AP DEECET 2024 Question Paper with Solutions

Time Allowed :2.5 Hours	Maximum Marks :100	Total Questions :100

General Instructions

Read the following instructions very carefully and strictly follow them:

1. The test duration is 2.5 hours.
2. The question paper contains 100 questions. Answer them on the provided Answer Sheet.

1. To explain for students of Andhra Pradesh about Sahara desert, the suitable teaching material suggested by you is

(1) Textbook

(2) Blackboard

(3) Library

(4) Interactive Flat Panel

Correct Answer: (4) Interactive Flat Panel

Solution: Explaining a geographical feature like the Sahara desert, especially to students who may not have direct experience with such an environment, benefits greatly from rich visual and interactive content. - Textbook: Provides information but may lack dynamic visuals or interactivity. - Blackboard: Useful for diagrams and notes, but limited in displaying rich media like images, videos, or maps of the Sahara. - Library: A resource for books and materials, but not a direct teaching material for in-class explanation in this context. - Interactive Flat Panel (IFP): This technology allows for the display of high-quality images, videos, interactive maps, virtual tours, and integration of online resources about the Sahara desert. It can show its vastness, climate, flora, fauna, and human life, making the learning experience more engaging, immersive, and effective than static methods. Students can also interact with the content.

Therefore, an Interactive Flat Panel is the most suitable teaching material among the options for explaining the Sahara desert effectively.

Quick Tip

When selecting teaching materials: - Consider the nature of the topic: Abstract concepts might need different aids than concrete or distant geographical locations. - Aim for engagement: Interactive and visual aids often enhance understanding and retention. - Accessibility and resources: Choose materials available and appropriate for the learning environment. - Interactive Flat Panels (IFPs) offer versatility by integrating multimedia, internet access, and interactive tools, making them highly effective for diverse topics.

2. To improve language competencies of children, teacher has to utilize this effectively

(1) Competitive exams

(2) Laboratory

(3) Play ground

(4) Library

Correct Answer: (4) Library

Solution: Improving language competencies involves developing skills in reading, writing, listening, and speaking. - Competitive exams: Primarily for assessment, not a direct tool for effective utilization by a teacher to improve competencies on a daily basis, though they can motivate. - Laboratory: Typically associated with science subjects for experiments, not directly for language competency development, unless it's a language lab (which is a specialized form of resource). - Play ground: Important for physical development and social skills, can offer informal language use, but not a structured resource a teacher "utilizes effectively" for targeted language competency improvement. - Library: A library is a rich resource of books, magazines, and other reading materials. Effective utilization of a library by a teacher involves encouraging reading habits, providing access to diverse texts, storytelling sessions, book discussions, etc. These activities directly contribute to vocabulary building, comprehension, an understanding of grammar and sentence structure, and fostering a love for language. Therefore, a library is the most suitable resource among the options for a teacher to utilize effectively to improve language competencies of children.

Quick Tip

Strategies to improve language competencies: - Encourage extensive reading (facilitated by a library). - Provide opportunities for speaking and listening (discussions, debates, storytelling). - Engage students in writing activities. - Use a variety of texts and media. - Create a language-rich environment. A library serves as a cornerstone for fostering reading habits and providing diverse language exposure.

3. A student asked to read words on the board, he just stared at the board silently, then you will

(1) inform his parents

(2) scold him

(3) asked him to repeat after me

(4) know about vision defects if any

Correct Answer: (4) know about vision defects if any

Solution: When a student is asked to read from the board and instead stares silently, it could indicate several issues. A teacher's response should be diagnostic and supportive rather than punitive or immediately escalating. - (1) inform his parents: This might be a necessary step later, but it's not the immediate diagnostic action. - (2) scold him: This is a negative and unhelpful response that doesn't address the potential underlying problem. - (3) asked him to repeat after me: This might help if the issue is word recognition or pronunciation, but if the student cannot see the words, it won't solve the root cause. - (4) know about vision defects if any: Staring silently at the board could be a strong indicator that the student is unable to see the words clearly due to a vision problem (e.g., myopia/nearsightedness). This is a common issue, and as a first step, investigating potential physical barriers to learning like vision defects is crucial. Therefore, the most appropriate initial response is to try and understand if there's a vision defect. This could involve asking the student if they can see clearly, observing their behavior (squinting, sitting very close/far), and then, if needed, suggesting a vision check (which would involve parents).

Quick Tip

When a student struggles with a task: 1. Consider potential physical or sensory barriers first (e.g., vision, hearing). 2. Avoid punitive measures; aim for a supportive and diagnostic approach. 3. Observe the student's behavior for clues. 4. If a physical issue is suspected, appropriate referrals (e.g., to parents for a vision/hearing check) are necessary. Addressing underlying difficulties is key to effective teaching.

4. As a teacher you have to follow this strategy to make children solve mathematics problems firstly

(1) working problems

(2) oral maths

(3) reading tables

(4) dictation

Correct Answer: (2) oral maths

Solution: The question asks for a strategy to make children solve mathematics problems ”firstly,” implying foundational or initial approaches to build confidence and understanding before moving to more complex written problems. - (1) working problems: This refers to solving written problems, which is usually a later stage after foundational understanding is built. - (2) oral maths: Engaging in oral mathematics (mental math, verbal problem-solving, quick recall of facts) helps build number sense, quick thinking, and understanding of basic operations without the immediate pressure of written calculations. It can make mathematics more accessible and less intimidating initially. - (3) reading tables: Memorizing and reciting multiplication tables is a part of mathematical skills, but ”reading tables” by itself might not be the primary strategy to start solving problems. It’s a tool. - (4) dictation: While math problem dictation can be an activity, it’s more about transcribing than the initial engagement with problem-solving concepts.

Oral maths (mental math, verbal problem solving) is an excellent strategy to introduce children to mathematical problem-solving. It helps them to think about numbers and operations in a flexible way, builds confidence, and prepares them for more formal written problem-solving. It can make the initial engagement with mathematics more interactive and less dependent on just written skills. If ”firstly” means the very first approach to math, oral math is often highly recommended.

Quick Tip

Effective strategies for teaching mathematics problem-solving, especially at initial stages: - Start with concrete and oral activities before abstract written work. - Build number sense and mental math skills. - Use real-life contexts and manipulatives. - Encourage discussion and verbalization of thought processes. - Gradual progression from simple oral problems to more complex written ones.

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5. Present assessment process in the schools of our State is

(1) Examination system

(2) Book based assessment

(3) Continuous Comprehensive Evaluation

(4) Self evaluation

Correct Answer: (3) Continuous Comprehensive Evaluation

Solution: The question asks about the "present assessment process in the schools of our State." While this is context-dependent on the specific state and time, major educational reforms in India, particularly following the Right to Education Act (2009) and policies by NCERT/CBSE, have emphasized Continuous and Comprehensive Evaluation (CCE). - (1) Examination system: This refers to traditional summative exams, which are part of assessment but CCE aims to make assessment more holistic. - (2) Book based assessment: This is too narrow; assessment should cover more than just textbook knowledge. - (3) Continuous Comprehensive Evaluation (CCE): This system aims to evaluate all aspects of a student's development on a continuous basis throughout the academic year, rather than just through year-end examinations. It includes both scholastic (subject-specific) and co-scholastic (life skills, attitudes, values, etc.) aspects, using a variety of assessment tools and techniques (formative and summative). - (4) Self evaluation: This is a component of good assessment practices and CCE, but it's not the entire "process."

CCE was widely implemented, although its exact form and extent might vary. Given the options, CCE represents the modern, holistic approach to assessment emphasized

in Indian education policy for schools. The question asks for the "present assessment process," implying the overarching system.

Quick Tip

- Continuous and Comprehensive Evaluation (CCE): An education system aimed at holistic assessment of a student. - Continuous: Evaluation is an ongoing process throughout the academic term, not just at the end. - Comprehensive: Covers both scholastic (curricular subjects) and co-scholastic (life skills, attitudes, values, sports, arts) areas of student development. - Uses various assessment tools: formative assessments (quizzes, projects, assignments, observations) and summative assessments (term-end exams). - The goal is to reduce exam stress and make evaluation a tool for improving teaching and learning.

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6. Radio was invented by

(1) David Bushnel

(2) J. C. Preier (3) Graham Bell

(4) Marconi

Correct Answer: (4) Marconi

Solution: The invention of the radio is a complex history with contributions from many scientists and inventors. However, Guglielmo Marconi is widely credited with developing and commercializing the first practical radiotelegraph system and is often referred to as the "father of radio." He conducted pioneering experiments in wireless telegraphy in the late 19th and early 20th centuries, including the first transatlantic radio transmission in 1901.

Other individuals mentioned or potentially relevant: - David Bushnell: An American inventor known for creating the first submarine used in combat ("Turtle") during the American Revolutionary War. Not primarily known for radio. - J. C. Preier: This name is not immediately recognizable as a key figure in radio invention; it might be a misspelling or a less prominent contributor. Key figures include Heinrich Hertz (demonstrated existence of electromagnetic waves), Nikola Tesla (contributions to

radio technology, coils, and transmission), Alexander Popov (early radio receiver experiments), and Reginald Fessenden (early voice transmission). - Alexander Graham Bell: Primarily known for inventing the telephone.
Given the options, Guglielmo Marconi is the most appropriate answer for the invention of radio in the context of a practical communication system.

Quick Tip

Key figures associated with the development of radio: - James Clerk Maxwell: Theorized electromagnetic waves (1860s). - Heinrich Hertz: Experimentally demonstrated electromagnetic waves (1880s). - Guglielmo Marconi: Developed practical wireless telegraphy systems (radio); awarded Nobel Prize in Physics 1909 (shared with Karl Ferdinand Braun) for contributions to wireless telegraphy. - Nikola Tesla: Significant contributions to AC power systems and radio technology (patents related to radio transmission). - Reginald Fessenden: Pioneer in radio broadcasting, including early voice and music transmissions.

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7. Nobel Peace prize winner for the year 2023 is
(1) Jon Fosse
(2) Pierre Agostini
(3) Frank Krausz
(4) Narges Mohammadi

Correct Answer: (4) Narges Mohammadi

Solution: The Nobel Peace Prize for the year 2023 was awarded to Narges Mohammadi. She is an Iranian human rights activist and vice president of the Defenders of Human Rights Center (DHRC). She was awarded the prize "for her fight against the oppression of women in Iran and her fight to promote human rights and freedom for all."
Let's look at the other names (they were Nobel laureates in 2023 but in different categories): - Jon Fosse: Awarded the Nobel Prize in Literature 2023 "for his innovative plays and prose which give voice to the unsayable." - Pierre Agostini, Ferenc

Krausz (Frank Krausz in option), and Anne L'Huillier: Jointly awarded the Nobel Prize in Physics 2023 "for experimental methods that generate attosecond pulses of light for the study of electron dynamics in matter."
Therefore, the Nobel Peace Prize winner for 2023 is Narges Mohammadi.

Quick Tip

Nobel Prizes 2023 - Key Winners: - Peace: Narges Mohammadi - Literature: Jon Fosse - Physics: Pierre Agostini, Ferenc Krausz, Anne L'Huillier - Chemistry: Moungi G. Bawendi, Louis E. Brus, Alexei I. Ekimov (for quantum dots) - Physiology or Medicine: Katalin Karikó, Drew Weissman (for mRNA vaccine technology) - Economic Sciences: Claudia Goldin (for research on women in the labor market)

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8. Highest Dam in India is
(1) Telri (2) Hirakud
(3) Kallanai
(4) Nagarjunasagar

Correct Answer: (1) Tehri Dam

Solution: The highest dam in India is the Tehri Dam. - Tehri Dam: Located on the Bhagirathi River in Uttarakhand. It is an earth and rock-fill dam with a height of 260.5 meters (855 ft). It is the tallest dam in India and one of the tallest in the world. Other dams mentioned: - Hirakud Dam: Built across the Mahanadi River in Odisha. It is one of the longest earthen dams in the world (main dam length over 4.8 km, entire dam over 25 km). Its height is about 61 meters. - Kallanai Dam (Grand Anicut): An ancient dam built on the Kaveri River in Tamil Nadu. It is one of the oldest water-diversion or water-regulator structures in the world still in use. Not known for its height in the modern context of "highest dam." - Nagarjuna Sagar Dam: Built across the Krishna River in Telangana/Andhra Pradesh. It is one of the largest masonry dams in the world, with a height of about 124 meters.
Therefore, the Tehri Dam is the highest dam in India. Option (1) "Telri" is a common misspelling for Tehri.

Quick Tip

Key Dams in India: - Highest Dam: Tehri Dam (Uttarakhand), on Bhagirathi River. Height: 260.5 m. - Longest Dam (earthen): Hirakud Dam (Odisha), on Mahanadi River. - Largest Masonry Dam (by storage capacity/length): Nagarjuna Sagar Dam (Telangana/Andhra Pradesh), on Krishna River. - Oldest Dam (still in use): Kallanai Dam (Tamil Nadu), on Kaveri River.

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9. 'No points' in tennis game is called as

(1) moon ball

(2) love

(3) dead rubber

(4) dink

Correct Answer: (2) love

Solution: In the scoring system of a tennis game: - 0 points is called "Love". - 1st point is "15". - 2nd point is "30". - 3rd point is "40". - 4th point wins the game (if the player is at least two points ahead). If the score is tied at 40-40, it's called "Deuce." Other terms: - Moon ball: A type of tennis shot hit high and deep into the opponent's court, often with topspin. - Dead rubber: In team competitions (like Davis Cup or Fed Cup), a match played after the overall outcome of the tie has already been decided. It has no bearing on the final result of the team competition. - Dink: A soft shot in tennis (and other racquet sports like pickleball) that drops just over the net. Therefore, 'no points' in a tennis game is called "Love".

Quick Tip

Tennis Scoring in a Game: - 0 points = Love - 1 point = 15 - 2 points = 30 - 3 points = 40 - 40-40 = Deuce - Point after Deuce = Advantage (Ad-in for server, Ad-out for receiver) - Next point after Advantage wins the game. The origin of "love" for zero is debated, possibly from the French "l'œuf" (egg, for its shape like zero) or the English phrase "playing for love" (i.e., for no stakes).

10. Japan currency is called as

(1) Dinar

(2) Euro

(3) Yen

(4) Taka

Correct Answer: (3) Yen

Solution: The official currency of Japan is the Japanese Yen. Its symbol is ¥, and its ISO code is JPY.

Other currencies listed: - Dinar: Currency used in several countries, mainly in the Middle East and North Africa (e.g., Kuwaiti Dinar, Iraqi Dinar, Serbian Dinar). - Euro (€, EUR): The official currency of the Eurozone, which consists of 20 of the 27 member states of the European Union. - Taka (, BDT): The official currency of Bangladesh.

Therefore, the currency of Japan is the Yen.

Quick Tip

Common Currencies: - Japan: Yen (JPY, ¥) - USA: Dollar (USD, $) - Eurozone (e.g., Germany, France, Italy): Euro (EUR, €) - United Kingdom: Pound Sterling (GBP, £) - China: Renminbi (Yuan) (CNY, ¥/) - India: Rupee (INR,) - Bangladesh: Taka (BDT,) - Many Arab countries: Dinar or Riyal/Rial.

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11. A : When _____ to Chennai? B : Yesterday.

(1) does he went

(2) does he go

(3) do he go

(4) did he go

Correct Answer: (4) did he go

Solution: The response "B: Yesterday" indicates that the event happened in the past. Therefore, the question must be in the past tense. Let's analyze the options for

forming a question in the simple past tense: - The auxiliary verb for simple past tense questions (if no other auxiliary is present like 'was'/'were') is "did". - When "did" is used, the main verb remains in its base form (infinitive without "to").
Option analysis: (1) "does he went": "does" is present tense auxiliary, "went" is past tense main verb. Incorrect structure. (2) "does he go": "does" is present tense auxiliary, "go" is base form. Correct for simple present question, but the answer "Yesterday" requires past tense. (3) "do he go": "do" is used with I/you/we/they. For "he/she/it", "does" is used in present. Also, this is present tense. (4) "did he go": "did" is past tense auxiliary, "go" is base form of the main verb. This is the correct structure for a simple past tense question.
The complete exchange: A: When did he go to Chennai? B: Yesterday. This is grammatically correct and contextually appropriate.

Quick Tip

Forming questions in Simple Past Tense (with action verbs): - Structure: Did + subject + base form of verb + ...? Example: "Did you eat?" (NOT "Did you ate?") - The auxiliary "did" carries the past tense information, so the main verb stays in its base form. - For questions with "be" verb (was/were), "did" is not used: "Was he there?"

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12. Identify the sentence in passive voice
(1) My parents regard as an ideal couple.
(2) I asked him to go.
(3) Problems have to be confronted.
(4) The tree was striking by lightning.

Correct Answer: (3) Problems have to be confronted.

Solution: Passive voice is formed using a form of the verb "to be" + past participle of the main verb. The subject of the passive sentence is the recipient of the action.
Let's analyze the options: (1) "My parents regard as an ideal couple." - This sentence is grammatically awkward as written. If it meant "My parents regard [them] as an

ideal couple," it's active voice (subject "My parents" performs the action "regard"). If it meant "[They] are regarded by my parents as an ideal couple," it would be passive. As written, it's active but incomplete.

(2) "I asked him to go." - Active voice. Subject "I" performs the action "asked."

(3) "Problems have to be confronted." - Passive voice. - "to be confronted" consists of "to be" + past participle "confronted". - The subject "Problems" is the recipient of the action of confronting. The agent doing the confronting is not specified (or implied as "by us" or "by people"). - The active equivalent would be something like "We/People have to confront problems."

(4) "The tree was striking by lightning." - This should be "The tree was struck by lightning" to be grammatically correct passive voice. "was struck" is "be" (past tense) + past participle "struck". If corrected, it would be passive. As written "was striking", it's active past continuous (if it made sense, e.g., "The tree was striking a pose").

Considering the options as given, option (3) is a clear and grammatically correct sentence in the passive voice.

Quick Tip

Passive Voice Structure: Subject + form of "to be" + Past Participle (V3) (+ by + agent). - The subject of a passive sentence receives the action of the verb. - Active: The dog chased the cat. (Dog = agent, chased = verb, cat = recipient) - Passive: The cat was chased by the dog. (Cat = recipient, was chased = verb, dog = agent) - Modal verbs (like 'have to', 'must', 'can') can be part of passive constructions: e.g., "must be done".

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13. Identify the correct phrase from the following.

(1) A school of ships

(2) A fleet of ships

(3) A bundle of ships

(4) A pack of ships

Correct Answer: (2) A fleet of ships

Solution: This question is about collective nouns used for groups of specific things. - A school of ships: ”School” is a collective noun for fish, whales, dolphins, porpoises (e.g., a school of fish). Not used for ships. - A fleet of ships: ”Fleet” is the correct collective noun for a group of ships (especially warships, but also commercial vessels) operating together or under one command. - A bundle of ships: ”Bundle” is used for things tied or grouped together, like a bundle of sticks, a bundle of nerves, a bundle of laundry. Not used for ships. - A pack of ships: ”Pack” is used for animals like wolves, dogs, hounds (a pack of wolves), or for items grouped together for carrying (a pack of cards, a backpack). Not used for ships.
Therefore, the correct phrase is ”A fleet of ships”.

Quick Tip

Common Collective Nouns: - A fleet of ships/cars/aircraft - A flock of birds/sheep - A herd of cattle/elephants/deer - A school of fish/whales - A pride of lions - A pack of wolves/cards - A swarm of bees/insects - A bunch of grapes/keys/flowers - A gaggle of geese

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14. Don’t go to the theatre _____ Choose the option that completes the sentence above meaningfully and grammatically
(1) if you don’t want to
(2) if you want too (3) if you did not wanted to (4) if you wanting him too

Correct Answer: (1) if you don’t want to

Solution: The sentence ”Don’t go to the theatre _____” is an imperative (a command or suggestion) followed by a conditional clause. Let’s analyze the options:
(1) ”if you don’t want to”: This creates a grammatically correct and meaningful sentence: ”Don’t go to the theatre if you don’t want to.” This means: if you have no desire to go, then don’t go. The ”to” at the end is an elliptical use of the infinitive (”to go” is implied).
(2) ”if you want too”: ”Too” is an adverb meaning ”also” or ”excessively”. If it means ”if you also want [something else]”, it doesn’t fit well. If it’s a typo for ”if you want

to", then it's grammatically correct ("Don't go to the theatre if you want to [go]"). However, this expresses a contradictory idea (don't go if you want to go), which is not typical advice unless there's a specific ironic context not provided.
(3) "if you did not wanted to": Incorrect grammar. After "did not", the base form of the verb ("want") should be used: "if you did not want to". Even if corrected, "if you did not want to [go]" is past tense, while the main clause "Don't go" is present imperative. This tense mix is awkward.
(4) "if you wanting him too": Incorrect grammar ("wanting" as main verb in if-clause without auxiliary "are"). Also, "him too" doesn't logically connect to the first part of the sentence.
Option (1) "if you don't want to" is the most grammatically sound and semantically appropriate completion for the sentence.

Quick Tip

- Conditional clauses often start with "if". - Ensure verb tense consistency and correct verb forms. - After "do/does/did" (in negatives or questions), use the base form of the main verb. - Elliptical infinitives (e.g., "want to" instead of "want to go") are common when the verb is understood from context.

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15. We _____ for swimming lessons last year. Choose the word that fits the blank meaningfully

(1) have to go

(2) had to go

(3) has to go

(4) had to gone

Correct Answer: (2) had to go

Solution: The phrase "last year" indicates that the action took place in the past. We need a verb form that expresses past obligation or necessity. - (1) have to go: Present tense obligation ("We have to go now/regularly"). - (2) had to go: Past tense obligation ("We had to go yesterday/last year"). This fits the context of "last year." -

(3) has to go: Present tense obligation, singular third person (”He/She/It has to go”). Does not agree with ”We”. - (4) had to gone: Incorrect verb form. After ”had to”, the base form of the verb (”go”) is required, not the past participle (”gone”).

The correct sentence is ”We had to go for swimming lessons last year.” This indicates a past necessity or requirement to attend swimming lessons. This matches option (2).

Quick Tip

Modal-like expressions of obligation/necessity: - Present: have to / has to + base verb (e.g., ”I have to study,” ”She has to leave.”) - Past: had to + base verb (e.g., ”We had to wait.”) - Future: will have to + base verb (e.g., ”You will have to finish it.”) The phrase ”last year” clearly signals the need for a past tense construction.

16.

The first Telugu epic is

?

(1) Bharatam (Mahabharatam)

(1) ( )

(2) Ramayanam

(2)

(3) Bhagavatam

(3)

(4) Bhagavad Gita

(4)

Correct Answer: (1) Bharatam (Mahabharatam)

: (1) ( )

Solution:

The Andhra Mahabharatam, composed by Nannaya and others, is considered the first Telugu epic.

, , .

Quick Tip

- Andhra Mahabharatam is the first classical Telugu epic.
- .
- Written by the trio: Nannaya, Tikkana, Errapragada.
- : , , .

17.

Among the following, which word is always used in singular form (nitya ekavachanam)?
 ?

(1) Vadlu (Paddy grains)

(1)

(2) Pesalu (Green gram)

(2)

(3) Inumu (Iron)

(3)

(4) Kandulu (Red gram)

(4)

Correct Answer: (3) Inumu (Iron)

 : (3)

Solution:

”Inumu” (iron) is a mass noun and always used in singular form unlike the other plural grains.

” ” .

Quick Tip

- Nitya Ekavachanam means always singular nouns.
- .
- Material nouns like iron are singular.
- singular .

18.

Identify the idiom meaning 'a person who discourages' or 'a wet blanket'.

?

(1) Kaalasarpam chutta (Deadly snake coil)

(1)

(2) Gundelu teesina bantu (Heartless warrior)

(2) antu

(3) Hrudayam kariginavaadu (Compassionate person)

(3)

(4) Peeru kaaryaalavaadu (Discourager/wet blanket)

(4)

Correct Answer: (4) Peeru kaaryaalavaadu

: (4)

Solution:

"Peeru kaaryaalavaadu" refers to a person who dampens enthusiasm or discourages others.

" " .

Quick Tip

- Idioms often have figurative meanings.
- .
- "Peeru kaaryaalavaadu" idiom means spoilsport or wet blanket.

19.

What is the correct analytical phrase (vigraha vakyam) for the compound word 'bratukuteruvu' (means: means of livelihood)?

' ' ?

(1) Bratuku valana teruvu (Path because of life)

(1)

(2) Bratuku nandu teruvu (Path in life)

(2)

(3) Bratuku koraku teruvu (Path for the sake of life)

(3)

(4) Bratuku cheta teruvu (Path by life)

(4)

Correct Answer: (3) Bratuku koraku teruvu (Path for the sake of life)

: (3)

Solution:

The compound word ”bratukuteruvu” means ”means of livelihood,” and its correct analytical phrase shows a dative (purpose) relationship: ”Bratuku koraku teruvu.”

” ” ” ” , ” ” ( ).

Quick Tip

- Vigraha vakyam explains the grammatical meaning of compound words (samasa).
- .
- ”Koraku” means ”for” indicating purpose (dative case).
- ” ” ( ).

20.

Among the following, which are unaspirated consonants?

?

(1) kha, chha, tha, pha, bha

(1) , , , ,

(2) śa, ṣa, sa, ha

(2) , , ,

(3) ga, ja, ḍa, da, ba

(3) , , , ,

(4) ya, ra, la, va, ḷa

(4) , , , ,

Correct Answer: (2) śa, ṣa, sa, ha

: (2) , , ,

Solution:

Alpapranalu are consonants pronounced with less breath force, traditionally the 1st and 3rd consonants in each varga. However, śa, ṣa, sa, ha are considered sibilants/aspirates (ūṣmālu), generally mahāprāṇālu.

" " . , , , , .

Quick Tip

- Alpapranalu = unaspirated consonants.

.

- Ūṣmālu = sibilants/fricatives like , , , .

, , , , .

21.

The 'vikruti' (corrupted form) of the word " " (tyāgam) is

" " ?

(1) chāgam

(1)

(2) jāgam

(2)

(3) tyāgā

(3)

(4) chyāgam

(4)

Correct Answer: (1) chāgam

: (1)

Solution:

" " is a tatsama (Sanskrit) word, its vikruti form in Telugu is " ".

” ” tatsama , ” ”.

Quick Tip

- Prakruti = original form; vikruti = derived/native form.
- , .
- ” ” ” ” ” ”.

22.

What is the figure of speech (alankaram) in the line ” ”?

” ” ?

(1) antyānuprāsa (end rhyme)

(1)

(2) muktapada-grasta (epanadiplosis)

(2)

(3) yamakamu (repetition with different meanings)

(3)

(4) vṛttyanuprāsa (alliteration)

(4)

Correct Answer: (4) vṛttyanuprāsa

: (4)

Solution:

The line contains repeated consonant sounds ’ ’ and ’ ’, which is vṛttyanuprāsa (alliteration).

’ ’ ’ ’ .

Quick Tip

- Vṛttyanuprāsa: repetition of consonant sounds.

.

- The line ” ...” clearly shows this.

23.

What is the name of the gaṇa (metrical foot) represented by "UIU"?

" UIU " ?

(1) ya-gaṇa (U—)

(ya- : U—)

(2) ta-gaṇa (—U)

(ta- : —U)

(3) ra-gaṇa (–U–)

(ra- : –U–)

(4) ja-gaṇa (U–U)

(ja- : U–U)

Correct Answer: (3) ra-gaṇa (–U–)

 : (3) (ra- : –U–)

Solution:

"UIU" - - (–U–), - .

Quick Tip

- Gaṇa is a metrical foot of three syllables.

- .

- Laghu = short (U), Guru = long (–).

- .

- –U– = ra-gaṇa.

24.

What is the meaning of ' ' (kappa)?

' ' ?

(1) bēḍi (handcuffs/fetters)

(1)

(2) hekṭārni (a hectare)

(2)

(3) pannu (tax/tribute)

(3)

(4) angaḍi (shop/market stall)

(4)

Correct Answer: (3) pannu (tax/tribute)

: (3)

Solution:

The Telugu word ” ” (kappa) means a tribute, tax, or levy.

Option (3) ” ” (pannu) is the direct Telugu word for tax or tribute, making it the correct synonym.

Other options: ” ” means handcuffs; ” ” is a hectare; ” ” means a shop.

” ” . (3) ” ” ” ” .

Quick Tip

- ’Kappa ’ means tax or tribute.

- ’ ’ .

- ’Pannu’ is a general term for tax.

- ’ ’ .

25.

What is the literary genre/form (’prakriya’) of the lesson ”Bālachandruni Pratijña” (Balachandra’s Vow)?

” ” ?

(1) dvipada (a couplet meter)

(1)

(2) gēya (a song/lyric)

(2)

(3) vachana kavita (prose poetry)

(3)

(4) daṇḍaka (a specific rhythmic prose/verse)

(4)

Correct Answer: (1) dvipada (a couplet meter)

: (1)

Solution:

”Bālachandruni Pratijña” is part of ”Palnāti Vīracharitra,” a significant Telugu epic, written mainly in dvipada meter, a couplet form popular for narrative poetry.

” ” ” ” . .

.

Quick Tip

- ”Palnāti Vīracharitra” is a Telugu historical epic.
- .
- ”Dvipada” is a couplet meter used in Telugu narrative poetry.
- , .
- The lesson is primarily in dvipada meter.

26.

Who wrote the first Telugu social novel titled ”Rajasekhara Charitramu”?

” ” ?

(1) Gidugu Venkata Ramamurthy

(1)

(2) Gurajada Apparao

(2)

(3) Kandukuri Veeresalingam

(3)

(4) Chilakamarti Lakshminarasimham

(4)

Correct Answer: (3) Kandukuri Veeresalingam

: (3)

Solution:

”Rajasekhara Charitramu,” considered the first social novel in Telugu, was written by Kandukuri Veeresalingam Pantulu in 1878, inspired by Goldsmith’s ”The Vicar of Wakefield.”

” ” . 1878 .

Quick Tip

- Kandukuri Veeresalingam Pantulu (1848–1919) was a social reformer and writer, known as the ”Father of the Telugu Renaissance.”
- .
- ”Rajasekhara Charitramu” is his pioneering social novel.

27.

What is the type of sandhi (euphonic conjunction) in the word ” ” (grāmādhikāruḍu - village officer)?

” ” ?

(1) guṇasandhi (Guna sandhi)

(1)

(2) savarṇadīrghasandhi (Savarnadirgha sandhi)

(2)

(3) vṛddhisandhi (Vriddhi sandhi)

(3)

(4) yaṇādēśasandhi (Yanadesha sandhi)

(4)

Correct Answer: (2) savarṇadīrghasandhi

: (2)

Solution:

The word ” ” is formed by combining ” ” and ” ” where the two short ’a’ vowels combine into the long vowel ’ā’, a typical example of Savarṇadīrgha sandhi.
” ” ” ” ” ” . ’ ’ + ’ ’ .

Quick Tip

- Savarṇadīrgha Sandhi combines two similar vowels into a long vowel.
- : .
- Example: + =
- : + =

28.

What are the synonyms for ’ ’ (ēnugu - elephant)?
’ ’ ?

(1) gajamu, karivaramu
(1) ,
(2) gajamu, kuñjaramu
(2) ,
(3) gajamu, hastamu
(3) ,
(4) gajamu, karamu
(4) ,

Correct Answer: (2) gajamu, kuñjaramu
: (2) ,

Solution:
” ” means elephant.
Options (2) ” ” and ” ” are correct synonyms.
” ” means a great elephant; ” ” and ” ” refer to elephant’s trunk, not the whole animal.
” ” . (2) ” ” ” ” . ” ” . ” ” ” ” .

Quick Tip

- Common synonyms: , , , .
- : , , , .

29.

What is the first 'dr iṣṭānta śatakaṁ' (exemplary century of verses) in Telugu?

?

(1) Sumatī Śataka

(1)

(2) Nārāyaṇa Śataka

(2)

(3) Bhāskara Śataka

(3)

(4) Vēmana Śataka

(4)

Correct Answer: (3) Bhāskara Śataka

: (3)

Solution:

A " " is a poetic work of 100 verses illustrating moral or philosophical teachings. Bhāskara Śataka by Mārada Venkayya (c. 17th century) is considered the first prominent example.

" " . " " , .

Quick Tip

- A "Śataka " is about 100 verses.
- 100 .
- A "Dṛṣṭānta Śataka " uses examples in verses for moral teaching.
- .
- Bhāskara Śataka is a classic example.

30.

What is the pen name of the author of "Āndhraśabda Chintāmaṇi"?

" " ?

(1) Udayaśrī

(1)

(2) Karuṇaśrī

(2)

(3) Aruṇaśrī

(3)

(4) Vijayaśrī

(4)

Correct Answer: (2) Karuṇaśrī

: (2)

Solution:

" " is attributed to Nannaya Bhaṭṭāraka (11th century), but the pen names listed belong to the 20th-century poet Jandhyala Papayya Sastry, popularly known as " ".

" " , 20 .

" " .

Quick Tip

- "Āndhraśabda Chintāmaṇi" attributed to Nannaya.
- " " .
- "Karuṇaśrī" is Jandhyala Papayya Sastry's pen name.
- " " .

---

31. The solution for the pair of linear equations in two variables $2x + y = 10, x - y = 2$; is

(1) $x = 2, y = 4$

(2) $x = -2, y = 4$

(3) $x = 4, y = -2$

(4) $x = 4, y = 2$

Correct Answer: (4) $x = 4, y = 2$

Solution: Step 1: Write down the given pair of linear equations. Equation 1: $2x + y = 10$ Equation 2: $x - y = 2$

Step 2: Solve the system of equations. We can use the method of elimination or substitution. Using elimination: Add Equation 1 and Equation 2.

$$(2x + y) + (x - y) = 10 + 2$$

$$2x + x + y - y = 12$$

$$3x = 12$$

$$x = \frac{12}{3} = 4$$

Step 3: Substitute the value of x into one of the original equations to find y. Using Equation 2: $x - y = 2$ Substitute $x = 4$:

$$4 - y = 2$$

$$y = 4 - 2 = 2$$

So, the solution is $x = 4, y = 2$.

Step 4: Verify the solution with Equation 1. $2x + y = 10$ $2(4) + 2 = 8 + 2 = 10$. The solution is correct. This matches option (4).

Quick Tip

To solve a system of two linear equations: - Elimination Method: Add or subtract the equations (after multiplying by constants, if necessary) to eliminate one variable. - Substitution Method: Solve one equation for one variable in terms of the other, then substitute that expression into the second equation. Always verify your solution by substituting the values back into the original equations.

32. In the formula, Mode $= l + \left[\frac{f_1 - f_0}{2f_1 - f_0 - f_2}\right] \times h$, f_1 is

(1) Frequency of the modal class

(2) Frequency of the class preceding the modal class

(3) Frequency of the class succeeding the modal class

(4) Frequency of the median class

Correct Answer: (1) Frequency of the modal class

Solution: Step 1: Identify the terms in the formula for the mode of grouped data. The formula for calculating the mode of a continuous grouped frequency distribution is:

$$\text{Mode} = l + \left[\frac{f_1 - f_0}{2f_1 - f_0 - f_2}\right] \times h$$

where: - l = lower limit of the modal class. - h = size of the class interval (assuming all class sizes are equal). - f_1 = frequency of the modal class (the class with the highest frequency). - f_0 = frequency of the class preceding the modal class. - f_2 = frequency of the class succeeding the modal class.

Step 2: Match f_1 with its definition. According to the standard definition of the terms in this formula, f_1 represents the frequency of the modal class. This matches option (1).

Quick Tip

Formula for Mode of Grouped Data: Mode $= l + \left(\frac{f_1 - f_0}{2f_1 - f_0 - f_2}\right) \times h$ - l: Lower limit of modal class. - f_1: Frequency of modal class. - f_0: Frequency of class preceding modal class. - f_2: Frequency of class succeeding modal class. - h: Class size. The modal class is the class interval with the highest frequency.

33. Which of the following is a TRUE statement?

(1) All rectangles are parallelograms

(2) All rectangles are squares

(3) All rectangles are Rhombuses

(4) All squares are not parallelograms

Correct Answer: (1) All rectangles are parallelograms

Solution: Step 1: Define the properties of the geometric shapes involved. - Parallelogram: A quadrilateral with two pairs of parallel sides. Opposite sides are equal in length, and opposite angles are equal. - Rectangle: A parallelogram with all four angles being right angles (90 degrees). - Square: A rectangle with all four sides equal in length. (Alternatively, a rhombus with all right angles). - Rhombus: A parallelogram with all four sides equal in length. Opposite angles are equal, and diagonals bisect each other at right angles.

Step 2: Evaluate each statement. (1) All rectangles are parallelograms: A rectangle has two pairs of parallel sides (by definition, as it's a special type of parallelogram). This statement is TRUE.

(2) All rectangles are squares: A square is a rectangle where all sides are equal. A rectangle can have unequal adjacent sides (e.g., length = 5, width = 3). So, not all rectangles are squares. This statement is FALSE.

(3) All rectangles are Rhombuses: A rhombus has all four sides equal. A rectangle can have unequal adjacent sides. So, not all rectangles are rhombuses (unless it's a square, which is both). This statement is FALSE.

(4) All squares are not parallelograms: A square has two pairs of parallel sides (as it's a special rectangle, which is a special parallelogram). So, all squares are parallelograms. This statement is FALSE.

Step 3: Identify the true statement. The only true statement is "All rectangles are parallelograms." This matches option (1).

Quick Tip

Hierarchy of Quadrilaterals: - Parallelogram (opposite sides parallel) - Rectangle (parallelogram with right angles) - Square (rectangle with equal sides) - Rhombus (parallelogram with equal sides) - Square (rhombus with right angles) A square is a special type of rectangle, rhombus, and parallelogram. A rectangle is a special type of parallelogram. A rhombus is a special type of parallelogram.

34. Factorization of $x^2 - x - 6$

(1) $(x-3)(x-2)$

(2) $(x-3)(x+2)$

(3) $(x+3)(x-2)$

(4) $(x+3)(x+2)$

Correct Answer: (2) $(x-3)(x+2)$

Solution: Step 1: Analyze the quadratic expression $x^2 - x - 6$. We need to find two numbers that: - Multiply to the constant term (-6). - Add up to the coefficient of the x term (-1).

Step 2: Find the two numbers. Pairs of factors for -6: - (1, -6) or (-1, 6) -> Sums are -5 or 5. - (2, -3) or (-2, 3) -> Sums are -1 or 1. The pair (2, -3) adds up to $2 + (-3) = -1$.

Step 3: Rewrite the middle term using these numbers and factor by grouping.

$x^2 - x - 6 = x^2 + 2x - 3x - 6$ Group terms: $= (x^2 + 2x) + (-3x - 6)$ Factor out common factors from each group: $= x(x+2) - 3(x+2)$ Factor out the common binomial factor $(x+2)$: $= (x-3)(x+2)$

Step 4: Verify by expanding the factored form.

$(x-3)(x+2) = x(x+2) - 3(x+2) = x^2 + 2x - 3x - 6 = x^2 - x - 6$. The factorization is correct. This matches option (2).

Quick Tip

To factorize a quadratic expression $ax^2 + bx + c$: - If $a = 1$ (i.e., $x^2 + bx + c$), find two numbers that multiply to c and add to b. Let these numbers be p and q. The factorization is $(x + p)(x + q)$. - If $a \neq 1$, find two numbers that multiply to ac and add to b. Let these be p and q. Rewrite the middle term bx as $px + qx$, then factor by grouping. - Alternatively, use the quadratic formula $x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$ to find roots x_1, x_2. Then factorization is $a(x - x_1)(x - x_2)$.

35. Top measures of a table are 3m and 1m 75 cm respectively. Its area in square meters is

(1) 1.25

(2) 4.75

(3) 5.25

(4) 9.5

Correct Answer: (3) 5.25

Solution: Step 1: Identify the dimensions of the table top. The "top measures" likely refer to the length and width of a rectangular table. Length $L = 3$ m. Width $W = 1$ m 75 cm.

Step 2: Convert all dimensions to the same unit (meters) for area calculation in square meters. Length $L = 3$ m. Width W: 75 cm $= \frac{75}{100}$ m $= 0.75$ m. So,

$W = 1$ m $+ 0.75$ m $= 1.75$ m.

Step 3: Calculate the area of the rectangular table top. Area

$A =$ Length $\times$ Width $= L \times W$.

$$A = (3 \text{ m}) \times (1.75 \text{ m})$$

$$A = 3 \times 1.75 \, \text{m}^2$$

Calculation: $3 \times 1 = 3$ $3 \times 0.75 = 3 \times \frac{3}{4} = \frac{9}{4} = 2.25$ So, $A = 3 + 2.25 = 5.25 \, \text{m}^2$.

Alternatively, 1.75×3: 1.75 x 3 —– 5.25 The area is 5.25 square meters.

Step 4: Compare with options. This matches option (3).

Quick Tip

- Area of a rectangle = Length × Width. - Ensure all dimensions are in the same unit before calculating the area. If the desired area unit is m^2, convert all lengths to meters. - Conversions: 1 m = 100 cm. So, x cm = $x/100$ m.

36. Formula used to find the class-mark of a class interval is

(1) Class mark = $\frac{\text{Upper limit + lower limit}}{2}$

(2) Class mark = $\frac{\text{Upper limit - lower limit}}{2}$

(3) Class mark = $\frac{\text{Upper limit}\times\text{lower limit}}{2}$

(4) Class mark = $\frac{\text{Upper limit}\div\text{lower limit}}{2}$

Correct Answer: (1) Class mark = $\frac{\text{Upper limit + lower limit}}{2}$

Solution: Step 1: Understand the definition of a class mark. In statistics, for a grouped frequency distribution, a class interval has a lower limit and an upper limit. The class mark (or midpoint) of a class interval is the value that represents the center of that interval. It is used in calculations like finding the mean of grouped data.

Step 2: Recall the formula for the class mark. The class mark is calculated as the average of the upper and lower limits of the class interval.

$$\text{Class mark} = \frac{\text{Lower limit} + \text{Upper limit}}{2}$$

Or, equivalently,

$$\text{Class mark} = \frac{\text{Upper limit} + \text{Lower limit}}{2}$$

Step 3: Compare with the given options. Option (1) matches this formula. Option (2) represents half the class size or range, not the midpoint. Options (3) and (4) are incorrect operations for finding a midpoint. (The OCR for option (4) in the Telugu part shows Upperlimit+lowerlimit / 2 which is same as (1). However, English option shows division, which is clearly wrong). Assuming the English options are to be followed, option (1) is correct.

Quick Tip

- Class Interval: A range into which data is grouped (e.g., 10-20). It has a lower limit (10) and an upper limit (20). - Class Mark (Midpoint): The central value of a class interval. Formula: Class Mark $= \frac{\text{Lower Class Limit+Upper Class Limit}}{2}$. - Class Size/Width: Upper Class Limit - Lower Class Limit.

37. Find the side of a cube whose surface area is 600 cm^2.

(1) 6 cm

(2) 10 cm

(3) 12 cm

(4) 15 cm

Correct Answer: (2) 10 cm

Solution: Step 1: Recall the formula for the total surface area of a cube. A cube has 6 equal square faces. Let the side length of the cube be a. The area of one square face is a^2. The total surface area (TSA) of a cube is TSA $= 6a^2$.

Step 2: Use the given surface area to find the side length a. Given TSA $= 600$ cm^2.

$$6a^2 = 600$$

$$a^2 = \frac{600}{6}$$

$$a^2 = 100$$

$$a = \sqrt{100}$$

Since length must be positive, $a = 10$ cm.

Step 3: Compare with the options. The side of the cube is 10 cm. This matches option (2).

Quick Tip

Formulas for a cube with side length a: - Area of one face $= a^2$ - Total Surface Area (TSA) $= 6a^2$ - Lateral Surface Area (LSA) $= 4a^2$ (area of the four side faces) - Volume $= a^3$

38. Which of the following is a FALSE statement?

(1) Reciprocal of -1 is -1

(2) Reciprocal of 1 is 1

(3) Reciprocal of 0 is 0

(4) Reciprocal of $\left[\frac{3}{5} \times \frac{-5}{3}\right]$ is 1

Correct Answer: (3) Reciprocal of 0 is 0

Solution: Step 1: Define reciprocal. The reciprocal of a non-zero number x is $\frac{1}{x}$. The product of a number and its reciprocal is 1 (i.e., $x \cdot \frac{1}{x} = 1$).

Step 2: Evaluate each statement. (1) Reciprocal of -1 is -1: Let $x = -1$. Reciprocal = $\frac{1}{-1} = -1$. This statement is TRUE.

(2) Reciprocal of 1 is 1: Let $x = 1$. Reciprocal = $\frac{1}{1} = 1$. This statement is TRUE.

(3) Reciprocal of 0 is 0: Let $x = 0$. The reciprocal would be $\frac{1}{0}$. Division by zero is undefined. So, 0 does not have a reciprocal. The statement that the reciprocal of 0 is 0 is FALSE. (Also $0 \times 0 \neq 1$).

(4) Reciprocal of $\left[\frac{3}{5} \times \frac{-5}{3}\right]$ is 1: First, calculate the value inside the brackets: $\frac{3}{5} \times \frac{-5}{3} = \frac{3 \times (-5)}{5 \times 3} = \frac{-15}{15} = -1$. The statement becomes "Reciprocal of -1 is 1". We know from statement (1) that the reciprocal of -1 is -1, not 1. So, this statement is FALSE.

The question asks for a FALSE statement. Both (3) and (4) are false. Let's re-check the question and standard definitions. Statement (3) "Reciprocal of 0 is 0" is definitively false because the reciprocal of 0 is undefined. Statement (4) claims "Reciprocal of -1 is 1". This is also false.

Typically, such questions have only one false option. The "Ans" provided in the image has a green checkmark next to "3.3", meaning option (3) is marked as the (false) statement. Let's assume option (3) is the intended answer.

Reciprocal of 0 is undefined. Stating it is 0 makes the statement false. Reciprocal of $\left[\frac{3}{5} \times \frac{-5}{3}\right] = -1$. The reciprocal of -1 is -1. The statement says it is 1, which is false.

If the question means "which of the provided definitions of reciprocal is false", then (3) is directly stating something about "reciprocal of 0" which is a well-known undefined case. Option (4) makes a claim about the reciprocal of a calculated value.

Given the "Ans: checkmark on 3.3", option (3) is considered the false statement we are looking for.

Quick Tip

- The reciprocal of a non-zero number x is $1/x$. - The product of a number and its reciprocal is 1. - Zero (0) does not have a reciprocal because division by zero is undefined. - Reciprocal of 1 is 1. - Reciprocal of -1 is -1.

39. How many whole numbers are there between 45 and 54?

(1) 11

(2) 10

(3) 9

(4) 8

Correct Answer: (4) 8

Solution: Step 1: Understand the term "whole numbers". Whole numbers are non-negative integers: 0, 1, 2, 3, ...

Step 2: Understand the phrase "between 45 and 54". This means we are looking for whole numbers N such that $45 < N < 54$. The numbers 45 and 54 themselves are not included.

Step 3: List the whole numbers that satisfy this condition. The whole numbers greater than 45 are 46, 47, 48, ... The whole numbers less than 54 are ..., 51, 52, 53. So, the list of whole numbers between 45 and 54 is: 46, 47, 48, 49, 50, 51, 52, 53.

Step 4: Count the numbers in the list. There are 8 numbers in the list.

Step 5: Alternatively, use a formula. The number of integers (or whole numbers) strictly between two integers a and b (where $a < b$) is $(b-1)-(a+1)+1 = b-a-1$. Here $a = 45, b = 54$. Number of whole numbers $= 54-45-1 = 9-1 = 8$. Or, the numbers are from $a+1$ to $b-1$. Number of terms $= (b-1)-(a+1)+1$. The numbers are $45+1 = 46$ to $54-1 = 53$. Number of terms $= 53-46+1 = 7+1 = 8$. This matches option (4).

Quick Tip

- Whole numbers: {0, 1, 2, 3, ...}. - "Between a and b" typically means strictly greater than a and strictly less than b (i.e., a and b are excluded). - To count integers from x to y inclusive: $y-x+1$. - To count integers strictly between a and b: count integers from $a+1$ to $b-1$ inclusive. Number $= (b-1)-(a+1)+1 = b-a-1$.

40. Which of the following can be the sides of a right angle triangle?

(1) 5 cm, 13 cm, 12 cm

(2) 4 cm, 4 cm, 10 cm

(3) 3 cm, 3 cm, 5 cm

(4) 6 cm, 6 cm, 10 cm

Correct Answer: (1) 5 cm, 13 cm, 12 cm

Solution: Step 1: Recall the Pythagorean theorem for a right-angled triangle. In a right-angled triangle, the square of the length of the hypotenuse (the side opposite the right angle) is equal to the sum of the squares of the lengths of the other two sides (legs). If a, b are the lengths of the legs and c is the length of the hypotenuse, then $a^2 + b^2 = c^2$. The hypotenuse is always the longest side.

Step 2: Check each option. (1) Sides: 5 cm, 12 cm, 13 cm. Longest side is 13 cm (potential hypotenuse). Check: $5^2 + 12^2 = 25 + 144 = 169$. Hypotenuse squared: $13^2 = 169$. Since $5^2 + 12^2 = 13^2$ (i.e., $169 = 169$), these sides can form a right-angled triangle. This is a Pythagorean triple (5, 12, 13). This statement is TRUE.

(2) Sides: 4 cm, 4 cm, 10 cm. Longest side is 10 cm. Check: $4^2 + 4^2 = 16 + 16 = 32$. Hypotenuse squared: $10^2 = 100$. Since $32 \neq 100$, these sides cannot form a right-angled triangle. (Also, triangle inequality: $4 + 4 = 8 \not> 10$, so these can't even form a triangle).

(3) Sides: 3 cm, 3 cm, 5 cm. Longest side is 5 cm. Check: $3^2 + 3^2 = 9 + 9 = 18$. Hypotenuse squared: $5^2 = 25$. Since $18 \neq 25$, these sides cannot form a right-angled triangle.

(4) Sides: 6 cm, 6 cm, 10 cm. Longest side is 10 cm. Check: $6^2 + 6^2 = 36 + 36 = 72$. Hypotenuse squared: $10^2 = 100$. Since $72 \neq 100$, these sides cannot form a right-angled triangle.

Step 3: Identify the set of sides that forms a right-angled triangle. Option (1) satisfies

the Pythagorean theorem. This matches option (1).

Quick Tip

- Pythagorean Theorem: In a right-angled triangle with legs a, b and hypotenuse c, $a^2 + b^2 = c^2$. - The hypotenuse is always the longest side. - Triangle Inequality Theorem: The sum of the lengths of any two sides of a triangle must be greater than the length of the third side. (e.g., for option (2), $4 + 4 = 8$, which is not greater than 10, so it doesn't form any triangle). - Common Pythagorean triples: (3,4,5), (5,12,13), (8,15,17), (7,24,25).

41. Number of cells and nuclei in embryo sac in flowering plants are

(1) 7, 8

(2) 6, 8

(3) 8, 7

(4) 8, 6

Correct Answer: (1) 7, 8

Solution: Step 1: Recall the structure of a mature embryo sac (female gametophyte) in most flowering plants (Polygonum type). A mature embryo sac is typically a 7-celled, 8-nucleate structure.

Step 2: Describe the components. The components are: - Egg apparatus: Located at the micropylar end. It consists of: - One egg cell (1 cell, 1 nucleus). - Two synergid cells (2 cells, 2 nuclei). - Central cell: A large cell located in the center. It contains: - Two polar nuclei (which may fuse to form a diploid secondary nucleus before or after fertilization). Initially, these are two distinct nuclei within the single central cell. (1 cell, 2 nuclei). - Antipodal cells: Located at the chalazal end. Typically, there are: - Three antipodal cells (3 cells, 3 nuclei).

Step 3: Count the total number of cells and nuclei. - Total cells = 1 (egg) + 2 (synergids) + 1 (central cell) + 3 (antipodals) = 7 cells. - Total nuclei = 1 (in egg) + 2 (in synergids) + 2 (polar nuclei in central cell) + 3 (in antipodals) = 8 nuclei. Thus, the embryo sac is 7-celled and 8-nucleate.

Step 4: Match with the options. The number of cells is 7 and the number of nuclei is

8. This matches option (1) ”7, 8”.

Quick Tip

Structure of a typical mature embryo sac (Polygonum type) in angiosperms: - 7-celled, 8-nucleate. - Components: - Egg apparatus (at micropylar end): 1 egg cell + 2 synergids (total 3 cells, 3 nuclei). - Central cell: Contains 2 polar nuclei (total 1 cell, 2 nuclei). - Antipodal cells (at chalazal end): 3 antipodal cells (total 3 cells, 3 nuclei). - Sum: 3+1+3 = 7 cells; 3+2+3 = 8 nuclei.

42. Outer zone of complete combustion of candle flame colour is

(1) blue

(2) yellow

(3) black

(4) red

Correct Answer: (1) blue

Solution: Step 1: Understand the zones of a candle flame. A candle flame typically has several distinct zones due to varying degrees of combustion: - Innermost zone (Dark zone): Around the wick, contains unburnt wax vapors. It is the least hot part. Color: Dark/Black. - Middle zone (Luminous zone): Incomplete combustion of wax vapors occurs here. Unburnt carbon particles are present, which glow and emit yellow light, making this zone luminous. It is moderately hot. Color: Yellow. - Outermost zone (Non-luminous zone): Complete combustion of wax vapors occurs here due to ample supply of oxygen from the surrounding air. This is the hottest part of the flame. Color: Blue (often faint, may appear almost invisible in bright light).

Step 2: Identify the color of the outer zone of complete combustion. The outermost zone, where complete combustion takes place, is non-luminous and typically has a pale blue color. This blue color is due to the chemiluminescence of radical species like CH and C_2 formed during complete combustion.

Step 3: Compare with the options. Option (1) ”blue” matches the color of the outermost zone of complete combustion. Option (2) ”yellow” is the color of the middle, luminous zone (incomplete combustion). Option (3) ”black” refers to the

innermost, dark zone (unburnt vapors). Option (4) ”red” is not a primary distinct zone color, though parts of the flame might appear orange-red due to temperature or soot incandescence.

Quick Tip

Zones of a Candle Flame (from inside out): 1. Innermost Zone (Dark Zone): Unburnt wax vapors, least hot, black/dark. 2. Middle Zone (Luminous Zone): Incomplete combustion, glowing carbon particles, moderately hot, yellow. 3. Outermost Zone (Non-Luminous Zone): Complete combustion, hottest part, pale blue (can be faint). The blue color in the complete combustion zone is due to emission from excited molecular radicals.

43. The effect that can be observed when sunlight passes through canopy of dense forest is

(1) scattering effect

(2) dispersion effect

(3) tyndall effect

(4) colloid effect

Correct Answer: (3) tyndall effect

Solution: Step 1: Understand the phenomenon described. When sunlight passes through the canopy of a dense forest, the tiny water droplets or dust particles suspended in the air (mist/haze within the forest) scatter the sunlight, making the path of light visible.

Step 2: Relate this to known optical effects. - Scattering effect: This is a general term for the deflection of light by particles. Rayleigh scattering (by particles much smaller than wavelength, like air molecules) causes the blue sky. Mie scattering (by larger particles) is less wavelength-dependent. - Dispersion effect: The splitting of white light into its constituent colors (spectrum) when it passes through a prism or a medium where the refractive index varies with wavelength. Not the primary effect here. - Tyndall effect: This is the scattering of a beam of light by particles in a colloid or a very fine suspension. The individual suspension particles scatter and reflect light,

making the beam visible. The path of light through a colloidal solution is visible from the side. This accurately describes what happens when sunlight passes through mist or dust in a forest canopy. - Colloid effect: This is not a standard specific optical term; "Tyndall effect" is the specific effect observed in colloids and fine suspensions.
Step 3: Identify the most appropriate term. The visibility of light beams passing through the forest canopy due to scattering by suspended particles (like mist or dust, which can form a colloidal dispersion in air) is a classic example of the Tyndall effect. This matches option (3).

Quick Tip

- Tyndall Effect: The scattering of light as a light beam passes through a colloid. The individual suspension particles scatter and reflect light, making the beam visible. - Examples: Sunlight passing through a smoky room or a forest canopy (due to mist/dust), path of a projector beam in a dusty cinema hall. - It is used to distinguish between a true solution and a colloidal solution (true solutions do not show Tyndall effect as particles are too small).

44. Bond between two nitrogen atoms in Nitrogen molecule is
(1) Single bond
(2) Double bond
(3) Triple bond
(4) Multiple bond
Correct Answer: (3) Triple bond
Solution: Step 1: Consider the electronic configuration of a nitrogen atom. Nitrogen (N) has an atomic number of 7. Its electronic configuration is $1s^2 2s^2 2p^3$. It has 5 valence electrons (2 in 2s and 3 in 2p).
Step 2: Determine how nitrogen atoms bond to form a nitrogen molecule (N_2). To achieve a stable octet (like neon), each nitrogen atom needs to gain 3 more electrons. In the N_2 molecule, the two nitrogen atoms share three pairs of electrons, forming a triple covalent bond. N ≡ N Each nitrogen atom contributes 3 electrons to the bond, and each also has one lone pair of electrons (: $N \equiv N$:).

Step 3: Identify the type of bond. The bond between the two nitrogen atoms in an N_2 molecule is a triple bond. Option (4) "Multiple bond" is a general term that includes double and triple bonds, but "Triple bond" is more specific and accurate. This matches option (3).

Quick Tip

- Nitrogen atom (N) has 5 valence electrons. - To achieve a stable octet, it needs 3 more electrons. - In N_2 molecule, the two N atoms share 3 pairs of electrons, forming a N≡N triple bond. - This triple bond consists of one sigma (σ) bond and two pi (π) bonds. - The N_2 molecule is very stable due to the high bond dissociation energy of the triple bond.

45. The gas which makes lime water milky is

(1) oxygen

(2) nitrogen

(3) benzene

(4) Carbon-di-oxide

Correct Answer: (4) Carbon-di-oxide

Solution: Step 1: Understand what "lime water" is. Lime water is a common name for a dilute aqueous solution of calcium hydroxide, $Ca(OH)_2$. It is clear and colorless. Step 2: Recall the reaction of common gases with lime water. - Oxygen (O_2): Does not react with lime water to cause milkiness. - Nitrogen (N_2): Generally unreactive, does not react with lime water. - Benzene (C_6H_6): An organic compound, a liquid at room temperature (or gas if heated). It does not typically react with lime water to cause milkiness. - Carbon dioxide (CO_2): When carbon dioxide gas is passed through lime water, it reacts with calcium hydroxide to form calcium carbonate ($CaCO_3$), which is a white, insoluble precipitate. This precipitate makes the lime water appear milky or turbid. Reaction: $Ca(OH)_2(aq) + CO_2(g) \rightarrow CaCO_3(s) \downarrow + H_2O(l)$ If excess CO_2 is passed, the milkiness disappears due to the formation of soluble calcium bicarbonate: $CaCO_3(s) + H_2O(l) + CO_2(g, \text{excess}) \rightarrow Ca(HCO_3)_2(aq)$

Step 3: Identify the correct gas. The gas that makes lime water milky is

Carbon-di-oxide (CO_2). This matches option (4).

Quick Tip

- Lime water is an aqueous solution of calcium hydroxide, $Ca(OH)_2$. - The test for carbon dioxide (CO_2) involves passing the gas through lime water. - Reaction: $CO_2 + Ca(OH)_2 \rightarrow CaCO_3\downarrow$ (white precipitate, causes milkiness) + H_2O. - This is a characteristic test for CO_2.

46. Small bones in the wrist are

(1) Pelvic bones

(2) Cartilage

(3) Carpals

(4) Hinge

Correct Answer: (3) Carpals

Solution: Step 1: Identify the anatomical location in question. The wrist is the joint connecting the hand to the forearm.

Step 2: Recall the bones of the wrist. The wrist is composed of eight small bones called carpals. These are arranged in two rows (proximal and distal). - Proximal row (from lateral to medial): Scaphoid, Lunate, Triquetrum, Pisiform. - Distal row (from lateral to medial): Trapezium, Trapezoid, Capitate, Hamate. These carpal bones articulate with the radius and ulna of the forearm proximally, and with the metacarpals of the hand distally.

Step 3: Evaluate the options. (1) Pelvic bones: These form the pelvis (hip girdle), located in the lower part of the trunk. Not in the wrist. (2) Cartilage: This is a connective tissue found in many areas of the body, including lining the surfaces of joints (articular cartilage). While present in the wrist joints, it is not the name for the small bones themselves. (3) Carpals: These are the eight small bones that make up the wrist. This is correct. (4) Hinge: This refers to a type of synovial joint that allows movement in one plane (like a door hinge), such as the elbow or knee. The wrist is a more complex joint (condyloid type primarily) allowing multiple movements, but ”hinge” is not a bone.

Step 4: Identify the correct term. The small bones in the wrist are called carpals. This matches option (3).

Quick Tip

Bones of the Hand and Wrist: - Carpals (Wrist bones): 8 small bones arranged in two rows. (Mnemonic for proximal row, lateral to medial: "Some Lovers Try Positions"; for distal row: "That They Can't Handle"). - Metacarpals (Palm bones): 5 bones, one for each digit. - Phalanges (Finger bones): 14 bones; 2 in the thumb, 3 in each of the other four fingers. Comparable bones in the ankle/foot: Tarsals (ankle), Metatarsals (foot), Phalanges (toes).

47. These are known as 'suicidal bags'

(1) plastids

(2) lysosomes

(3) vacuoles

(4) mitochondria

Correct Answer: (2) lysosomes

Solution: Step 1: Understand the term "suicidal bags". This term refers to a cell organelle that contains digestive enzymes and can break down waste materials, cellular debris, or even the cell itself under certain conditions (autolysis).

Step 2: Evaluate the functions of the given organelles. (1) Plastids: Organelles found in plant cells and algae, involved in photosynthesis (chloroplasts), storage of starch (amyloplasts), or synthesis and storage of pigments (chromoplasts). Not known as suicidal bags. (2) Lysosomes: Membrane-bound organelles containing a variety of hydrolytic enzymes (e.g., proteases, lipases, nucleases, carbohydrases) that break down waste materials, cellular debris, and foreign matter engulfed by the cell (e.g., bacteria). If a cell is damaged or old, lysosomes can release their enzymes to digest the entire cell, a process called autolysis. This function earns them the nickname "suicidal bags" or "digestive system of the cell." (3) Vacuoles: Membrane-bound sacs within the cytoplasm. In plant cells, a large central vacuole helps maintain turgor pressure and stores water, nutrients, and waste products. In animal cells, vacuoles are generally

small and temporary. Not primarily known as suicidal bags, though they can be involved in waste processing. (4) Mitochondria: Organelles responsible for cellular respiration and ATP production (”powerhouses of the cell”). Not known as suicidal bags, though they play a role in apoptosis (programmed cell death), which is different from the lytic ”suicidal bag” concept.

Step 3: Identify the correct organelle. Lysosomes are known as the ”suicidal bags” of the cell due to their role in autolysis. This matches option (2).

Quick Tip

Cell Organelle Nicknames/Primary Functions: - Lysosomes: ”Suicidal bags,” ”digestive system,” ”recycling centers” (contain hydrolytic enzymes for breakdown). - Mitochondria: ”Powerhouses of the cell” (ATP synthesis via cellular respiration). - Ribosomes: ”Protein factories” (protein synthesis). - Endoplasmic Reticulum (ER): - Rough ER: Protein synthesis and modification (has ribosomes). - Smooth ER: Lipid synthesis, detoxification, calcium storage. - Golgi Apparatus/Complex: ”Post office of the cell” (modifies, sorts, and packages proteins and lipids). - Nucleus: ”Control center of the cell” (contains DNA). - Chloroplasts (in plants/algae): Sites of photosynthesis.

48. External fertilization takes place in this organism

(1) rat

(2) lizard

(3) frog

(4) cockroach

Correct Answer: (3) frog

Solution: Step 1: Define external and internal fertilization. - External fertilization: The fusion of male and female gametes (sperm and egg) occurs outside the body of the female. This typically happens in an aquatic environment where gametes are released into the water. - Internal fertilization: The fusion of gametes occurs inside the body of the female.

Step 2: Analyze the fertilization type in the given organisms. (1) Rat: A mammal.

Mammals exhibit internal fertilization. (2) Lizard: A reptile. Most reptiles exhibit internal fertilization. (3) Frog: An amphibian. Most amphibians, including frogs, exhibit external fertilization. The female frog lays eggs in water, and the male frog releases sperm over them to fertilize the eggs externally. (4) Cockroach: An insect (arthropod). Insects typically exhibit internal fertilization. The male deposits sperm into the female's reproductive tract.

Step 3: Identify the organism with external fertilization. Among the given options, the frog is the organism that exhibits external fertilization. This matches option (3).

Quick Tip

Fertilization Types: - External Fertilization: Common in many aquatic invertebrates, most fish, and amphibians. Requires a water medium. Large numbers of gametes are often produced. - Internal Fertilization: Common in terrestrial animals (reptiles, birds, mammals) and some aquatic animals (e.g., cartilaginous fish, some insects). Offers more protection to gametes and developing embryo.

49. This vitamin is also called cyanacobalamin

(1) B_6

(2) B_3

(3) B_{12}

(4) B_2

Correct Answer: (3) B_{12}

Solution: Step 1: Recall the chemical names of B-complex vitamins. - Vitamin B_1: Thiamine - Vitamin B_2: Riboflavin - Vitamin B_3: Niacin (or Nicotinic acid / Nicotinamide) - Vitamin B_5: Pantothenic acid - Vitamin B_6: Pyridoxine (also pyridoxal, pyridoxamine) - Vitamin B_7: Biotin (sometimes called Vitamin H) - Vitamin B_9: Folic acid (or Folate) - Vitamin B_{12}: Cyanocobalamin (a common synthetic form), or more generally, cobalamin. It contains cobalt.

Step 2: Identify the vitamin corresponding to cyanocobalamin. Cyanocobalamin is Vitamin B_{12}. This matches option (3).

Quick Tip

Common B-Vitamins and their names: - B_1: Thiamine - B_2: Riboflavin - B_3: Niacin - B_5: Pantothenic Acid - B_6: Pyridoxine - B_7: Biotin - B_9: Folic Acid / Folate - B_{12}: Cobalamin (Cyanocobalamin is a prominent form). Vitamin B_{12} is unique for containing a cobalt atom.

50. Reason for appearance of red colour of sun during sunrise and sunset is

(1) Scattering of Red light is very small

(2) Scattering of Red light is very high

(3) Sky is blue in colour

(4) Muscles in the eye are not working properly

Correct Answer: (1) Scattering of Red light is very small

Solution: Step 1: Understand the phenomenon of scattering of light. Scattering of light is the process by which small particles (like air molecules, dust, water droplets) in the atmosphere deflect light from its straight path. The amount of scattering depends on the wavelength of light and the size of the scattering particles. Rayleigh scattering, which applies to particles much smaller than the wavelength of light (like air molecules), is more effective for shorter wavelengths (blue/violet light) than for longer wavelengths (red/orange light). Specifically, scattering intensity $\propto 1/\lambda^4$.

Step 2: Explain the color of the sun at sunrise and sunset. During sunrise and sunset, sunlight has to travel a longer path through the Earth's atmosphere to reach an observer compared to when the sun is overhead (noon). - As sunlight passes through this longer atmospheric path, most of the shorter wavelength light (blue, violet) is scattered away from the direct line of sight by air molecules. - The longer wavelength light (red, orange, yellow) is scattered less and therefore passes through the atmosphere more directly to the observer. This results in the sun appearing reddish or orange, and the sky around the sun also taking on these hues.

Step 3: Evaluate the options. (1) Scattering of Red light is very small: This is TRUE. Red light, having a longer wavelength, is scattered much less by air molecules than blue light. Because other colors are scattered away, red light is what predominantly reaches the observer from the sun. (2) Scattering of Red light is very high: This is

FALSE. Red light is scattered the least among visible colors by air molecules. (3) Sky is blue in colour: This is also due to Rayleigh scattering (blue light scattered more in all directions from sunlight), but it explains why the sky is blue during the day, not directly why the sun appears red at sunrise/sunset, although the same principle is at play. (4) Muscles in the eye are not working properly: This is irrelevant to the atmospheric phenomenon.

Step 4: Identify the most direct reason. The most direct reason is that red light is scattered the least, so it persists along the direct path from the sun to the observer when sunlight travels through a large amount of atmosphere. Option (1) correctly states that the scattering of red light is very small. This matches option (1).

Quick Tip

- Rayleigh Scattering: Scattering of light by particles much smaller than its wavelength (e.g., air molecules). Intensity of scattering $\propto 1/\lambda^4$. - Blue light (shorter λ) is scattered much more than red light (longer λ). - Blue Sky: Due to preferential scattering of blue light from sunlight by the atmosphere in all directions. - Reddish Sun at Sunrise/Sunset: Sunlight travels a longer path through the atmosphere. Most blue light is scattered away, leaving the longer wavelengths (red, orange) to reach the observer directly from the sun.

51. The planet known as the 'Blue Planet' is

(1) Jupiter

(2) Saturn

(3) Venus

(4) Earth

Correct Answer: (4) Earth

Solution: Step 1: Understand the nickname "Blue Planet". This nickname is given to a planet primarily due to its appearance from space.

Step 2: Consider the appearance of the listed planets. - Jupiter: Known for its bands of clouds, Great Red Spot. Appears striped with various colors (oranges, browns, whites). - Saturn: Known for its prominent rings. Appears pale yellow/butterscotch. -

Venus: Covered in thick, yellowish-white clouds of sulfuric acid, giving it a bright, uniform appearance. - Earth: When viewed from space, Earth appears predominantly blue due to the vast oceans covering about 71

Step 3: Identify the "Blue Planet". Earth is famously known as the "Blue Planet" because of the abundance of water on its surface. This matches option (4).

Quick Tip

Planetary Nicknames: - Earth: Blue Planet (due to oceans), Living Planet. - Mars: Red Planet (due to iron oxide/rust on its surface). - Venus: Morning Star, Evening Star (due to its brightness and visibility). - Jupiter: King of Planets (largest). - Saturn: Ringed Planet.

52. River Krishna originates at:

(1) Triambak Plateau

(2) Mahabaleswar

(3) Amarkantak

(4) Sihawa

Correct Answer: (2) Mahabaleswar

Solution: Step 1: Recall the origin points of major Indian rivers. - River Krishna: Originates in the Western Ghats, near Mahabaleshwar in Maharashtra, at an elevation of about 1,337 meters. It flows eastwards across the Deccan Plateau and empties into the Bay of Bengal. - Triambak Plateau (Trimbakeshwar): Origin of the Godavari River, near Nashik in Maharashtra. - Amarkantak Plateau: Origin of the Narmada River and the Son River (a major tributary of the Ganges), in Madhya Pradesh. - Sihawa: A region in the Dhamtari district of Chhattisgarh, considered the origin of the Mahanadi River.

Step 2: Identify the origin of the Krishna River. The Krishna River originates near Mahabaleswar in Maharashtra. This matches option (2).

Quick Tip

Origins of some major Indian rivers: - Ganga: Gangotri Glacier (Uttarakhand). - Yamuna: Yamunotri Glacier (Uttarakhand). - Indus: Near Mansarovar Lake (Tibetan Plateau). - Brahmaputra (Yarlung Tsangpo): Chemayungdung Glacier (Tibetan Plateau). - Narmada: Amarkantak Plateau (Madhya Pradesh). - Tapti (Tapi): Multai Reserve Forest, Betul district (Madhya Pradesh). - Godavari: Trimbakeshwar, Nashik district (Maharashtra). - Krishna: Near Mahabaleswar (Maharashtra). - Kaveri (Cauvery): Talakaveri, Kodagu district (Karnataka). - Mahanadi: Sihawa region (Chhattisgarh).

53. Founder of the Slave dynasty was:

(1) Muhammad Bin Tughlaq

(2) Qutbuddin Aybak

(3) Kizar Khan (4) Ibrahim Lodi

Correct Answer: (2) Qutbuddin Aybak

Solution: Step 1: Identify the historical context of the Slave Dynasty. The Slave Dynasty, also known as the Mamluk Dynasty, was the first dynasty to rule the Delhi Sultanate in India. It ruled from 1206 to 1290.

Step 2: Recall the founder. The founder of the Slave Dynasty was Qutb-ud-din Aibak. He was a former slave of Muhammad Ghori (Mu'izz ad-Din Muhammad Ghori). After Ghori's assassination in 1206, Aibak declared himself Sultan of Delhi and established the dynasty.

Step 3: Evaluate other options. - (1) Muhammad Bin Tughlaq: A prominent ruler of the Tughlaq Dynasty (1320-1414), which succeeded the Khalji Dynasty and preceded the Sayyid Dynasty. He ruled from 1325 to 1351. - (3) Khizr Khan (Kizar Khan): The founder of the Sayyid Dynasty (1414-1451), which ruled the Delhi Sultanate after the Tughlaqs. - (4) Ibrahim Lodi: The last ruler of the Lodi Dynasty (1451-1526). He was defeated and killed by Babur in the First Battle of Panipat in 1526, which marked the beginning of the Mughal Empire in India.

Step 4: Confirm the founder. Qutb-ud-din Aibak was the founder of the Slave Dynasty. This matches option (2).

Quick Tip

Dynasties of the Delhi Sultanate in chronological order: 1. Slave Dynasty (Mamluk Dynasty): 1206-1290 (Founder: Qutb-ud-din Aibak) 2. Khalji (Khilji) Dynasty: 1290-1320 (Founder: Jalal-ud-din Khalji) 3. Tughlaq Dynasty: 1320-1414 (Founder: Ghiyas-ud-din Tughlaq) 4. Sayyid Dynasty: 1414-1451 (Founder: Khizr Khan) 5. Lodi (Lodhi) Dynasty: 1451-1526 (Founder: Bahlul Lodi)

54. The person among the following was considered the greatest of the Vijayanagra rulers

(1) Sri Krishna Deva Raya

(2) Achyuta Deva Raya

(3) Narasimha Raya (4) Rama Raya

Correct Answer: (1) Sri Krishna Deva Raya

Solution: Step 1: Recall prominent rulers of the Vijayanagara Empire. The Vijayanagara Empire (c. 1336-1646) was a major South Indian empire. It had four main dynasties: Sangama, Saluva, Tuluva, and Aravidu.

Step 2: Identify the ruler widely considered the greatest. Sri Krishna Deva Raya (Krishnadevaraya) of the Tuluva dynasty, who reigned from 1509 to 1529, is almost universally regarded as the greatest ruler of the Vijayanagara Empire and one of the most illustrious kings in Indian history. His reign is known for military successes, administrative efficiency, patronage of arts and literature (he himself was a renowned scholar and poet), and architectural achievements.

Step 3: Consider other rulers. - (2) Achyuta Deva Raya: Succeeded Krishnadevaraya (his half-brother), ruled from 1529 to 1542. While a significant ruler, his reign faced more challenges and is not generally considered as glorious as Krishnadevaraya's. - (3) Narasimha Raya: This could refer to Saluva Narasimha Deva Raya (founder of Saluva dynasty, ruled 1485-1491) or Vira Narasimha Raya (Krishnadevaraya's elder half-brother and predecessor, ruled 1505-1509). Neither is typically considered the "greatest." - (4) Rama Raya (Aliya Rama Raya): A powerful regent and de facto ruler during the later Tuluva period and into the Aravidu dynasty. He was a key figure in the Battle of Talikota (1565), which led to a significant defeat and decline of the

Vijayanagara Empire. Not considered the greatest ruler in terms of positive achievements comparable to Krishnadevaraya.
Step 4: Confirm the greatest ruler. Sri Krishna Deva Raya is widely acclaimed as the greatest ruler of the Vijayanagara Empire. This matches option (1).

Quick Tip

Vijayanagara Empire - Key Rulers: - Founded by Harihara I and Bukka Raya I (Sangama dynasty). - Sri Krishna Deva Raya (Tuluva dynasty, 1509-1529): Golden age of the empire, known for military prowess, administration, and patronage of arts and literature (Ashtadiggajas - eight great poets adorned his court). - His reign is considered a high point of Vijayanagara's power and cultural achievements.

55. 0° latitude is called
(1) Equator
(2) Arctic Circle
(3) Antarctic Circle
(4) Mid Pole
Correct Answer: (1) Equator
Solution: Step 1: Understand the concept of latitude. Latitude is an angular distance, north or south of the Earth's equator, measured in degrees along a meridian, as on a map or globe.
Step 2: Identify key lines of latitude. - Equator: The imaginary line drawn around the Earth equally distant from both poles, dividing the Earth into northern and southern hemispheres. It is designated as 0° latitude. - Tropic of Cancer: 23.5° North latitude. - Tropic of Capricorn: 23.5° South latitude. - Arctic Circle: Approximately 66.5° North latitude. - Antarctic Circle: Approximately 66.5° South latitude. - North Pole: 90° North latitude. - South Pole: 90° South latitude.
Step 3: Identify what 0° latitude is called. 0° latitude is called the Equator. "Mid Pole" is not a standard geographical term for a line of latitude. This matches option (1).

Quick Tip

Important Lines of Latitude: - Equator: 0° (divides Earth into Northern and Southern Hemispheres). - Tropic of Cancer: 23.5° N (northernmost latitude where Sun can be directly overhead). - Tropic of Capricorn: 23.5° S (southernmost latitude where Sun can be directly overhead). - Arctic Circle: 66.5° N (marks the southern limit of the area where the sun does not set on the summer solstice and does not rise on the winter solstice). - Antarctic Circle: 66.5° S (marks the northern limit of the area with similar phenomena in the Southern Hemisphere). - North Pole: 90° N. - South Pole: 90° S.

56. Who among the following is known as 'The Father of the Indian constitution'?

(1) Mahatma Gandhi

(2) Sardar Vallabh Bhai Patel

(3) Dr. B. R. Ambedkar

(4) Dr. Babu Rajendra Prasad

Correct Answer: (3) Dr. B. R. Ambedkar

Solution: Step 1: Recall the key figures involved in the framing of the Indian Constitution. The Constitution of India was drafted by the Constituent Assembly of India.

Step 2: Identify the individual primarily credited with drafting and steering the Constitution. Dr. Bhimrao Ramji Ambedkar (Dr. B. R. Ambedkar) served as the Chairman of the Drafting Committee of the Constituent Assembly. Due to his pivotal role in drafting the constitution, his deep understanding of law and constitutionalism, and his efforts to ensure social justice within its framework, he is widely regarded and respectfully referred to as the "Father of the Indian Constitution" or the "Chief Architect of the Indian Constitution."

Step 3: Consider the roles of other figures. - (1) Mahatma Gandhi: The "Father of the Nation," a preeminent leader of India's independence movement. While his ideals influenced the Constitution, he was not a member of the Constituent Assembly and not directly involved in its drafting process. - (2) Sardar Vallabhbhai Patel: A key leader of the independence movement and the first Deputy Prime Minister of India.

He played a crucial role in the integration of princely states into India and was an influential member of the Constituent Assembly, chairing several important committees. - (4) Dr. Babu Rajendra Prasad: The President of the Constituent Assembly, and later the first President of India. He presided over the deliberations of the Assembly.

Step 4: Confirm "The Father of the Indian Constitution". Dr. B. R. Ambedkar is universally recognized by this title for his instrumental role as the Chairman of the Drafting Committee. This matches option (3).

Quick Tip

Key Figures in the Making of the Indian Constitution: - Dr. B. R. Ambedkar: Chairman of the Drafting Committee, considered the "Father of the Indian Constitution." - Dr. Rajendra Prasad: President of the Constituent Assembly. - Sardar Vallabhbhai Patel: Influential leader, headed committees on fundamental rights, minorities, etc. - Jawaharlal Nehru: Moved the "Objectives Resolution," which outlined the philosophy of the Constitution. The Constituent Assembly had many other notable members who contributed significantly.

57. The largest State in India by area is:

(1) Rajasthan

(2) Andhra Pradesh

(3) Madhya Pradesh

(4) Maharashtra

Correct Answer: (1) Rajasthan

Solution: Step 1: Recall the states of India and their relative sizes. India is divided into states and union territories. The area of these states varies significantly.

Step 2: Identify the largest state by geographical area. Rajasthan is the largest state in India by area. Its area is approximately 342,239 square kilometers.

Step 3: Consider the other options in terms of area. - (2) Andhra Pradesh: After the bifurcation (creation of Telangana in 2014), its area decreased. It is now the 7th largest state by area (approx. 162,970 sq km). - (3) Madhya Pradesh: It is the second

largest state in India by area (approx. 308,252 sq km). It was the largest before the creation of Chhattisgarh in 2000. - (4) Maharashtra: It is the third largest state in India by area (approx. 307,713 sq km).
Step 4: Confirm the largest state. Rajasthan is the largest state in India by area. This matches option (1).

Quick Tip

Largest States in India by Area (approximate order): 1. Rajasthan 2. Madhya Pradesh 3. Maharashtra 4. Uttar Pradesh 5. Gujarat (This order can be easily verified from official sources). Smallest state by area: Goa.

58. This is considered as 'working capital'
(1) Tools
(2) Machines
(3) Buildings
(4) Money in hand
Correct Answer: (4) Money in hand
Solution: Step 1: Define fixed capital and working capital. In economics and business, capital is categorized based on its nature and use: - Fixed Capital: Refers to durable assets that are used repeatedly in the production process over a long period. They are not consumed or converted into cash in a single operating cycle. Examples include land, buildings, machinery, tools (if durable and long-lasting). - Working Capital: Refers to the capital required for day-to-day operations of a business. It is the difference between current assets and current liabilities. Current assets include cash, accounts receivable, inventory of raw materials and finished goods. These are expected to be converted into cash within one operating cycle (usually a year).
Step 2: Classify the given options. (1) Tools: If these are durable tools used over many production cycles, they are typically considered fixed capital. However, small, consumable tools might be part of current assets/expenses. (2) Machines: These are classic examples of fixed capital, as they are long-term assets used in production. (3) Buildings: These are also classic examples of fixed capital. (4) Money in hand (Cash):

Cash is the most liquid current asset and is a primary component of working capital. It is used to meet daily operational expenses, purchase raw materials, pay wages, etc. Step 3: Identify working capital. Among the options, "Money in hand" (cash) is a direct component of working capital. Tools, machines, and buildings are typically classified as fixed capital. This matches option (4).

Quick Tip

Types of Capital: - Fixed Capital: Long-term assets used repeatedly in production (e.g., machinery, buildings, land). They depreciate over time. - Working Capital: Short-term assets required for daily operations. Working Capital = Current Assets - Current Liabilities. Current Assets include: Cash, Bank balance, Accounts Receivable (debtors), Inventory (raw materials, work-in-progress, finished goods). Raw materials are also a component of working capital (as inventory). The options provided are more distinct.

59. Which of the following rights allows citizens to move the court if they believe that any of their Fundamental Rights have been violated?

(1) Right to Equality

(2) Right to Freedom

(3) Right against exploitation

(4) Right to Constitutional remedies

Correct Answer: (4) Right to Constitutional remedies

Solution: Step 1: Recall the Fundamental Rights in the Indian Constitution. Part III of the Indian Constitution guarantees certain Fundamental Rights to its citizens. Step 2: Identify the right that provides for enforcement of these rights. - (1) Right to Equality (Articles 14-18): Includes equality before law, prohibition of discrimination, equality of opportunity, abolition of untouchability, and abolition of titles. - (2) Right to Freedom (Articles 19-22): Includes freedom of speech and expression, assembly, association, movement, residence, and profession; protection in respect of conviction for offences; protection of life and personal liberty; right to education; protection against arrest and detention in certain cases. - (3) Right against Exploitation (Articles

23-24): Prohibits traffic in human beings and forced labor, and prohibits employment of children in factories, etc. - (4) Right to Constitutional Remedies (Article 32): This article is considered the ”heart and soul” of the Constitution (as termed by Dr. B. R. Ambedkar). It guarantees the right of citizens to move the Supreme Court (and High Courts under Article 226) for the enforcement of their Fundamental Rights if they are violated. The Supreme Court can issue writs (like habeas corpus, mandamus, prohibition, certiorari, quo warranto) for this purpose.
Step 3: Determine which right allows moving the court for violation of Fundamental Rights. The Right to Constitutional Remedies (Article 32) specifically empowers citizens to approach the courts for the enforcement of their Fundamental Rights. This matches option (4).

Quick Tip

Fundamental Rights in the Indian Constitution (Part III): 1. Right to Equality (Art. 14-18) 2. Right to Freedom (Art. 19-22) 3. Right against Exploitation (Art. 23-24) 4. Right to Freedom of Religion (Art. 25-28) 5. Cultural and Educational Rights (Art. 29-30) 6. Right to Constitutional Remedies (Art. 32): Empowers citizens to move the Supreme Court for enforcement of Fundamental Rights. High Courts have similar power under Art. 226. (Right to Property was a Fundamental Right but was removed by the 44th Amendment and made a legal right under Art. 300-A).

60. United Nations Organisation was established in the year:
(1) 1942
(2) 1943
(3) 1944
(4) 1945
Correct Answer: (4) 1945
Solution: Step 1: Recall the historical context of the formation of the United Nations. The United Nations (UN) was established after World War II with the aim of preventing future wars and promoting international peace, security, and cooperation.

It succeeded the League of Nations.

Step 2: Identify the year of establishment. The Charter of the United Nations was signed on June 26, 1945, in San Francisco, at the conclusion of the United Nations Conference on International Organization. The United Nations officially came into existence on October 24, 1945, after the Charter had been ratified by China, France, the Soviet Union, the United Kingdom, the United States (the five permanent members of the Security Council) and by a majority of other signatories. October 24th is celebrated as UN Day.

Step 3: Compare with options. The year of establishment is 1945. This matches option (4).

Quick Tip

- United Nations (UN): An intergovernmental organization established to promote international cooperation and to create and maintain international order. - Founded: October 24, 1945. - Predecessor: League of Nations (founded after World War I, proved ineffective). - Headquarters: New York City, USA. - Main Organs: General Assembly, Security Council, Economic and Social Council (ECOSOC), Trusteeship Council (largely inactive), International Court of Justice (ICJ), UN Secretariat.

61. The book "Indica" was written by

(1) Kautilya

(2) Visakadatta

(3) Aswaghosha

(4) Megasthenes

Correct Answer: (4) Megasthenes

Solution: Step 1: Recall ancient authors and their works related to India. "Indica" is a famous account of Mauryan India.

Step 2: Identify the author of "Indica". Megasthenes was a Greek ethnographer and ambassador of Seleucus I Nicator to the court of Chandragupta Maurya in Pataliputra. His work, "Indica," though now largely lost, survives through fragments

quoted by later Greek and Roman writers. It provides valuable information about the society, administration, and geography of Mauryan India.
Step 3: Consider other authors. - (1) Kautilya (also known as Chanakya or Vishnugupta): The author of the "Arthashastra," an ancient Indian treatise on statecraft, economic policy, and military strategy. He was an advisor to Chandragupta Maurya. - (2) Visakadatta (Vishakhadatta): A Sanskrit poet and playwright, best known for his historical play "Mudrarakshasa," which deals with the rise of Chandragupta Maurya and the machinations of Chanakya. - (3) Aswaghosha (Ashvaghosha): An Indian Buddhist philosopher, poet, and dramatist. He is known for works like "Buddhacharita" (an epic on the life of Buddha).
Step 4: Confirm the author. "Indica" was written by Megasthenes. This matches option (4).

Quick Tip

Important Ancient Indian Texts and Authors: - Indica: Megasthenes (Greek account of Mauryan India). - Arthashastra: Kautilya/Chanakya (treatise on statecraft). - Mudrarakshasa: Visakadatta (historical play). - Buddhacharita: Ashvaghosha (epic on Buddha's life).

62. Indus Valley people worshipped
(1) Mother Goddess
(2) Vishnu
(3) Buddha
(4) Ganesha
Correct Answer: (1) Mother Goddess
Solution: Step 1: Recall the religious beliefs of the Indus Valley Civilization (Harappan Civilization). Archaeological evidence from Indus Valley sites suggests various religious practices.
Step 2: Identify the primary deities or forms of worship. - Mother Goddess: Numerous terracotta figurines of female deities have been found, suggesting the worship of a Mother Goddess, associated with fertility and nature. This is a prominent aspect of

Harappan religion. - Proto-Shiva (Pashupati Seal): A seal depicting a figure seated in a yogic posture, surrounded by animals, is interpreted by some scholars as a prototype of the Hindu god Shiva in his aspect as Pashupati (Lord of Animals). - Animal Worship: Seals depict animals like the unicorn, bull, elephant, rhinoceros, and tiger, suggesting they held religious significance, possibly as totems or deities. - Tree Worship: Figures depicted on seals suggest worship of trees like the Pipal tree. - Fire Altars: Structures identified as fire altars have been found at sites like Kalibangan and Lothal, suggesting ritualistic use of fire.

Step 3: Evaluate the options. (1) Mother Goddess: Worship of the Mother Goddess is strongly indicated by archaeological finds. This is TRUE. (2) Vishnu: While some proto-forms of later Hindu deities might have existed, the worship of Vishnu as known in later Puranic Hinduism is not clearly established for the Indus Valley Civilization. (3) Buddha: Buddhism originated much later (around 6th-5th century BCE), while the Indus Valley Civilization flourished much earlier (c. 2500-1900 BCE). So, Buddha was not worshipped by Indus Valley people. (4) Ganesha: The worship of Ganesha as a prominent deity developed in later periods of Hinduism. There is no direct evidence of Ganesha worship in the Indus Valley Civilization.

Step 4: Identify the worshipped deity. The worship of a Mother Goddess is a well-attested feature of the Indus Valley people's beliefs. This matches option (1).

Quick Tip

Religious Practices of Indus Valley Civilization: - Prominent worship of a Mother Goddess (fertility cult). - Worship of a male deity, possibly a Proto-Shiva (Pashupati). - Animal worship (e.g., unicorn, bull). - Tree worship (e.g., Pipal tree). - Possible evidence of fire worship/rituals (fire altars). - Amulets and possible belief in magic/charms. - Burial practices suggest belief in an afterlife.

63. The term "liberty" is derived from the word

(1) Latin word 'Liber'

(2) Greek word 'Liber'

(3) French word 'Liber'

(4) English word 'Liber'

Correct Answer: (1) Latin word 'Liber'

Solution: Step 1: Understand etymology. Etymology is the study of the origin of words and the way in which their meanings have changed throughout history.

Step 2: Trace the origin of the word "liberty". The English word "liberty" comes from the Old French "liberte," which in turn comes from the Latin word "libertas." "Libertas" means freedom, condition of a freeman, or independence. The Latin word "libertas" itself is derived from "liber," which means "free."

Step 3: Evaluate the options. (1) Latin word 'Liber': This is correct. "Liber" (meaning free) is the root of "libertas," from which "liberty" is derived. (2) Greek word 'Liber': "Liber" is a Latin word. The Greek equivalent for "free" is "eleutheros" ( ), from which "eleutheria" (freedom) is derived. (3) French word 'Liber': While "liberté" is French for liberty, and "libre" is French for free, the ultimate root is Latin. "Liber" itself is not typically cited as a direct French root in this context. (4) English word 'Liber': "Liber" is not an English word in this context; it is the Latin root.

Step 4: Confirm the origin. The term "liberty" is derived from the Latin word "liber" (meaning free), via "libertas." This matches option (1).

Quick Tip

Etymology of "Liberty": - English "liberty" - From Old French "liberte" - From Latin "libertas" (freedom, condition of a freeman) - From Latin "liber" (free)

64. The father of local - self governments in India

(1) Lord Rippon

(2) Balawant Rai Mehta

(3) Lord Mayo

(4) L. M. Singhvi

Correct Answer: (1) Lord Rippon

Solution: Step 1: Understand "local self-government" in the Indian context. This refers to the system of governance where local bodies (like municipalities and panchayats) manage local affairs.

Step 2: Identify the key historical figure associated with its promotion. Lord Ripon, who served as the Viceroy of India from 1880 to 1884, is widely regarded as the "Father of Local Self-Government in India." In 1882, his government passed a resolution that laid the foundation for local self-governing institutions in India. He aimed to develop these bodies not just for administrative efficiency but also as instruments of political and popular education.
Step 3: Consider other options. - (2) Balwant Rai Mehta: Chaired the Balwant Rai Mehta Committee (1957), which recommended the establishment of the scheme of 'democratic decentralisation,' which finally came to be known as Panchayati Raj. This was a crucial step in post-independence India for strengthening local self-government. - (3) Lord Mayo: Viceroy of India (1869-1872). He introduced financial decentralization, which was a step towards local self-government, but Lord Ripon's measures were more direct and foundational for the system. - (4) L. M. Singhvi: Chaired the L.M. Singhvi Committee (1986), which recommended constitutional status for Panchayati Raj institutions. This was a significant step leading to the 73rd Constitutional Amendment.
Step 4: Confirm the "Father of Local Self-Government". While others made significant contributions, particularly in post-independence India, Lord Ripon is historically acclaimed as the "Father of Local Self-Government in India" for his initiatives in the colonial era. This matches option (1).

Quick Tip

- Lord Ripon (Viceroy 1880-1884): Known as the "Father of Local Self-Government in India" for his 1882 resolution that promoted local boards. - Lord Mayo (Viceroy 1869-1872): Initiated financial decentralization. - Balwant Rai Mehta Committee (1957): Recommended three-tier Panchayati Raj system. - Ashok Mehta Committee (1977-78): Recommended two-tier Panchayati Raj system. - L.M. Singhvi Committee (1986): Recommended constitutional status for Panchayati Raj. - 73rd & 74th Constitutional Amendments (1992): Granted constitutional status to Panchayati Raj Institutions (rural) and Urban Local Bodies respectively.

65. Birth place of Renaissance

(1) Venice

(2) Florence

(3) Padua

(4) Rome

Correct Answer: (2) Florence

Solution: Step 1: Understand the Renaissance. The Renaissance was a period in European history marking the transition from the Middle Ages to modernity and covering the 15th and 16th centuries. It was characterized by a renewed interest in classical art, literature, and philosophy of ancient Greece and Rome.

Step 2: Identify the primary origin city of the Renaissance. While the Renaissance spread throughout Europe, it is widely considered to have originated in Florence, Italy, in the 14th century (Proto-Renaissance) and flourished there in the 15th century (Early Renaissance). Florence was a wealthy city-state with a vibrant intellectual and artistic environment, supported by patrons like the Medici family.

Step 3: Consider other important Italian cities during the Renaissance. - (1) Venice: A major maritime republic and an important center of Renaissance art (Venetian School) and commerce. - (3) Padua: Home to one of Europe's oldest universities, it was an important center of learning and humanism during the Renaissance. - (4) Rome: Became a major center of the High Renaissance (late 15th and early 16th centuries), especially under the patronage of Popes like Julius II and Leo X.

Step 4: Confirm the birthplace. While Rome and Venice were also crucial centers, Florence is generally recognized as the "birthplace" or cradle of the Renaissance. This matches option (2).

Quick Tip

- Renaissance: A fervent period of European cultural, artistic, political and economic "rebirth" following the Middle Ages. - Birthplace: Florence, Italy, is widely regarded as the city where the Renaissance began. - Key Figures from Florence: Artists like Leonardo da Vinci, Michelangelo, Botticelli, Brunelleschi; writers like Dante, Petrarch, Boccaccio (Proto-Renaissance); thinkers like Machiavelli. - Patronage: Wealthy families (e.g., Medici in Florence) and the Papacy (in Rome) played a crucial role in supporting arts and scholarship.

66. Opium wars held between

(1) India - China

(2) India - Britan

(3) China - Pakistan

(4) China - Britan

Correct Answer: (4) China - Britan

Solution: Step 1: Recall the context of the Opium Wars. The Opium Wars were two armed conflicts fought in China in the mid-19th century.

Step 2: Identify the primary belligerents. - First Opium War (1839-1842): Fought between China (Qing Dynasty) and Great Britain. The conflict arose from China's attempts to suppress the opium trade, which British traders had been illegally exporting from India to China, and Britain's desire to open up Chinese markets and establish diplomatic equality. - Second Opium War (Arrow War, 1856-1860): Fought by Britain and France against China. It further extended Western influence in China.

Step 3: Evaluate the options. (1) India - China: While opium was grown in British India and exported to China, India as a political entity (under British rule) was not a direct belligerent against China in the same way Britain was. (2) India - Britan: This describes a colonial relationship or potential conflicts within the British Empire, not the Opium Wars. (3) China - Pakistan: Pakistan did not exist as an independent country during the Opium Wars period. (4) China - Britan: This correctly identifies the primary belligerents of the First Opium War, and Britain was also a key belligerent in the Second Opium War.

Step 4: Confirm the participants. The Opium Wars were primarily fought between China and Britain (with France joining Britain in the Second Opium War). This matches option (4).

Quick Tip

- First Opium War (1839-1842): Britain vs. China. Resulted in Treaty of Nanking, ceding Hong Kong to Britain and opening treaty ports. - Second Opium War (Arrow War, 1856-1860): Britain and France vs. China. Resulted in Treaty of Tientsin and Convention of Peking, further opening China to foreign trade and influence. - The wars were centered around the British opium trade in China and China's attempts to stop it.

67. The Chief Census Officer in the district:

(1) Joint Collector

(2) Collector

(3) Superintendent of Police

(4) Chief Executive Officer

Correct Answer: (2) Collector

Solution: Step 1: Understand the administrative structure for census operations in India. The Census of India is a massive decennial exercise. The administrative machinery extends from the central government down to the local level.

Step 2: Identify the key census official at the district level. At the district level, the District Magistrate/Collector is typically designated as the Principal Census Officer or the overall in-charge of census operations within their district. They are responsible for the conduct and supervision of the census work in their jurisdiction, coordinating with various departments and enumeration staff. While there might be specific "District Census Officers" appointed under them, the Collector holds the primary administrative responsibility.

Step 3: Evaluate the options. (1) Joint Collector: An administrative officer who assists the Collector. While involved, the Collector is the head. (2) Collector (District Magistrate/DM): This is the chief administrative and revenue officer of a district and

is typically vested with the overall responsibility for census operations in the district. (3) Superintendent of Police (SP): The head of the police force in a district, responsible for law and order. Not the chief census officer. (4) Chief Executive Officer (CEO): This title is used in various contexts (e.g., CEO of Zila Parishad, CEO of a company). While a CEO of Zila Parishad is involved in rural local governance, the Collector/DM is the nodal officer for census.

Step 4: Confirm the responsible officer. The District Collector/Magistrate is generally the principal authority for census operations at the district level. This matches option (2).

Quick Tip

Census Operations Hierarchy in India (simplified): - Central Level: Registrar General and Census Commissioner of India. - State Level: Director of Census Operations for each State/UT. - District Level: District Magistrate/Collector acts as the Principal Census Officer. - Sub-District Level: Sub-Divisional Magistrates, Tehsildars, etc., are involved. - Enumeration Level: Enumerators and Supervisors (often teachers, government employees).

68. The Delhi Sultan who introduced market regulations was

(1) Muhammad bin Tughlaq

(2) Balban

(3) Iltutmish

(4) Ala - ud - din Khulji

Correct Answer: (4) Ala - ud - din Khulji

Solution: Step 1: Recall major Delhi Sultans and their administrative reforms. The Delhi Sultanate saw various rulers who implemented significant administrative and economic measures.

Step 2: Identify the Sultan known for extensive market control policies. Alauddin Khalji (reigned 1296-1316) of the Khalji dynasty is renowned for his comprehensive market control policies and economic reforms. He implemented these measures to maintain a large standing army (to counter Mongol invasions and for his expansionist

policies) by ensuring that soldiers could be paid relatively low salaries if the prices of essential commodities were kept low and stable. His market regulations included: - Fixing prices of essential goods (grains, cloth, horses, slaves, cattle). - Establishing separate markets for different commodities (e.g., grain market - Shuhna-i-mandi). - Appointing market controllers (Shahna-i-Mandi) and intelligence officers (Barids, Munhiyans) to enforce regulations. - Strict punishments for hoarding, black marketing, and violating price controls. - Control over supply and transport of goods.
Step 3: Consider other Sultans. - (1) Muhammad bin Tughlaq (Tughlaq dynasty, 1325-1351): Known for ambitious and often controversial experiments like token currency, transfer of capital, and agricultural reforms. Not primarily for market price controls in the same way as Alauddin. - (2) Ghiyas ud din Balban (Slave dynasty, 1266-1287): Known for consolidating the Sultanate, strengthening the monarchy, and establishing an efficient spy system. Not specifically for market regulations. - (3) Shams-ud-din Iltutmish (Slave dynasty, 1211-1236): Considered the real consolidator of the Delhi Sultanate; introduced silver tanka and copper jital, organized the iqta system. Not primarily known for comprehensive market control.
Step 4: Confirm the Sultan. Alauddin Khalji is famous for his market regulation policies. This matches option (4).

Quick Tip

Key Reforms by Delhi Sultans: - Iltutmish: Iqta system, introduction of Tanka (silver) and Jital (copper) coins. - Balban: Strengthened monarchy, 'Sijda' and 'Paibos', efficient spy system, suppressed rebellions. - Alauddin Khalji: Market control policy (price fixation), Dagh (branding of horses), Chehra (descriptive roll of soldiers), land revenue reforms. - Muhammad bin Tughlaq: Token currency, transfer of capital (Delhi to Daulatabad), agricultural reforms (Diwan-i-Kohi), Takkavi loans. - Firoz Shah Tughlaq: Public works (canals, hospitals, sarais), Diwan-i-Khairat (charity), Diwan-i-Bundagan (department of slaves), Jizya on non-Muslims.

69. The price, where demand and supply are equal in the market is called:
(1) Total price

(2) Equilibrium price

(3) Minimum price

(4) Maximum price

Correct Answer: (2) Equilibrium price

Solution: Step 1: Understand the concepts of demand and supply. - Demand: The quantity of a good or service that consumers are willing and able to buy at various prices during a given period. - Supply: The quantity of a good or service that producers are willing and able to offer for sale at various prices during a given period.

Step 2: Define equilibrium in a market. Market equilibrium occurs at the price where the quantity demanded by consumers equals the quantity supplied by producers. At this point, there is no tendency for the price to change (unless demand or supply conditions change).

Step 3: Identify the term for this price. The price at which quantity demanded equals quantity supplied is called the equilibrium price (or market-clearing price). The corresponding quantity is called the equilibrium quantity.

Step 4: Evaluate other options. - (1) Total price: A vague term, could refer to the total cost of multiple units, not the specific price point of equilibrium. - (3) Minimum price (Price Floor): A government-imposed or agreed-upon lower limit on the price of a good or service. If set above the equilibrium price, it leads to a surplus. - (4) Maximum price (Price Ceiling): A government-imposed or agreed-upon upper limit on the price of a good or service. If set below the equilibrium price, it leads to a shortage.

Step 5: Confirm the correct term. The price where demand and supply are equal is the equilibrium price. This matches option (2).

Quick Tip

- Demand Curve: Shows quantity demanded at different prices (typically downward sloping). - Supply Curve: Shows quantity supplied at different prices (typically upward sloping). - Equilibrium: Occurs at the intersection of the demand and supply curves. - Equilibrium Price: The price at this intersection. - Equilibrium Quantity: The quantity at this intersection. - If price is above equilibrium: Surplus (Quantity Supplied > Quantity Demanded). - If price is below equilibrium: Shortage (Quantity Demanded > Quantity Supplied).

70. Public Accounts Committee was set up in the year

(1) 1925

(2) 1922

(3) 1923

(4) 1921

Correct Answer: (4) 1921

Solution: Step 1: Understand the role of the Public Accounts Committee (PAC). The Public Accounts Committee is one of the standing committees of the Indian Parliament (and also exists in state legislatures). Its primary function is to examine the accounts showing the appropriation of sums granted by Parliament for the expenditure of the Government of India, the annual finance accounts of the Government, and such other accounts laid before Parliament as the Committee may think fit. It scrutinizes government spending and financial accountability.

Step 2: Recall its historical establishment. The Public Accounts Committee in India was first set up in 1921 under the provisions of the Government of India Act, 1919 (Montague-Chelmsford Reforms). It is one of the oldest parliamentary committees.

Step 3: Evaluate the options. Option (4) 1921 is the correct year.

Quick Tip

- Public Accounts Committee (PAC): - Established: 1921 (under Government of India Act, 1919). - Composition (at Union level): 22 members (15 from Lok Sabha, 7 from Rajya Sabha). - Chairman: Conventionally appointed from the opposition. - Function: To examine government accounts and the report of the Comptroller and Auditor General of India (CAG) to ensure financial accountability of the executive. - It's a key instrument of parliamentary oversight over government finances.

71. Identify the Political right

(1) Right to life

(2) Right to equality

(3) Right to liberty

(4) Right to vote

Correct Answer: (4) Right to vote

Solution: Step 1: Distinguish between different categories of rights (e.g., civil, political, economic, social). - Civil Rights: Rights that protect individuals' freedom from infringement by governments, social organizations, and private individuals. They ensure one's ability to participate in the civil and political life of the society and state without discrimination or repression. Examples: right to life, liberty, equality before law, freedom of speech. - Political Rights: Rights that involve participation in the establishment or administration of a government. They are primarily concerned with the citizen's role in the state. Examples: right to vote, right to contest elections, right to hold public office, right to criticize the government.

Step 2: Analyze the given options. (1) Right to life: A fundamental civil right, essential for human existence. (e.g., Article 21 in Indian Constitution). (2) Right to equality: A fundamental civil right, ensuring equal treatment before the law and prohibiting discrimination. (e.g., Articles 14-18 in Indian Constitution). (3) Right to liberty: A broad civil right encompassing various freedoms like personal liberty, freedom of thought, expression, etc. (e.g., Articles 19, 21 in Indian Constitution). (4) Right to vote (Suffrage): The right of citizens to vote in elections to choose their

representatives. This is a quintessential political right, as it directly involves participation in the political process of forming a government.
Step 3: Identify the political right. Among the given options, the ”Right to vote” is a core political right. While other rights are fundamental and enable political participation, the act of voting is a direct exercise of political power. This matches option (4).

Quick Tip

Categories of Rights: - Civil Rights: Protect individual freedoms (e.g., life, liberty, equality, free speech). - Political Rights: Enable participation in governance (e.g., vote, contest elections, hold office). - Social Rights: Relate to social well-being and equality (e.g., education, health, social security). - Economic Rights: Relate to economic well-being (e.g., work, fair wages, property). Fundamental Rights in India often encompass a mix of these, but some are more distinctly categorized.

72. The Chief Minister is appointed by
(1) Governor
(2) President
(3) Vice President
(4) Speaker
Correct Answer: (1) Governor
Solution: Step 1: Understand the appointment process for the Chief Minister in an Indian state. In India’s parliamentary system of government at the state level: - The Governor is the constitutional head of the state. - The Chief Minister is the head of the state government (the real executive).
Step 2: Recall the constitutional provision. According to Article 164(1) of the Constitution of India, ”The Chief Minister shall be appointed by the Governor and the other Ministers shall be appointed by the Governor on the advice of the Chief Minister...” Typically, the Governor appoints the leader of the party or coalition that commands a majority in the State Legislative Assembly (Vidhan Sabha) as the Chief Minister.

Step 3: Evaluate the options. (1) Governor: This is the correct appointing authority for the Chief Minister of a state. (2) President: The President appoints the Prime Minister of India, not the Chief Minister of a state. The President also appoints Governors. (3) Vice President: The Vice President of India is the ex-officio Chairman of the Rajya Sabha and acts as President in certain contingencies. Not involved in appointing Chief Ministers. (4) Speaker: The Speaker is the presiding officer of the Legislative Assembly (or Lok Sabha at the Union level). Not involved in appointing the Chief Minister.
Step 4: Confirm the appointing authority. The Chief Minister of a state is appointed by the Governor of that state. This matches option (1).

Quick Tip

Appointment of Key Executives in India: - Prime Minister of India: Appointed by the President of India. - Chief Minister of a State: Appointed by the Governor of the State. - Union Council of Ministers: Appointed by the President on the advice of the Prime Minister. - State Council of Ministers: Appointed by the Governor on the advice of the Chief Minister. The Governor usually invites the leader of the majority party/coalition in the State Legislative Assembly to form the government and become Chief Minister.

73. An abbreviation for agricultural marketing, which is the symbol of quality of produce
(1) Kisan Credit Card
(2) Rythu Bazars
(3) Hallmark
(4) AGMARK
Correct Answer: (4) AGMARK
Solution: Step 1: Understand the context: agricultural marketing and quality symbol. The question is looking for an official mark or certification used in India to signify the quality of agricultural products.
Step 2: Evaluate the options. (1) Kisan Credit Card (KCC): A credit scheme

introduced by Indian banks to provide farmers with timely access to credit for their cultivation and other needs. It's a financial tool, not a quality mark for produce. (2) Rythu Bazars: Farmers' markets established by some state governments (e.g., in Andhra Pradesh and Telangana) to enable farmers to sell their produce directly to consumers, eliminating middlemen. It's a marketing channel, not a quality symbol itself. (3) Hallmark: A mark or series of marks stamped on articles of precious metals (like gold, silver, platinum) to certify their purity or fineness. Not directly for agricultural produce quality. (BIS Hallmark for gold jewellery in India). (4) AGMARK: A certification mark employed on agricultural products in India, assuring that they conform to a grade standard notified by Directorate of Marketing and Inspection (DMI), Department of Agriculture, Cooperation and Farmers Welfare, Ministry of Agriculture Farmers Welfare under Agricultural Produce (Grading and Marking) Act, 1937. The term "AGMARK" is derived from "Agricultural Mark." It signifies quality and purity.

Step 3: Identify the correct symbol of quality for agricultural produce. AGMARK is the certification mark for quality of agricultural produce in India. This matches option (4).

Quick Tip

Certification Marks in India: - AGMARK: For agricultural products (ensures quality and purity as per grade standards). - ISI Mark: For industrial products (certifies conformity to Indian Standards, issued by Bureau of Indian Standards - BIS). - BIS Hallmark: For precious metals like gold and silver jewellery (certifies purity). - FPO Mark: For processed fruit products (certifies product is manufactured in a hygienic 'food-safe' environment). - India Organic: For organically farmed food products.

74. An increase in a country's real output of goods and services is:

(1) Human Resource Development

(2) Industrial Development

(3) Economic Development

(4) Economic growth

Correct Answer: (4) Economic growth

Solution: Step 1: Define the terms related to national output and development. - Economic Growth: Refers to an increase in the productive capacity of an economy, typically measured by the increase in the real Gross Domestic Product (GDP) or Gross National Product (GNP) over time. Real output means adjusted for inflation. It is a quantitative measure. - Economic Development: A broader concept than economic growth. It implies not only an increase in real output but also improvements in the quality of life, living standards, well-being of the population, reduction in poverty and inequality, improvements in health, education, and structural changes in the economy. It is a qualitative and quantitative measure. - Human Resource Development (HRD): Focuses on improving the skills, knowledge, health, and capabilities of the workforce and population. It's a component of economic development. - Industrial Development: Refers to the growth and expansion of the industrial sector of an economy. It's a component of economic growth and development.

Step 2: Match the definition with the given phrase. The phrase "An increase in a country's real output of goods and services" directly defines economic growth.

Step 3: Confirm the best fit. While economic growth can contribute to economic development, industrial development, and be supported by human resource development, the specific definition provided points directly to economic growth. This matches option (4).

Quick Tip

- Economic Growth: Increase in real national income/output (e.g., GDP, GNP). Quantitative. - Economic Development: Broader concept including economic growth PLUS improvements in living standards, health, education, poverty reduction, structural economic changes. Qualitative and quantitative. - Economic growth is a necessary but not sufficient condition for economic development.

75. Number of essential elements of State are

(1) 3

(2) 4

(3) 2

(4) 5

Correct Answer: (2) 4

Solution: Step 1: Understand the concept of ”State” in political science. In political science, a State is a politically organized body of people occupying a definite territory and having an organized government with the power to make and enforce laws without external control (sovereignty).

Step 2: Recall the essential elements of a State. According to widely accepted political theory, there are four essential elements or characteristics that constitute a State: 1. Population: There must be a human population inhabiting the state. 2. Territory: The state must have a defined geographical area or territory over which it exercises control. 3. Government: There must be a political organization or machinery (government) to make and enforce laws, maintain order, and provide public services. 4. Sovereignty: The state must possess supreme and independent authority (sovereignty) both internally (within its territory) and externally (free from foreign control).

Step 3: Determine the number of these essential elements. There are four essential elements of a State: Population, Territory, Government, and Sovereignty. This matches option (2).

Quick Tip

The four essential elements of a State are: 1. Population: The people who make up the state. 2. Territory: A defined geographical area. 3. Government: The political organization that exercises authority. 4. Sovereignty: Supreme and independent authority of the state. Absence of any one of these elements means the entity cannot be considered a State in the political science sense.

76. The ex-officio Chairman of National Development Council

(1) Prime Minister

(2) President

(3) Vice President

(4) Speaker

Correct Answer: (1) Prime Minister

Solution: Step 1: Understand the National Development Council (NDC). The National Development Council (NDC) or Rashtriya Vikas Parishad was an apex body for decision making and deliberations on development matters in India, presided over by the Prime Minister. It was established in August 1952. Its functions included reviewing the working of the National Plan from time to time, considering important questions of social and economic policy affecting national development, and recommending measures for the achievement of the aims and targets set out in the National Plan.

Step 2: Identify its ex-officio Chairman. The Prime Minister of India is the ex-officio Chairman of the National Development Council. Other members typically included all Union Cabinet Ministers, Chief Ministers of all States, representatives of Union Territories, and members of the NITI Aayog (formerly Planning Commission).

Step 3: Evaluate the options. (1) Prime Minister: This is the correct ex-officio Chairman. (2) President: The constitutional head of the state, not the chairman of NDC. (3) Vice President: Ex-officio Chairman of Rajya Sabha, not NDC. (4) Speaker: Presiding officer of Lok Sabha, not chairman of NDC.

Step 4: Confirm the Chairman. The Prime Minister is the ex-officio Chairman of the National Development Council. Note: With the establishment of NITI Aayog (National Institution for Transforming India) in 2015, which replaced the Planning Commission, the role and functioning of the NDC have become less prominent, and it has not met for several years. However, historically and formally, the PM was its head. This matches option (1).

Quick Tip

- National Development Council (NDC): Established in 1952 as an apex body for development planning. - Ex-officio Chairman: Prime Minister of India. - Composition: Included PM, Union Cabinet Ministers, Chief Ministers of States, Administrators of UTs, Members of NITI Aayog (formerly Planning Commission). - Function: To strengthen and mobilize the effort and resources of the nation in support of the Plan, to promote common economic policies in all vital spheres, and to ensure the balanced and rapid development of all parts of the country. - The NDC's relevance has diminished with the advent of NITI Aayog.

77. The first people who build cities are

(1) Mesopotamians

(2) Greeks

(3) Romans

(4) Chinese

Correct Answer: (1) Mesopotamians

Solution: Step 1: Understand the context of "first cities". This refers to the earliest urban settlements that mark the beginning of civilization.

Step 2: Recall early civilizations known for urban development. - Mesopotamia (Sumerians): Located in the fertile crescent between the Tigris and Euphrates rivers (modern-day Iraq), the Sumerian civilization is widely credited with establishing the world's first true cities, starting around 3500-3000 BCE. Cities like Uruk, Ur, Eridu, and Lagash were centers of population, administration, religion, and trade. They developed writing (cuneiform), complex social structures, and monumental architecture. - Ancient Egypt: Developed cities along the Nile River (e.g., Memphis, Thebes) from around 3100 BCE. - Indus Valley Civilization: Flourished around 2500-1900 BCE with well-planned cities like Harappa and Mohenjo-daro. - Ancient China: Urban centers developed along the Yellow River, with early dynasties like the Shang (c. 1600-1046 BCE) having established cities. - Ancient Greece: City-states (poleis) like Athens and Sparta emerged much later, flourishing from around 800 BCE onwards. - Ancient Rome: Founded traditionally in 753 BCE, grew from a small

settlement to a vast city and empire.

Step 3: Identify the earliest city builders among the options. Among the given options, the Mesopotamians (specifically the Sumerians) are recognized as the earliest to develop urban centers that can be defined as cities. This matches option (1).

Quick Tip

Cradles of Civilization and Early Urbanization: - Mesopotamia (Sumer): Generally considered the site of the world's first cities (e.g., Uruk, Ur), developing from the 4th millennium BCE. - Egypt: Early urban centers along the Nile from late 4th millennium BCE. - Indus Valley: Well-planned cities from mid-3rd millennium BCE. - China: Early urban development along major rivers from 2nd millennium BCE. Greek and Roman city-states and urban centers developed significantly later than the earliest Mesopotamian cities.

78. The first woman ruler of Andhra region

(1) Razia

(2) Rudrama Devi

(3) Durgavati

(4) Rani Padmini

Correct Answer: (2) Rudrama Devi

Solution: Step 1: Identify the region and context. The question asks about the first woman ruler of the Andhra region.

Step 2: Recall prominent women rulers in Indian history, particularly from the Andhra region. - Rudrama Devi (Rani Rudramadevi): A monarch of the Kakatiya dynasty in the Deccan Plateau, with her capital at Orugallu (present-day Warangal in Telangana, which was part of the historical Andhra region). She ruled from 1262/1263 to 1289 or 1295 CE. She is one of the few women to have ruled as a queen in Indian history and is a significant figure in Telugu history.

Step 3: Evaluate other options. - (1) Razia (Razia Sultana): The Sultan of Delhi from 1236 to 1240. She was the first and only female Muslim ruler of the Delhi Sultanate. She ruled over North India, not specifically the Andhra region. - (3) Durgavati (Rani

Durgavati): The ruling Queen of Gondwana from 1550 until 1564. She is known for her resistance against the Mughal Empire. Gondwana was in central India. - (4) Rani Padmini (Padmavati): A legendary 13th-14th century queen of Chittor (Mewar region in Rajasthan), known for her beauty and the siege of Chittor by Alauddin Khalji. Her historicity is debated, and she was not a ruler of the Andhra region.
Step 4: Confirm the first woman ruler of the Andhra region. Rani Rudrama Devi of the Kakatiya dynasty is the prominent historical woman ruler associated with the Andhra region (which included modern-day Telangana at that time). She is often considered the first major woman ruler in that area. This matches option (2).

Quick Tip

Prominent Women Rulers in Indian History: - Rudrama Devi: Kakatiya queen (13th century), ruled over a significant part of the Telugu-speaking Deccan region. - Razia Sultana: Sultan of Delhi (13th century). - Rani Durgavati: Queen of Gondwana (16th century). - Chand Bibi: Regent of Bijapur and Ahmednagar (late 16th century). - Ahilyabai Holkar: Holkar queen of the Maratha Malwa kingdom (18th century). - Rani Lakshmibai: Queen of Jhansi (19th century), a key figure in the 1857 Indian Rebellion.

79. The most frequently observed value in the data is:
(1) Arithmetic Mean
(2) Median
(3) Mode
(4) Range
Correct Answer: (3) Mode
Solution: Step 1: Define the statistical terms. - Arithmetic Mean (Average): The sum of all values divided by the number of values. - Median: The middle value in a dataset that has been arranged in order of magnitude. If there is an even number of observations, the median is the average of the two middle values. - Mode: The value that appears most frequently in a dataset. A dataset can have one mode (unimodal), more than one mode (bimodal, multimodal), or no mode if all values occur with the

same frequency. - Range: The difference between the highest and lowest values in a dataset. It is a measure of dispersion, not central tendency.
Step 2: Match the definition with "most frequently observed value". The definition of Mode is the value that occurs most frequently in a data set. This matches option (3).

Quick Tip

Measures of Central Tendency: - Mean: Sum of observations / Number of observations. Sensitive to outliers. - Median: Middle value of an ordered dataset. Less sensitive to outliers. - Mode: Most frequent value(s) in a dataset. Can be used for categorical data. A dataset can have no mode, one mode (unimodal), or multiple modes (bimodal, trimodal, etc.). Measure of Dispersion: - Range: Highest value - Lowest value.

80. The book "Spirit of Laws" written by
(1) Montesquieu
(2) Plato
(3) Voltaire
(4) Rousseau
Correct Answer: (1) Montesquieu
Solution: Step 1: Recall famous political philosophy works and their authors. "The Spirit of Laws" (original French: "De l'esprit des lois") is a highly influential treatise on political theory.
Step 2: Identify the author. The book "The Spirit of Laws" was written by Charles-Louis de Secondat, Baron de La Brède et de Montesquieu, usually referred to simply as Montesquieu. It was published anonymously in 1748. In this work, Montesquieu advocated for the separation of powers in government (legislative, executive, and judicial branches), which significantly influenced the framers of the United States Constitution.
Step 3: Consider other philosophers. - (2) Plato: Ancient Greek philosopher, author of "The Republic" and "Laws," known for his theory of Forms and ideas on justice and the ideal state. - (3) Voltaire (François-Marie Arouet): French Enlightenment writer,

historian, and philosopher known for his advocacy of freedom of speech, freedom of religion, and separation of church and state. Works include ”Candide.” - (4) Jean-Jacques Rousseau: Genevan philosopher, writer, and composer. His works include ”The Social Contract” and ”Emile, or On Education.” He influenced the Enlightenment and the French Revolution.
Step 4: Confirm the author of ”Spirit of Laws”. ”The Spirit of Laws” was written by Montesquieu. This matches option (1).

Quick Tip

Key Enlightenment Philosophers and their Works: - Montesquieu: ”The Spirit of Laws” (advocated separation of powers). - John Locke: ”Two Treatises of Government” (natural rights, social contract). - Jean-Jacques Rousseau: ”The Social Contract,” ”Emile” (general will, popular sovereignty). - Voltaire: ”Candide,” advocated for civil liberties. - Plato (Ancient Greek, not Enlightenment): ”The Republic,” ”Laws.”

81. The term ’Politics’ for the first time used by
(1) Plato
(2) Aristotle
(3) Socrates
(4) J. W. Garner
Correct Answer: (2) Aristotle
Solution: Step 1: Consider the origins of political thought and terminology. The systematic study of politics as a distinct field of inquiry began in ancient Greece.
Step 2: Identify the philosopher associated with the term ”Politics.” Aristotle (384–322 BCE), an ancient Greek philosopher and student of Plato, is widely credited with being one of the first to systematically study and write about politics. His seminal work on the subject is titled ”Politics” (Greek: Π , Politika). In this work, he examined different types of constitutions, the nature of the city-state (polis), citizenship, and various aspects of governance. The term ”politics” itself is derived from the Greek word ”polis,” meaning city-state.

Step 3: Evaluate other options. - (1) Plato: Aristotle's teacher, also a major political philosopher, known for works like "The Republic" and "Laws," but Aristotle's work specifically titled "Politics" systematized the field. - (3) Socrates: Plato's teacher, known for his method of inquiry (Socratic method). He did not write texts himself; his philosophy is known through the writings of his students, primarily Plato. - (4) J. W. Garner (James Wilford Garner): A much later American political scientist (1871–1938), known for his works on political science and international law. While he used and defined the term "politics," he did not coin it or use it "for the first time" in its foundational sense.

Step 4: Confirm the first significant user. Aristotle is considered the "father of political science" and his work "Politics" is foundational to the field and the use of the term. This matches option (2).

Quick Tip

- Aristotle: Ancient Greek philosopher, author of "Politics," often called the "father of political science." - The term "politics" derives from the Greek "polis" (city-state), which was the central unit of political life in ancient Greece. - Aristotle's "Politics" is a systematic study of political institutions, constitutions, and theories of governance.

82. The President can declare financial emergency under Article

(1) 352

(2) 356

(3) 360

(4) 365

Correct Answer: (3) 360

Solution: Step 1: Recall the emergency provisions in the Indian Constitution. Part XVIII of the Constitution of India deals with Emergency Provisions. There are three types of emergencies that can be declared:

Step 2: Identify the articles corresponding to each type of emergency. - Article 352: Deals with National Emergency. This can be declared if the President is satisfied that

a grave emergency exists whereby the security of India or of any part of its territory is threatened, whether by war or external aggression or armed rebellion. - Article 356: Deals with State Emergency (President's Rule). This can be imposed in a state if the President, on receipt of a report from the Governor of the State or otherwise, is satisfied that a situation has arisen in which the government of the State cannot be carried on in accordance with the provisions of the Constitution. - Article 360: Deals with Financial Emergency. This can be declared by the President if he is satisfied that a situation has arisen whereby the financial stability or credit of India or of any part of its territory is threatened. - Article 365: States that where any State has failed to comply with, or to give effect to, any directions given in the exercise of the executive power of the Union under any of the provisions of this Constitution, it shall be lawful for the President to hold that a situation has arisen in which the government of the State cannot be carried on in accordance with the provisions of this Constitution (can lead to imposition of Article 356).

Step 3: Identify the article for financial emergency. Article 360 empowers the President to declare a Financial Emergency. This matches option (3).

Quick Tip

Emergency Provisions in the Indian Constitution: - Article 352: National Emergency (due to war, external aggression, or armed rebellion). - Article 356: State Emergency / President's Rule (due to failure of constitutional machinery in a state). - Article 360: Financial Emergency (if financial stability or credit of India is threatened). A financial emergency has never been declared in India to date.

83. 'Policy of Blood and Iron' belongs to

(1) Mazzini

(2) Garibaldi

(3) Napoleon III

(4) Bismarck

Correct Answer: (4) Bismarck

Solution: Step 1: Understand the "Blood and Iron" policy. The phrase "Blood and

Iron" (German: "Blut und Eisen") refers to a political policy that relies on military strength and warfare rather than diplomacy and negotiations to achieve national goals.
Step 2: Identify the historical figure associated with this policy. Otto von Bismarck (1815-1898), the Minister President of Prussia and later the first Chancellor of Germany, is famously associated with the "Blood and Iron" policy. He delivered a speech in 1862 to the Prussian Diet (parliament) where he stated, "Not by speeches and majority resolutions are the great questions of the time decided... but by iron and blood." He used this approach of military force and pragmatic politics (Realpolitik) to achieve the unification of Germany under Prussian leadership through a series of wars (e.g., against Denmark, Austria, and France).
Step 3: Consider other figures. - (1) Giuseppe Mazzini: An Italian politician, journalist, and activist for the unification of Italy (Risorgimento). He was an idealist and republican, founding "Young Italy." - (2) Giuseppe Garibaldi: An Italian general, patriot, and republican. He played a crucial role in the unification of Italy through his military campaigns (e.g., Expedition of the Thousand). - (3) Napoleon III (Louis-Napoléon Bonaparte): The Emperor of the Second French Empire (1852-1870). He was defeated in the Franco-Prussian War, which was orchestrated by Bismarck.
Step 4: Confirm the proponent of "Blood and Iron". Otto von Bismarck is the historical figure primarily associated with the "Policy of Blood and Iron." This matches option (4).

Quick Tip

- Otto von Bismarck: Chancellor of Germany, architect of German unification in the 19th century. - "Blood and Iron" Speech (1862): Emphasized the use of military power and war to achieve political objectives, rather than liberal methods like debate and parliamentary decisions. - Realpolitik: A system of politics or principles based on practical rather than moral or ideological considerations. Bismarck was a master of Realpolitik.

84. "Economics is what Economists do" stated by the Economist:
(1) Adam Smith

(2) Jacob Viner

(3) Alfred Marshall

(4) Samuelson

Correct Answer: (2) Jacob Viner

Solution: Step 1: Recall famous definitions or characterizations of economics. Defining economics precisely has been a subject of ongoing discussion among economists. Various definitions focus on scarcity, choice, wealth, welfare, etc.

Step 2: Identify the economist associated with the given statement. The somewhat circular and pragmatic definition, "Economics is what economists do," is attributed to Jacob Viner (1892–1970), a Canadian-American economist who taught at the University of Chicago and Princeton University. This statement highlights the evolving nature of the discipline and suggests that the scope of economics is best understood by observing the actual work and subject matter that economists engage with.

Step 3: Consider other economists. - (1) Adam Smith: Often called the "Father of Modern Economics," known for "The Wealth of Nations" (1776). His definition focused on "an inquiry into the nature and causes of the wealth of nations." - (3) Alfred Marshall: A highly influential economist, author of "Principles of Economics" (1890). He defined economics as "a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of wellbeing." (Often considered a welfare definition). - (4) Paul Samuelson: A Nobel laureate in economics, author of the influential textbook "Economics." He provided a widely cited definition focusing on scarcity and choice: "Economics is the study of how societies use scarce resources to produce valuable commodities and distribute them among different people."

Step 4: Confirm the author of the statement. The statement "Economics is what economists do" is attributed to Jacob Viner. This matches option (2).

Quick Tip

Famous Definitions of Economics: - Adam Smith (Wealth Definition): Study of the nature and causes of the wealth of nations. - Alfred Marshall (Welfare Definition): Study of mankind in the ordinary business of life; attainment and use of material requisites of well-being. - Lionel Robbins (Scarcity Definition): Science which studies human behaviour as a relationship between ends and scarce means which have alternative uses. - Paul Samuelson (Growth-Oriented Definition): How societies use scarce resources to produce valuable commodities and distribute them. - Jacob Viner: "Economics is what economists do." (Highlights the evolving and practical nature of the field).

85. Examples like Tea and Coffee, Pepsi and Coca-Cola, etc., are:

(1) Substitutes

(2) Complementaries

(3) Superior goods

(4) Inferior goods

Correct Answer: (1) Substitutes

Solution: Step 1: Define the types of goods listed in the options based on their relationship in consumption. - Substitutes (Substitute Goods): Goods that can be used in place of each other to satisfy a similar want or need. If the price of one substitute good increases, the demand for the other substitute good tends to increase (and vice versa). - Complementary Goods (Complements): Goods that are typically consumed together. If the price of one complementary good increases, the demand for the other complementary good tends to decrease (and vice versa). Examples: cars and petrol, printers and ink cartridges. - Superior Goods (Normal Goods): Goods for which demand increases as consumer income increases. - Inferior Goods: Goods for which demand decreases as consumer income increases (consumers switch to better alternatives).

Step 2: Analyze the given examples. - Tea and Coffee: These are classic examples of substitute goods. A consumer might choose coffee instead of tea (or vice versa) for a hot beverage, depending on preference, price, etc. - Pepsi and Coca-Cola: These are

also classic examples of substitute goods in the carbonated soft drink market. Consumers often switch between them based on availability, price, or slight taste preferences.

Step 3: Classify the examples. The examples provided (Tea and Coffee, Pepsi and Coca-Cola) are pairs of goods that can be used for the same purpose and are thus substitutes for each other. This matches option (1).

Quick Tip

Types of Goods by Demand Relationship: - Substitute Goods: Used in place of each other (e.g., tea/coffee, butter/margarine, Pepsi/Coke). An increase in the price of one leads to an increase in demand for the other. Positive cross-price elasticity of demand. - Complementary Goods: Used together (e.g., car/petrol, bread/butter, printer/ink). An increase in the price of one leads to a decrease in demand for the other. Negative cross-price elasticity of demand. Types of Goods by Income Relationship: - Normal Goods: Demand increases with income (e.g., most goods). - Luxury Goods: A type of normal good where demand increases more than proportionally to income. - Inferior Goods: Demand decreases with income (e.g., low-quality staples when income rises).

86. Co-existence of public and private sectors:

(1) Capitalist Economy

(2) Mixed Economy

(3) Socialist Economy

(4) Developed Economy

Correct Answer: (2) Mixed Economy

Solution: Step 1: Define the economic systems based on ownership and control of means of production. - Capitalist Economy (Market Economy): Means of production are predominantly privately owned and operated for profit. Economic decisions (what to produce, how to produce, for whom to produce) are primarily determined by market forces (demand and supply). Limited government intervention. - Socialist Economy (Command Economy/Centrally Planned Economy): Means of production

are predominantly socially owned (usually by the state). Economic decisions are primarily made by a central planning authority. Aims for social welfare and equitable distribution. - Mixed Economy: An economic system that combines elements of both capitalism and socialism. It features co-existence of private and public sectors. The government plays a role in regulating the economy, providing public goods and services, and addressing market failures, while allowing for private enterprise and market mechanisms. - Developed Economy: Refers to a country with a high level of economic development, characterized by high per capita income, advanced industrialization, high Human Development Index (HDI), etc. It describes a stage of development, not the fundamental system of ownership/control (though most developed economies are mixed, often with a strong market orientation).
Step 2: Identify the system characterized by co-existence of public and private sectors. The Mixed Economy is defined by the co-existence and interplay of both public (government-owned/controlled) and private sectors. This matches option (2).

Quick Tip

Economic Systems: - Capitalism: Private ownership, profit motive, market mechanism. - Socialism: Social/State ownership, central planning, social welfare. - Mixed Economy: Co-existence of private and public sectors; market mechanism with government regulation and intervention. India is a prime example of a mixed economy. "Developed Economy" is a classification based on development indicators, not the ownership system itself.

87. "Democracy is a government of the people, by the people and for the people" is defined by.
(1) A. V. Dicey
(2) J. R. Seeley
(3) Abraham Lincoln
(4) J. S. Mill
Correct Answer: (3) Abraham Lincoln
Solution: Step 1: Recall famous definitions of democracy. The phrase "government of

the people, by the people, for the people" is one of the most iconic and widely quoted definitions of democracy.

Step 2: Identify the author of this definition. This definition is famously attributed to Abraham Lincoln, the 16th President of the United States. He used these words in his Gettysburg Address, delivered on November 19, 1863, during the American Civil War. The concluding sentence of the address is: "...that these dead shall not have died in vain—that this nation, under God, shall have a new birth of freedom—and that government of the people, by the people, for the people, shall not perish from the earth."

Step 3: Consider other figures. - (1) A. V. Dicey: A British jurist and constitutional theorist, known for his work "Introduction to the Study of the Law of the Constitution," where he expounded on the principle of the rule of law. - (2) J. R. Seeley: A British historian and political essayist, known for works like "The Expansion of England." - (4) J. S. Mill (John Stuart Mill): A British philosopher, political economist, and civil servant. An influential proponent of utilitarianism and liberalism. Works include "On Liberty" and "Utilitarianism."

Step 4: Confirm the author. The definition "government of the people, by the people, for the people" is from Abraham Lincoln's Gettysburg Address. This matches option (3).

Quick Tip

- Abraham Lincoln's Gettysburg Address (1863): A short but profound speech delivered during the American Civil War. - Famous concluding line: "...that government of the people, by the people, for the people, shall not perish from the earth." - This phrase has become a classic definition encapsulating the essence of democratic governance.

88. The process of development which sustains the human wellbeing in future also:

(1) Eco - System

(2) Bio - Diversity

(3) Sustainable Development

(4) Natural Resources

Correct Answer: (3) Sustainable Development

Solution: Step 1: Understand the core concept described. The question describes a process of development that not only meets present needs but also ensures that future generations can meet their own needs, thereby sustaining human well-being into the future.

Step 2: Define the terms in the options. - (1) Eco-System: A biological community of interacting organisms and their physical environment. It's a unit of nature, not a process of development. - (2) Bio-Diversity: The variety of life in the world or in a particular habitat or ecosystem. It is something to be conserved for sustainable development. - (3) Sustainable Development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It integrates economic, social, and environmental considerations. This directly matches the description in the question. - (4) Natural Resources: Materials or substances such as minerals, forests, water, and fertile land that occur in nature and can be used for economic gain. Sustainable development involves the wise use of natural resources.

Step 3: Identify the term that fits the definition. The process of development that sustains human well-being for the present and future generations is known as Sustainable Development. This matches option (3).

Quick Tip

- Sustainable Development: A development model that aims to achieve a balance between economic growth, social equity, and environmental protection, ensuring that resources are available for future generations. - Brundtland Commission (1987) definition: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." - Key pillars: Economic sustainability, Social sustainability, Environmental sustainability.

89. Economic Reforms were announced on 24-07-1991 by this Prime Minister

(1) Dr. Manmohan Singh

(2) Sri. Narendra Modi

(3) Sri. P. V. Narasimha Rao

(4) Smt. Indira Gandhi

Correct Answer: (3) Sri. P. V. Narasimha Rao

Solution: Step 1: Recall the context of India's major economic reforms of 1991. In 1991, India faced a severe balance of payments crisis, which prompted the government to introduce significant economic reforms, often referred to as Liberalization, Privatization, and Globalization (LPG) reforms.

Step 2: Identify the Prime Minister and Finance Minister at that time. - The Prime Minister of India who initiated these far-reaching economic reforms in 1991 was P. V. Narasimha Rao. He served as PM from June 1991 to May 1996. - The Finance Minister at that time, who played a crucial role in designing and implementing these reforms, was Dr. Manmohan Singh.

Step 3: Evaluate the options. (1) Dr. Manmohan Singh: He was the Finance Minister in 1991 and later became Prime Minister (2004-2014). While instrumental, the question asks for the Prime Minister who announced/oversaw the reforms. (2) Sri. Narendra Modi: Became Prime Minister of India in 2014. Not associated with the 1991 reforms. (3) Sri. P. V. Narasimha Rao: He was the Prime Minister of India when the 1991 economic reforms were launched. This is correct. (4) Smt. Indira Gandhi: Served as Prime Minister in earlier periods (1966-1977 and 1980-1984). Not associated with the 1991 reforms.

Step 4: Confirm the Prime Minister. The economic reforms of 1991 were announced and implemented under the leadership of Prime Minister P. V. Narasimha Rao. This matches option (3).

Quick Tip

India's Economic Reforms of 1991: - Initiated in response to a severe balance of payments crisis. - Key architects: - Prime Minister: P. V. Narasimha Rao - Finance Minister: Dr. Manmohan Singh - Main components (LPG): - Liberalization: Reducing government controls and restrictions on economic activity. - Privatization: Transferring ownership or management of public sector enterprises to the private sector. - Globalization: Integrating the Indian economy with the world economy. - The new industrial policy was announced on July 24, 1991.

90. According to whom "History is the essence of innumerable biographies"

(1) E. H. Carr

(2) Thomas Carlyle

(3) Thucydides

(4) Herodotus

Correct Answer: (2) Thomas Carlyle

Solution: Step 1: Consider famous quotes about history and historiography. The statement "History is the essence of innumerable biographies" emphasizes the role of great individuals in shaping historical events (the "Great Man" theory of history).

Step 2: Identify the author of this quote. This quote is famously attributed to Thomas Carlyle (1795-1881), a Scottish philosopher, satirical writer, essayist, historian, and teacher. In his work "On Heroes, Hero-Worship, and The Heroic in History" (1841), he elaborated on the idea that history is shaped by the actions of "great men" or heroes. The specific quote often appears as "The history of the world is but the biography of great men" or variations like the one given.

Step 3: Evaluate other historians/philosophers. - (1) E. H. Carr: A British historian, journalist, and international relations theorist, known for "What Is History?" and "The Twenty Years' Crisis." He had a more complex view of history, emphasizing the interplay of individual and social forces, and the historian's role in interpretation. - (3) Thucydides: An ancient Greek historian, author of the "History of the Peloponnesian War." Known for his analytical and evidence-based approach to history. - (4) Herodotus: An ancient Greek historian, often called the "Father of History," author of

”The Histories.” Known for his inquiries into the Greco-Persian Wars.

Step 4: Confirm the author. The quote ”History is the essence of innumerable biographies” (or similar ”History is the biography of great men”) is strongly associated with Thomas Carlyle. This matches option (2).

Quick Tip

Famous Quotes on History: - Thomas Carlyle: ”The history of the world is but the biography of great men.” (Associated with the ”Great Man” theory of history). - E. H. Carr: ”History is an unending dialogue between the present and the past.” - George Santayana: ”Those who cannot remember the past are condemned to repeat it.” Understanding different historiographical perspectives is key to interpreting such quotes.

91. The first meeting of Constitution Assembly was held on

(1) December - 1946

(2) November - 1949

(3) January - 1950

(4) August - 1947

Correct Answer: (1) December - 1946

Solution: Step 1: Recall the timeline of the making of the Indian Constitution. The Constituent Assembly of India was elected to write the Constitution of India.

Step 2: Identify the date of its first meeting. The Constituent Assembly held its first meeting on December 9, 1946. Dr. Sachchidananda Sinha, the oldest member, was elected as the temporary (interim) President of the Assembly. On December 11, 1946, Dr. Rajendra Prasad was elected as the permanent President of the Constituent Assembly.

Step 3: Evaluate other significant dates. - (2) November - 1949: The Constitution of India was adopted by the Constituent Assembly on November 26, 1949. This day is celebrated as Constitution Day (Samvidhan Divas) in India. - (3) January - 1950: The Constitution of India came into force on January 26, 1950. This day is celebrated as Republic Day in India. - (4) August - 1947: India gained independence on August 15,

1947.

Step 4: Confirm the date of the first meeting. The first meeting of the Constituent Assembly was held on December 9, 1946. Option (1) "December - 1946" is correct.

Quick Tip

Key Dates in the Making of the Indian Constitution: - First Meeting of Constituent Assembly: December 9, 1946. - Objectives Resolution Moved by Nehru: December 13, 1946. - Indian Independence: August 15, 1947. - Drafting Committee Appointed: August 29, 1947 (Chairman: Dr. B. R. Ambedkar). - Constitution Adopted/Passed: November 26, 1949. - Constitution Came into Force: January 26, 1950.

92. In which utility analysis, utility is subjective and measurement of utility in numerical terms is not possible.

(1) Cardinal Utility

(2) Total Utility

(3) Ordinal Utility

(4) Marginal Utility

Correct Answer: (3) Ordinal Utility

Solution: Step 1: Understand the different approaches to utility analysis in economics. Utility refers to the satisfaction or benefit derived by consuming a product or service. There are two main approaches to measuring or analyzing utility:

Step 2: Define Cardinal and Ordinal Utility. - Cardinal Utility Analysis: Assumes that utility is measurable and quantifiable in numerical terms, like 1, 2, 3 units (sometimes called "utils"). Consumers are assumed to be able to state exactly how much satisfaction they get from consuming a good. This approach allows for comparison of utility levels (e.g., good A gives twice as much utility as good B). Concepts like marginal utility and total utility are often discussed within this framework. - Ordinal Utility Analysis: Assumes that utility is subjective and cannot be measured numerically. Instead, consumers can only rank their preferences for different goods or combinations of goods (e.g., prefer A to B, or indifferent between A and B). This

approach uses indifference curves and budget lines to analyze consumer behavior. It does not require assigning specific numerical values to satisfaction.
Step 3: Evaluate the terms given in options. (1) Cardinal Utility: Assumes utility is numerically measurable. This contradicts the statement "measurement ... in numerical terms is not possible." (2) Total Utility: The total satisfaction derived from consuming all units of a good. This is a concept often associated with cardinal utility. (3) Ordinal Utility: Assumes utility is subjective and can only be ranked (ordered), not measured numerically. This matches the statement in the question. (4) Marginal Utility: The additional utility derived from consuming one more unit of a good. This is also often associated with cardinal utility (though the concept of diminishing marginal rate of substitution in ordinal utility is related).
Step 4: Identify the correct utility analysis. The utility analysis where utility is subjective and numerical measurement is not possible is Ordinal Utility Analysis. This matches option (3).

Quick Tip

Approaches to Utility Analysis: - Cardinal Utility: - Assumes utility is measurable (in "utils"). - Concepts: Total Utility (TU), Marginal Utility (MU). - Law of Diminishing Marginal Utility. - Used for deriving demand curves (Marshallian approach). - Ordinal Utility: - Assumes utility can be ranked (preferences) but not measured numerically. - Concept: Indifference Curves, Budget Line. - Marginal Rate of Substitution (MRS). - Used for deriving demand curves (Hicksian/Slutsky approach). The statement "utility is subjective and measurement of utility in numerical terms is not possible" is a hallmark of the ordinal utility approach.

93. Brihadeeswara Temple was built by
(1) Raja Raja
(2) Pulakesi - 2
(3) Gauthamiputra Satakarni
(4) Mahendra Varma
Correct Answer: (1) Raja Raja

Solution: Step 1: Identify the Brihadeeswarar Temple. The Brihadeeswarar Temple (Peruvudaiyār Kōvil) is a magnificent Hindu temple dedicated to Lord Shiva, located in Thanjavur, Tamil Nadu, India. It is one of the largest South Indian temples and an exemplary example of Dravidian architecture.

Step 2: Recall its builder. The Brihadeeswarar Temple was built by the Chola emperor Raja Raja Chola I (Rajaraja I). Construction started around 1003 AD and was completed around 1010 AD. It is part of the UNESCO World Heritage Site known as the "Great Living Chola Temples."

Step 3: Evaluate other historical figures. - (2) Pulakesi - 2 (Pulakeshin II): A famous Chalukya king (ruled c. 610-642 CE) of Badami, known for defeating Harsha$_v$$ardhana.Notassociatedwiththistemple.-(3)GauthamiputraSatakarni:Apowerf ulSatavahanaking(ruledinthe1stor2ndcenturyCE).TheSatavahanasruledovertheDeccanregio(4)MahendraVarma(MahendravarmanI):APallavaking(ruledc.600-630CE),knownforpioneeringrock-cuttemplearchitectureinSouthIndia.NotthebuilderoftheBrihadeeswararTemple.$

Step 4: Confirm the builder. The Brihadeeswarar Temple at Thanjavur was built by Raja Raja Chola I. This matches option (1).

Quick Tip

- Brihadeeswarar Temple (Thanjavur): Built by Chola King Raja Raja Chola I (Rajaraja I). - Also known as Peruvudaiyar Kovil or Rajarajeswaram temple. - Dedicated to Lord Shiva. - A masterpiece of Dravidian architecture and a UNESCO World Heritage site. - Completed around 1010 AD.

94. The addition made to the total product by employing one more labourer is called:

(1) Revenue product

(2) Total product

(3) Average product

(4) Marginal product

Correct Answer: (4) Marginal product

Solution: Step 1: Define key concepts in production theory related to a variable input

(like labor). - Total Product (TP): The total quantity of output produced by a given amount of inputs (e.g., with a certain number of laborers and fixed capital). - Average Product (AP): The total product per unit of the variable input. $AP_L = \frac{TP}{L}$, where L is the amount of labor. - Marginal Product (MP): The additional output produced by employing one more unit of a variable input, holding other inputs constant.
$MP_L = \frac{\Delta TP}{\Delta L}$, or the derivative $\frac{d(TP)}{dL}$ for continuous changes. - Revenue Product: This relates to the revenue generated. - Marginal Revenue Product (MRP): The additional revenue generated by employing one more unit of a variable input ($MRP = MP \times MR$, where MR is marginal revenue). - Average Revenue Product (ARP): Total Revenue / Quantity of variable input.
Step 2: Match the definition with the given phrase. The phrase "The addition made to the total product by employing one more labourer" directly defines the Marginal Product of labor.
Step 3: Confirm the correct term. The additional output from one more unit of labor is the marginal product. This matches option (4).

Quick Tip

Production Concepts (with Labor L as variable input): - Total Product (TP_L): Total output at a given level of L. - Average Product of Labor (AP_L): TP_L/L. Output per worker. - Marginal Product of Labor (MP_L): Change in TP_L due to one additional unit of L ($\Delta TP_L/\Delta L$). Additional output from one more worker. - Law of Diminishing Marginal Returns: As more units of a variable input are added to fixed inputs, the marginal product of the variable input will eventually decline.

95. Per Capita Income =
(1) National Income + Population
(2) Population × National Income
(3) National Income ÷ Population
(4) Population ÷ National Income
Correct Answer: (3) National Income ÷ Population

Solution: Step 1: Define Per Capita Income. Per Capita Income (PCI) is a measure of the average income earned per person in a given area (city, region, country, etc.) in a specified year. It is calculated to understand the average economic well-being of the population.

Step 2: Recall the formula for Per Capita Income. Per Capita Income is calculated by dividing the total national income (or sometimes Gross Domestic Product - GDP, or Gross National Income - GNI) of a country by its total population.

$$\text{Per Capita Income} = \frac{\text{National Income}}{\text{Total Population}}$$

Step 3: Match with the given options. Option (3) "National Income ÷ Population" correctly represents the formula for Per Capita Income. This matches option (3).

Quick Tip

- Per Capita Income (PCI): Average income per person in a population. - Formula: PCI $= \frac{\text{Total National Income}}{\text{Total Population}}$. - It is an indicator of the economic well-being and standard of living of a country's residents. - National Income can be represented by various aggregates like Gross National Income (GNI), Net National Product (NNP) at factor cost, etc., depending on the specific definition used.

96. "Law is the collection of principle recognized and applied by the state in the administration of justice" defined by

(1) John Erskin

(2) T. E. Holland

(3) John Salmond

(4) Woodrow Wilson

Correct Answer: (3) John Salmond

Solution: Step 1: Consider famous definitions of "law" from jurisprudence. Many legal philosophers and jurists have offered definitions of law, each emphasizing different aspects.

Step 2: Identify the jurist associated with the given definition. The definition, "Law is the body of principles recognized and applied by the state in the administration of justice," (or very similar "collection of principles...") is a well-known definition

attributed to Sir John William Salmond (1862–1924), a legal scholar and judge from New Zealand. This definition emphasizes the role of the state and the courts in recognizing and enforcing legal principles for the purpose of administering justice.
Step 3: Consider other jurists/figures. - (1) John Erskine of Carnock: A Scottish jurist (1695–1768), author of "Principles of the Law of Scotland" and "An Institute of the Law of Scotland." - (2) T. E. Holland (Thomas Erskine Holland): An English jurist (1835–1926), known for his work "The Elements of Jurisprudence," where he defined law as "a general rule of external human action enforced by a sovereign political authority." - (4) Woodrow Wilson: An American politician and academic who served as the 28th President of the United States. While a scholar of political science and constitutional government, this specific definition of law is not primarily attributed to him.
Step 4: Confirm the author of the definition. The definition focusing on principles recognized and applied by the state in administering justice is characteristic of John Salmond. This matches option (3).

Quick Tip

Definitions of Law by Jurists: - John Austin (Positivist): "Law is the command of the sovereign backed by sanctions." - John Salmond: "Law is the body of principles recognized and applied by the state in the administration of justice." - T. E. Holland: "Law is a general rule of external human action enforced by a sovereign political authority." - Roscoe Pound (Sociological Jurisprudence): Law as a tool for social engineering. These definitions reflect different schools of legal thought (e.g., positivism, realism, natural law, sociological).

97. "Astanga Marga" belongs to this religion

(1) Hindu

(2) Jain

(3) Buddhist

(4) Ajivika

Correct Answer: (3) Buddhist

Solution: Step 1: Understand "Astanga Marga". "Astanga Marga" (Sanskrit: , Aṣṭāṅgamārga) translates to the "Eightfold Path."
Step 2: Identify the religion associated with the Eightfold Path. The Eightfold Path is one of the principal teachings of Buddhism. It was described by Siddhartha Gautama (the Buddha) as the way leading to the cessation of suffering (dukkha) and the achievement of self-awakening (Nirvana). The eight elements of the path are often grouped into three main sections: Wisdom (Prajñā), Ethical Conduct (Śīla), and Mental Discipline (Samādhi). The eight factors are: 1. Right Understanding/View (Sammā diṭṭhi) 2. Right Thought/Intention (Sammā saṅkappa) 3. Right Speech (Sammā vācā) 4. Right Action (Sammā kammanta) 5. Right Livelihood (Sammā ājīva) 6. Right Effort (Sammā vāyāma) 7. Right Mindfulness (Sammā sati) 8. Right Concentration (Sammā samādhi)
Step 3: Evaluate other options. - (1) Hindu: Hinduism has diverse paths to spiritual realization (e.g., Jnana Yoga, Bhakti Yoga, Karma Yoga, Raja Yoga which includes Ashtanga Yoga of Patanjali, but Patanjali's Ashtanga Yoga is different from Buddha's Eightfold Path). - (2) Jain: Jainism emphasizes the Three Jewels (Triratna): Right Faith, Right Knowledge, and Right Conduct (which includes principles like Ahimsa, Satya, Asteya, Brahmacharya, Aparigraha). - (4) Ajivika: An ancient Indian śramaṇa school of thought known for its doctrine of Niyati (fate or destiny), which is distinct from the Buddhist path.
Step 4: Confirm the religion. The "Astanga Marga" or Eightfold Path is a core teaching of Buddhism. This matches option (3).

Quick Tip

- Buddhism: The "Astanga Marga" or Noble Eightfold Path is the fourth of the Four Noble Truths, outlining the path to liberation from suffering. - It comprises: Right Understanding, Right Thought, Right Speech, Right Action, Right Livelihood, Right Effort, Right Mindfulness, Right Concentration. - Jainism: Follows the Triratna (Three Jewels) and emphasises strict non-violence. - Patanjali's Yoga Sutras (Hinduism): Describes an eight-limbed path (Ashtanga Yoga: Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana, Samadhi), which is different from the Buddhist Eightfold Path.

98. The difference between, the value of the smallest item and the value of the largest item:

(1) Range

(2) Mode

(3) Median

(4) Lorenze Curve

Correct Answer: (1) Range

Solution: Step 1: Define the statistical terms given in the options. - (1) Range: In statistics, the range of a set of data is the difference between the largest and smallest values. It is a simple measure of statistical dispersion or spread. - (2) Mode: The value that appears most frequently in a data set. It is a measure of central tendency. - (3) Median: The middle value in a data set that has been arranged in order of magnitude. It is a measure of central tendency. - (4) Lorenz Curve: A graphical representation of the distribution of income or wealth. It plots the cumulative percentage of total income received against the cumulative percentage of recipients, starting with the poorest individuals or households. It is used to represent income inequality.

Step 2: Match the definition with the given description. The description "The difference between the value of the smallest item and the value of the largest item" directly defines the Range.

Step 3: Confirm the correct term. The range is calculated as: Range = Largest Value - Smallest Value. This matches option (1).

Quick Tip

Measures of Dispersion (Spread of Data): - Range: Simplest measure; Difference between maximum and minimum values. Sensitive to outliers. - Interquartile Range (IQR): Q3 - Q1 (difference between 75th and 25th percentiles). Less sensitive to outliers. - Variance: Average of the squared differences from the Mean. - Standard Deviation: Square root of the variance. Most common measure of dispersion. Measures of Central Tendency: Mean, Median, Mode. Lorenz Curve: Used to show income/wealth inequality.

99. Prophet Mohammad was born at Macca in

(1) 670 AD

(2) 622 AD

(3) 570 AD

(4) 580 AD

Correct Answer: (3) 570 AD

Solution: Step 1: Recall key dates in the life of Prophet Muhammad. Prophet Muhammad is the founder of Islam.

Step 2: Identify his year and place of birth. Prophet Muhammad was born in Mecca (Makkah), in present-day Saudi Arabia. The traditional and most widely accepted year of his birth is c. 570 AD (often referred to as the "Year of the Elephant"). Some sources might give 571 AD.

Step 3: Evaluate other dates. - (2) 622 AD: This is the year of the Hijra (Hegira), when Prophet Muhammad and his followers migrated from Mecca to Medina. This event marks the beginning of the Islamic calendar. - (1) 670 AD (4) 580 AD: These are not the generally accepted years for his birth.

Step 4: Confirm the birth year. Prophet Muhammad was born in Mecca around 570 AD. This matches option (3).

Quick Tip

Key Dates in the Life of Prophet Muhammad: - Birth: c. 570 AD (or 571 AD) in Mecca. - First Revelation: c. 610 AD. - Hijra (Migration to Medina): 622 AD (marks the start of the Islamic calendar). - Conquest of Mecca: 630 AD. - Death: 632 AD in Medina.

100. "Deen Dayal Upadhyaya Grameen Kaushal Yojana (DDUGKY)" was launched in this year

(1) 2014

(2) 2015

(3) 2016

(4) 2020

Correct Answer: (1) 2014

Solution: Step 1: Understand the DDU-GKY scheme. Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) is a government scheme in India aimed at transforming rural poor youth into an economically independent and globally relevant workforce. It is a part of the National Rural Livelihood Mission (NRLM).

Step 2: Recall its launch year. DDU-GKY was announced on September 25, 2014, which is the birth anniversary of Pandit Deen Dayal Upadhyaya. It was launched as part of the "Make in India" campaign and to mark the 98th birth anniversary of Deen Dayal Upadhyaya.

Step 3: Compare with options. The launch year is 2014. This matches option (1).

Quick Tip

- Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY): - Launched: September 25, 2014. - Ministry: Ministry of Rural Development, Government of India. - Aim: Skill development and placement-linked program for rural youth from poor families. - Part of: National Rural Livelihood Mission (NRLM), (later Deendayal Antyodaya Yojana - National Rural Livelihoods Mission or DAY-NRLM). - Focuses on providing skills that can lead to employment.

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