell-division checkpoints do not cause diabetes

D. Wrong: altered cell-division checkpoints do not cause cataract

Question 42 Biology

Biology. Sara's mother kept fruits in a storage room and observed a certain fungus

decaying fruit. Based on the scenario, the fungus would be classified as:

- A. Parasite
- B. Saprophyte ✓ **Correct answer**
- C. Symbiont
- D. Autotroph

A. Wrong: a parasite feeds on a living host, not on decaying fruit

B. Correct: a fungus growing on decaying fruit feeds on dead organic matter — a saprophyte

C. Wrong: a symbiont lives in mutual association with another organism, which is not the case here

D. Wrong: an autotroph makes its own food; a fungus cannot

Question 43 Biology

Biology. Ahsan felt pain in his throat, for which he was prescribed antibiotics. After a day of taking medicine, he feels better. The infection in such a case can be caused by:

- A. Fungi
- B. Virus
- C. Bacteria ✓ **Correct answer**
- D. Protozoa

A. Wrong: antibiotics do not cure fungal infections

B. Wrong: antibiotics do not work against viruses

C. Correct: antibiotics work against bacteria, and the patient improved on antibiotics

D. Wrong: antibiotics do not cure protozoan infections

44 Biology

Biology. The non-protein part of a conjugate enzyme, if loosely attached, is called:

- A. Co-factor ✓ **Correct answer**
- B. Active Site
- C. Prosthetic group
- D. Inhibitor

A. Correct: the non-protein part of a conjugate enzyme, when loosely attached, is a co-factor

B. Wrong: the active site is the part of the enzyme where the substrate binds, not its non-protein part

C. Wrong: a prosthetic group is the non-protein part when it is tightly (permanently) attached, not loosely

D. Wrong: an inhibitor slows or stops an enzyme; it is not the enzyme's non-protein part

Question 45 Biology

Biology. A scientist observes a cell with proper ATP production and respiratory activity but unassembled proteins. The organelle most likely dysfunctional is:

- A. Mitochondria
- B. Golgi Apparatus
- C. Ribosome ✓ **Correct answer**
- D. Endoplasmic Reticulum

A. Wrong: ATP production is proper, so the mitochondria are working

B. Wrong: the Golgi apparatus modifies and packages proteins; it does not assemble them

C. Correct: ribosomes assemble proteins, so unassembled proteins point to dysfunctional ribosomes

e endoplasmic reticulum transports and folds proteins; assembly itself is the ribosome's job

Question 46 Biology

Biology. The process that takes place on the inner membrane of mitochondria is:

- A. Glycolysis
- B. Electron transport chain ✓ **Correct answer**
- C. Production of Pyruvate
- D. Decarboxylation of the Acetyl group

A. Wrong: glycolysis takes place in the cytoplasm, not on the inner mitochondrial membrane

B. Correct: the electron transport chain takes place on the inner membrane of the mitochondria

C. Wrong: pyruvate is produced in the cytoplasm during glycolysis

D. Wrong: decarboxylation of the acetyl group takes place in the mitochondrial matrix, not on the inner membrane

Question 47 Biology

Biology. In a forest, one species of bird diverges into different species adapted to different food sources. Such evolution is inferred as:

- A. Gradual divergence
- B. Convergent evolution
- C. Adaptive evolution ✓ **Correct answer**
- D. Parallel evolution

A. Wrong: gradual divergence is a general description, not the name for this pattern

B. Wrong: convergent evolution is different species becoming similar, the reverse of what

C. Correct: one species diverging into several, each adapted to a different food source, is adaptive evolution (adaptive radiation)

D. Wrong: parallel evolution is separate lineages evolving similar traits independently

Question 48 Biology

Biology. If an insecticide is sprayed in a grassland ecosystem, the trophic level directly affected is:

- A. Producers
- B. Primary Consumers ✓ **Correct answer**
- C. Secondary Consumers
- D. Tertiary Consumers

A. Wrong: the producers (grass) are not directly killed by an insecticide

B. Correct: an insecticide directly kills insects, which are the primary consumers feeding on the grass

C. Wrong: secondary consumers eat the insects, so they are affected only indirectly

D. Wrong: tertiary consumers are affected only indirectly, through the food chain

Question 49 Biology

Biology. Algae are placed in a group of plant-like Protists because:

- A. They move with the help of long flagella
- B. They feed on decaying matter
- C. They can perform photosynthesis ✓ **Correct answer**
- D. They have a cell wall made of chitin

A. Wrong: not all algae move with flagella, and movement is not why they are plant-like

eding on decaying matter is the saprophyte's way, not the algae's

C. Correct: algae are plant-like because they can perform photosynthesis

D. Wrong: a chitin cell wall is a feature of fungi, not of algae

Question 50 Biology

Biology. Intensive exercise increases heart rate to supply more oxygen towards the body's muscles. This response shows the coordination between:

- A. Digestive and Excretory Systems
- B. Skeletal and Digestive Systems
- C. Respiratory and Circulatory Systems ✓ **Correct answer**
- D. Endocrine and Excretory Systems

A. Wrong: digestion and excretion are not what supply oxygen to muscles

B. Wrong: the skeleton and digestion are not what supply oxygen to muscles

C. Correct: the respiratory system takes in oxygen and the circulatory system (faster heart rate) delivers it to the muscles

D. Wrong: the endocrine and excretory systems are not what supply oxygen to muscles

Question 51 Biology

Biology. Evolution is supported by the presence of homologous structure because:

- A. They are vestigial
- B. They show similar functions
- C. They show common ancestry ✓ **Correct answer**
- D. They arise in response to convergent evolution

A. Wrong: homologous structures are not necessarily vestigial

B. Wrong: homologous structures often have different functions — similar function marks

C. Correct: homologous structures show common ancestry: the same basic structure inherited from a common ancestor

D. Wrong: structures arising from convergent evolution are analogous, not homologous

Question 52 Biology

Biology. In an experiment, a student observes that removing algae from a pond decreases the fish population. This shows that:

- A. Algae harm the population of fish
- B. Algae provide CO2 and food for fish ✓ **Correct answer**
- C. Algae reduce water quality for the survival of the fish population
- D. Algae consume the population of fish

A. Wrong: if algae harmed the fish, removing them would increase the fish population, not decrease it

B. Correct: removing the algae starves the fish, showing the algae support the fish as food — this is the paper's intended answer (note: as printed it says algae provide CO2; in fact algae consume CO2 and release oxygen, but the food part is the operative point and no other option fits)

C. Wrong: if algae reduced water quality, removing them would help the fish, not harm them

D. Wrong: algae do not consume fish

Question 53 Chemistry

Chemistry. X-rays are produced when cathode rays strike on:

- A. Non - Metal
- B. Metal ✓ **Correct answer**

erial

- D. Gas

A. Wrong: cathode rays striking a non-metal do not produce X-rays

B. Correct: X-rays are produced when cathode rays strike a metal target

C. Wrong: "material" is too vague, and the target is a metal

D. Wrong: cathode rays striking a gas do not produce X-rays

Question 54 Chemistry

Chemistry. The diagram shows how the arrangement of particles changes when a substance changes state. (The diagram shows closely packed, regularly arranged particles changing into a few widely separated particles.) Which change of state is shown?

- A. Boiling
- B. Condensation
- C. Evaporation
- D. Sublimation ✓ **Correct answer**

A. Wrong: boiling is liquid changing to gas, but the starting arrangement is a solid lattice

B. Wrong: condensation is gas changing to liquid, the reverse of the diagram

C. Wrong: evaporation is liquid changing to gas, but the starting arrangement is a solid lattice

D. Correct: a solid changing directly into a gas, from a close-packed lattice to widely separated particles, is sublimation

Question 55 Chemistry

Chemistry. The equation shows the thermal decomposition of magnesium carbonate (Mr

$MgCO_3 \rightarrow MgO + CO_2$. Which mass of magnesium oxide is formed when 21.0 g of magnesium carbonate are completely decomposed?

- A. 1.9 g
- B. 4.0 g
- C. 10.0 g ✓ **Correct answer**
- D. 40.0 g

A. Wrong: 1.9 g does not follow from the mole ratio: 21.0/84 = 0.25 mol, and 0.25 mol of MgO is 10.0 g

B. Wrong: 4.0 g does not follow from the mole ratio

C. Correct: 21.0 g of MgCO3 is 0.25 mol; it gives 0.25 mol of MgO, and 0.25 x 40 = 10.0 g

D. Wrong: 40.0 g is the mass of one mole of MgO, not of 0.25 mol

Question 56 Chemistry

Chemistry. Soap-making process in industries is known as:

- A. Plantation
- B. Saponification ✓ **Correct answer**
- C. Deposition
- D. Distillation

A. Wrong: plantation is the growing of plants, not soap-making

B. Correct: soap-making is saponification — the alkaline hydrolysis of fats and oils

C. Wrong: deposition is the laying down of a substance, not soap-making

D. Wrong: distillation is separation by boiling, not soap-making

Question 57 Chemistry

Chemistry. In a Redox (Oxidation-Reduction) reaction, electrons are transferred from:

dizing agent

- B. Reducing agent ✓ **Correct answer**
- C. Catalyst
- D. Inert Gas

A. Wrong: the oxidizing agent gains electrons, it does not give them

B. Correct: the reducing agent loses (donates) electrons to the oxidizing agent

C. Wrong: a catalyst is not the source of the electrons

D. Wrong: an inert gas does not take part in the electron transfer

Question 58 Chemistry

Chemistry. A mixture produces a gas both when it reacts with an acid and when it reacts with an alkali. Which ions are present in the mixture?

- A. Ammonium ions and carbonate ions ✓ **Correct answer**
- B. Ammonium ions and oxide ions
- C. Hydrogen ions and carbonate ions
- D. Hydrogen ions and oxide ions

A. Correct: ammonium ions give ammonia gas with an alkali, and carbonate ions give carbon dioxide with an acid — the mixture is ammonium carbonate

B. Wrong: oxide ions give no gas with an alkali

C. Wrong: hydrogen ions are the acid itself, not an ion that gives gas with an acid

D. Wrong: hydrogen ions are the acid itself, and oxide ions give no gas with an alkali

Question 59 Chemistry

Chemistry. Which of the following changes is endothermic?

- A. $H_2(g) + Cl_2(g) \rightarrow 2HCl(g)$

-)(g) → 2H2(g) + O2(g) ✓ **Correct answer**
- C. H2O(l) → H2O(s)
- D. 2H2(g) + O2(g) → 2H2O(l)

A. Wrong: the formation of hydrogen chloride is exothermic

B. Correct: splitting water into hydrogen and oxygen needs energy put in — it is endothermic

C. Wrong: freezing water gives out heat — it is exothermic

D. Wrong: the formation of water from hydrogen and oxygen gives out heat — it is exothermic

Question 60 Chemistry

Chemistry. Which does not increase the rate by affecting the number or nature of collisions?

- A. Adding a catalyst ✓ **Correct answer**
- B. Increasing the pressure
- C. Increasing the surface area
- D. Increasing the temperature

A. Correct: a catalyst increases the rate by lowering the activation energy, not by changing the number or nature of collisions

B. Wrong: increasing the pressure increases the number of collisions

C. Wrong: increasing the surface area increases the number of collisions

D. Wrong: increasing the temperature increases both the number and the energy of collisions

Chemistry. Salts are made by reacting acids with bases. For which combination of acids and bases is the titration method of preparation suitable?

- A. An insoluble acid with an insoluble base
- B. An insoluble acid with a soluble base
- C. A soluble acid with an insoluble base
- D. A soluble acid with a soluble base ✓ **Correct answer**

A. Wrong: titration needs both reactants in solution, so an insoluble acid will not do

B. Wrong: titration needs both reactants in solution, so an insoluble acid will not do

C. Wrong: titration needs both reactants in solution, so an insoluble base will not do

D. Correct: the titration method suits a soluble acid with a soluble base, since both are in solution

Question 62 Chemistry

Chemistry. Which does not describe a reaction at equilibrium? (Numbered "2." in the scan, a misprint for 62.)

- A. Forward and backward reactions occur at an equal rate
- B. The system must be closed
- C. Kc increases as the reaction progresses ✓ **Correct answer**
- D. Concentrations of reactants and products are constant

A. Wrong: at equilibrium the forward and backward rates are equal — this does describe equilibrium

B. Wrong: equilibrium needs a closed system — this does describe equilibrium

C. Correct: Kc is constant at a given temperature; it does not increase as the reaction progresses — this does not describe equilibrium

equilibrium the concentrations stay constant — this does describe equilibrium

Question 63 Chemistry

Chemistry. Which statement does not describe a property of a weak acid in solution?

- A. It forms a salt with sodium hydroxide
- B. It has a pH of between 8 and 9 ✓ **Correct answer**
- C. It is only partly dissociated into ions
- D. It reacts with sodium carbonate to give off carbon dioxide

A. Wrong: a weak acid does form a salt with sodium hydroxide

B. Correct: a weak acid has a pH below 7, not between 8 and 9 — this does not describe a weak acid

C. Wrong: a weak acid is only partly dissociated into ions

D. Wrong: a weak acid does react with sodium carbonate to give off carbon dioxide

Question 64 Chemistry

Chemistry. Which row describes the type of bonding present in substances 1 and 2? (The table in the scan names the substances inside the rows: Substance 1 is potassium chloride and Substance 2 is methane in the correct row.)

- A. Substance 1: Methane has ionic bonding; Substance 2: Graphite has covalent bonding
- B. Substance 1: Graphite has ionic bonding; Substance 2: Chloride has covalent bonding
- C. Substance 1: Potassium chloride has ionic bonding; Substance 2: Methane has covalent bonding ✓ **Correct answer**
- D. Substance 1: Potassium chloride has ionic bonding; Substance 2: Graphite has ionic bonding

ethane has covalent bonding, not ionic, and graphite has covalent bonding, not as stated here

B. Wrong: graphite has covalent bonding, not ionic

C. Correct: potassium chloride has ionic bonding and methane has covalent bonding

D. Wrong: graphite has covalent bonding, not ionic bonding

Question 65 Physics

Physics. Which of the following is the rate of change of velocity?

- A. Displacement
- B. Speed
- C. Acceleration ✓ **Correct answer**
- D. Momentum

A. Wrong: displacement is change of position, not rate of change of velocity

B. Wrong: speed is the rate of change of distance, not of velocity

C. Correct: acceleration is the rate of change of velocity

D. Wrong: momentum is mass times velocity, not the rate of change of velocity

Question 66 Physics

Physics. Boyle's law states that at constant temperature:

- A. P proportional to V
- B. PV = constant ✓ **Correct answer**
- C. P proportional to T
- D. V proportional to T

A. Wrong: at constant temperature pressure is inversely proportional to volume, not directly proportional

oyle's law: at constant temperature, PV = constant

C. Wrong: P proportional to T is pressure law (Gay-Lussac), not Boyle's law

D. Wrong: V proportional to T is Charles's law, not Boyle's law

Question 67 Physics

Physics. The velocity of sound is maximum in:

- A. Air
- B. Water
- C. Steel ✓ **Correct answer**
- D. Vacuum

A. Wrong: sound travels slower in air than in water or steel

B. Wrong: sound travels faster in water than in air, but slower than in steel

C. Correct: sound travels fastest in steel, a solid

D. Wrong: sound cannot travel in a vacuum at all

Question 68 Physics

Physics. A body of mass 0.5 kg moving with a velocity of 4 m/s has momentum equal to:

- A. 1.0 Ns
- B. 1.5 Ns
- C. 2.0 Ns ✓ **Correct answer**
- D. 2.5 Ns

A. Wrong: 0.5 x 4 = 2.0, not 1.0

B. Wrong: 0.5 x 4 = 2.0, not 1.5

C. Correct: momentum = mass x velocity = 0.5 x 4 = 2.0 Ns

Question 69 Physics

Physics. The speed of sound in air at room temperature is approximately:

- A. 200 m/s
- B. 300 m/s
- C. 340 m/s ✓ **Correct answer**
- D. 400 m/s

A. Wrong: 200 m/s is well below the speed of sound in air

B. Wrong: 300 m/s is below the speed of sound in air at room temperature

C. Correct: the speed of sound in air at room temperature is about 340 m/s

D. Wrong: 400 m/s is above the speed of sound in air at room temperature

Question 70 Physics

Physics. If two similar capacitors of 4 microF each are connected in series, the equivalent capacitance is:

- A. 2 microF ✓ **Correct answer**
- B. 10 microF
- C. 24 microF
- D. 1 microF

A. Correct: in series, 1/C = 1/4 + 1/4 = 1/2, so C = 2 microF

B. Wrong: 10 microF does not follow from the series formula

C. Wrong: 24 microF does not follow from the series formula

D. Wrong: 1 microF does not follow from the series formula

71 Physics

Physics. The binary addition of two high bits results:

- A. 11
- B. 01
- C. 00
- D. 10 ✓ **Correct answer**

A. Wrong: 1 + 1 in binary is 10, not 11

B. Wrong: 1 + 1 in binary is 10, not 01

C. Wrong: 1 + 1 in binary is 10, not 00

D. Correct: adding two high bits (1 + 1) gives 10 in binary

Question 72 Physics

Physics. According to Rutherford's model, most of the mass of an atom is concentrated in:

- A. Electrons
- B. Proton cloud
- C. Nucleus ✓ **Correct answer**
- D. Orbitals

A. Wrong: electrons carry almost no mass

B. Wrong: there is no "proton cloud" in Rutherford's model

C. Correct: in Rutherford's model almost all the mass of the atom is concentrated in the tiny nucleus

D. Wrong: orbitals belong to the later quantum model, not to Rutherford's

73 Physics

Physics. The energy possessed by a body due to its motion is:

- A. Potential energy
- B. Kinetic energy ✓ **Correct answer**
- C. Thermal energy
- D. Work done

A. Wrong: potential energy is energy due to position, not motion

B. Correct: the energy a body has because it is moving is kinetic energy

C. Wrong: thermal energy is energy due to temperature, not motion

D. Wrong: work done is energy transferred, not the energy of motion itself

Question 74 Physics

Physics. At what temperature reading do the Fahrenheit and the Celsius temperature scales coincide?

- A. Zero degrees
- B. 100 degrees
- C. 40 degrees
- D. - 40 degrees ✓ **Correct answer**

A. Wrong: 0 degrees Celsius is 32 degrees Fahrenheit, not the same reading

B. Wrong: 100 degrees Celsius is 212 degrees Fahrenheit, not the same reading

C. Wrong: 40 degrees Celsius is 104 degrees Fahrenheit, not the same reading

D. Correct: the Celsius and Fahrenheit scales coincide at -40 degrees

75 Physics

Physics. According to Bohr's model, electrons revolve in:

- A. Elliptical orbits
- B. Stationary circular orbits ✓ **Correct answer**
- C. Random motion
- D. Spiral paths

A. Wrong: elliptical orbits belong to Sommerfeld's extension, not to Bohr's model

B. Correct: in Bohr's model electrons revolve in stationary circular orbits

C. Wrong: random motion is not Bohr's model

D. Wrong: spiral paths would make the electron fall into the nucleus, which Bohr's model forbids

Question 76 Physics

Physics. A telescope uses:

- A. Two convex lenses ✓ **Correct answer**
- B. Two concave lenses
- C. One convex and one concave lens
- D. A combination of a prism and a lens

A. Correct: a refracting telescope uses two convex lenses — an objective and an eyepiece

B. Wrong: two concave lenses do not make a telescope

C. Wrong: one convex and one concave lens is a Galilean arrangement, not the standard telescope of this item

D. Wrong: a prism and a lens is not what a telescope uses

77 Mathematics

Mathematics. The smallest number which is divisible by all the given numbers is called:

- A. Factor
- B. Multiple
- C. HCF
- D. LCM ✓ **Correct answer**

A. Wrong: a factor divides a number, it is not the smallest number divisible by all of them

B. Wrong: a multiple is any number divisible by a given number, not the smallest one divisible by all

C. Wrong: the HCF is the greatest number that divides all of them, not the smallest divisible by all

D. Correct: the smallest number divisible by all the given numbers is the LCM

Question 78 Mathematics

Mathematics. If a pizza is divided into 10 equal slices and you eat 4 slices, the percentage of the pizza you did not eat is:

- A. 20%
- B. 30%
- C. 40%
- D. 60% ✓ **Correct answer**

A. Wrong: 6 slices are left, which is 60%, not 20%

B. Wrong: 6 slices are left, which is 60%, not 30%

C. Wrong: 4 slices eaten is 40%; the question asks for the part not eaten

D. Correct: 10 - 4 = 6 slices are left, and 6/10 = 60%

79 Mathematics

Mathematics. 20% of the price of a book is 120. The total price is:

- A. 600 ✓ **Correct answer**
- B. 720
- C. 1200
- D. 480

A. Correct: if 20% is 120, the whole price is 120 / 0.20 = 600

B. Wrong: 720 is 120% of 600, not the total price

C. Wrong: 1200 would make 20% equal to 240, not 120

D. Wrong: 480 would make 20% equal to 96, not 120

Question 80 Mathematics

Mathematics. In a bag, the ratio of red to blue marbles is 3:2. If there are 21 red marbles, then blue marbles are:

- A. 7
- B. 14 ✓ **Correct answer**
- C. 21
- D. 28

A. Wrong: 21 red marbles are 3 parts, so one part is 7, and blue is 2 parts = 14, not 7

B. Correct: one part is 21/3 = 7, so blue marbles (2 parts) are 14

C. Wrong: 21 is the number of red marbles, not blue

D. Wrong: 28 would be 4 parts, not 2

Mathematics. The price of sugar is 100% more than the price of wheat. The ratio of their prices is:

- A. 1:2
- B. 2:1 ✓ **Correct answer**
- C. 1:3
- D. 3:1

A. Wrong: 1:2 would make sugar cheaper than wheat, the reverse of the statement

B. Correct: 100% more means sugar costs twice the wheat price, so sugar : wheat = 2:1

C. Wrong: 1:3 would make sugar a third of the wheat price

D. Wrong: 3:1 would make sugar three times the wheat price, not twice

Question 82 Mathematics

Mathematics. The sum of the ages of Saeed and his son is 60. If Saeed's age is double his son's age, then Saeed's age is:

- A. 30
- B. 40 ✓ **Correct answer**
- C. 45
- D. 33.33

A. Wrong: if Saeed were 30, his son would be 30 too, not half his age

B. Correct: son = x, Saeed = 2x, 3x = 60, x = 20, so Saeed is 40

C. Wrong: if Saeed were 45, his son would be 15, and the sum would be 60 — but 45 is not double 15

D. Wrong: 33.33 does not satisfy the double-age condition with a sum of 60

Mathematics. The endpoints of the diameter of a circle are A(-5, 6) and B(3, -4). The centre of the circle is located at:

- A. (1, -1)
- B. (-1, 1) ✓ **Correct answer**
- C. (-2, 2)
- D. (2, -2)

A. Wrong: the midpoint is ((-5+3)/2, (6-4)/2) = (-1, 1), not (1, -1)

B. Correct: the centre is the midpoint of the diameter: ((-5+3)/2, (6-4)/2) = (-1, 1)

C. Wrong: (-2, 2) is not the midpoint of (-5, 6) and (3, -4)

D. Wrong: (2, -2) is not the midpoint of (-5, 6) and (3, -4)

Question 84 Mathematics

Mathematics. The distance around a 2-dimensional closed shape is called:

- A. Diameter
- B. Perimeter ✓ **Correct answer**
- C. Area
- D. Surface Area

A. Wrong: the diameter is the distance across a circle, not around a shape

B. Correct: the distance around a 2-dimensional closed shape is its perimeter

C. Wrong: area is the space inside a shape, not the distance around it

D. Wrong: surface area is the area of a 3-dimensional object's surface

85 Mathematics

Mathematics. The interest is equal to the product of principal, rate and time is called:

- A. Simple ✓ **Correct answer**
- B. Compound
- C. Continuous
- D. Discrete

A. Correct: interest = principal x rate x time is simple interest

B. Wrong: compound interest is charged on principal plus accumulated interest, not by this product alone

C. Wrong: continuous interest uses exponential growth, not this product

D. Wrong: discrete interest is not the name for this product

Question 86 Mathematics

Mathematics. A sentence having one or more unknowns is called:

- A. True Sentence
- B. False Sentence
- C. Open Sentence ✓ **Correct answer**
- D. Closed Sentence

A. Wrong: a true sentence has a definite true value, not an unknown

B. Wrong: a false sentence has a definite false value, not an unknown

C. Correct: a sentence with one or more unknowns (variables) is an open sentence

D. Wrong: a closed sentence has no unknowns

Mathematics. Two events with equal chances of happening are called:

- A. Simple events
- B. Disjoint events
- C. Equally likely events ✓ **Correct answer**
- D. Equal events

A. Wrong: a simple event has a single outcome, not necessarily an equal chance

B. Wrong: disjoint events cannot happen together; that is not about equal chances

C. Correct: two events with equal chances of happening are equally likely events

D. Wrong: "equal events" is not the standard term

Question 88 Mathematics

Mathematics. The average income of one group of 6 persons is Rs. 50,000, and the average of another group of 4 persons is Rs. 75,000. The total income of:

- A. 1st group is greater than the 2nd
- B. 2nd group is greater than the 1st
- C. 1st & 2nd groups are same ✓ **Correct answer**
- D. 1st group is half of the 2nd group

A. Wrong: the 1st group's total is 6 x 50,000 = 300,000, the same as the 2nd group's

B. Wrong: the 2nd group's total is 4 x 75,000 = 300,000, the same as the 1st group's

C. Correct: 6 x 50,000 = 300,000 and 4 x 75,000 = 300,000 — the two totals are the same

D. Wrong: the 1st group's total is 300,000, not half of the 2nd group's 300,000

89 Computer

Computer. Which of the following is not a web design tool?

- A. WordPress
- B. Figma
- C. Wix
- D. Oracle ✓ **Correct answer**

A. Wrong: WordPress is used to build and design websites

B. Wrong: Figma is a web design tool

C. Wrong: Wix is a web design tool

D. Correct: Oracle is a database company, not a web design tool

Question 90 Computer

Computer. Open System Interconnection (OSI) model is a conceptual model with _____ layers.

- A. 5
- B. 7 ✓ **Correct answer**
- C. 4
- D. 6

A. Wrong: the OSI model does not have 5 layers

B. Correct: the OSI model has 7 layers

C. Wrong: the OSI model does not have 4 layers (that is the TCP/IP model)

D. Wrong: the OSI model does not have 6 layers

Computer. If you want to create a field to store a person's address in a table, which data type should you use?

- A. Integer
- B. String ✓ **Correct answer**
- C. Character
- D. Floating point

A. Wrong: an integer stores whole numbers, not an address

B. Correct: an address is text, so the string data type is used

C. Wrong: a character stores a single character, not a whole address

D. Wrong: a floating point stores decimal numbers, not an address

Question 92 Computer

Computer. Which of the following options is a branch of Artificial Intelligence (AI)?

- A. Programming
- B. Machine learning ✓ **Correct answer**
- C. Deep thinking
- D. Microprocessors

A. Wrong: programming is a general activity, not a branch of AI

B. Correct: machine learning is a branch of Artificial Intelligence

C. Wrong: "deep thinking" is not a branch of AI

D. Wrong: microprocessors are hardware, not a branch of AI

93 Computer

Computer. Among the following, which one is not a function of an operating system:

- A. Booting
- B. Memory management
- C. I/O management
- D. Text editing ✓ **Correct answer**

A. Wrong: booting is a function of an operating system

B. Wrong: memory management is a function of an operating system

C. Wrong: I/O management is a function of an operating system

D. Correct: text editing is done by an application, not by the operating system

Question 94 Computer

Computer. To use a spreadsheet, we use _____ software.

- A. MS PowerPoint
- B. MS Word
- C. MS Access
- D. MS Excel ✓ **Correct answer**

A. Wrong: MS PowerPoint is presentation software, not a spreadsheet

B. Wrong: MS Word is word processing software, not a spreadsheet

C. Wrong: MS Access is database software, not a spreadsheet

D. Correct: MS Excel is the spreadsheet software

Question 95 Computer

Computer. Which one of the following could be a line of code from Machine Language

ng?

- A. print("Hello world")
- B. cout<<"Hello world"
- C. Move 1, A
- D. 1010111011101111 ✓ **Correct answer**

A. Wrong: print("Hello world") is a high-level language statement, not machine language

B. Wrong: cout<<"Hello world" is C++ code, not machine language

C. Wrong: "Move 1, A" is assembly-style code, not machine language

D. Correct: machine language is written in binary — 1010111011101111 is a machine-language line

Question 96 Computer

Computer. Select an option of a user interface that is more user-friendly than the other provided options:

- A. MS DOS
- B. Apple DOS
- C. GUI ✓ **Correct answer**
- D. Linux terminal

A. Wrong: MS DOS is a command-line interface, harder to use than a GUI

B. Wrong: Apple DOS is a command-line interface, harder to use than a GUI

C. Correct: a graphical user interface (GUI) is more user-friendly than command-line interfaces

D. Wrong: a Linux terminal is a command-line interface, harder to use than a GUI

97 Computer

Computer. To uniquely identify a record in a table we need a _____ key.

- A. Foreign key
- B. Composite key
- C. Primary key ✓ **Correct answer**
- D. Table key

A. Wrong: a foreign key links tables, it does not uniquely identify a record in its own table

B. Wrong: a composite key uses more than one column; the standard single answer is the primary key

C. Correct: a primary key uniquely identifies each record in a table

D. Wrong: "table key" is not the standard term

Question 98 Computer

Computer. From the following options, which computing device belongs to the first generation of computers:

- A. IBM 7094
- B. Electronic Numerical Integrator and Calculator (ENIAC) ✓ **Correct answer**
- C. IBM 1401
- D. Intel Pentium-I

A. Wrong: the IBM 7094 is a second-generation computer

B. Correct: ENIAC, built in 1945, belongs to the first generation of computers

C. Wrong: the IBM 1401 is a second-generation computer

D. Wrong: the Intel Pentium-I is a much later (fifth-generation-era) processor

99 Computer

Computer. If you are asked to classify computers based on their size, which of the following options correctly represents this classification:

- A. Analog, Digital, Hybrid
- B. General purpose, Special purpose
- C. Mainframe, mini frame, supercomputer, microcomputer ✓ **Correct answer**
- D. Core2, Core2 duo, Core i3

A. Wrong: analog, digital and hybrid classify computers by type of data, not by size

B. Wrong: general purpose and special purpose classify computers by purpose, not by size

C. Correct: mainframe, mini frame, supercomputer and microcomputer is the classification by size

D. Wrong: Core2, Core2 duo and Core i3 are processor models, not a size classification

Question 100 Computer

Computer. Among the following options, which are the five main components of a communication system:

- A. Message, sender, receiver, medium, protocol ✓ **Correct answer**
- B. Message, sender, receiver, network, wire
- C. Sender, receiver, protocol, signal, computer
- D. Sender, receiver, wire, signal, computer

A. Correct: the five main components of a communication system are message, sender, receiver, medium and protocol

B. Wrong: network and wire are not among the five main components

C. Wrong: this list omits the message and the medium

D. Wrong: this list omits the message, the medium and the protocol

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