

Answers

1. Answer: a

Explanation:

Inquiry-based learning is a teaching approach in which the teacher poses problems or questions and encourages students to investigate, explore evidence, and construct their own answers rather than being given ready-made facts.

This method develops critical thinking, curiosity, and problem-solving skills because the learner is actively engaged in the process of discovery rather than passively receiving information.

Drill method relies on repetition, punishment method uses negative consequences to control behaviour, and lecture method involves one-way delivery of content by the teacher — none of these involve students independently investigating and discovering answers.

Hence, encouraging students to investigate problems and discover answers is an example of inquiry-based learning.

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2. Answer: a

Explanation:

Adolescence is the developmental stage in which identity formation becomes the central psychosocial task, along with concerns about self-esteem, peer acceptance, and emotional independence.

Counselling at this stage therefore addresses issues of identity confusion, self-worth, career choices, and social-emotional adjustment, which are far more pressing for adolescents than they are for younger children.

Motor control, reflex development, and basic habit formation are concerns typical of early childhood, not adolescence, so primary school counselling would be more oriented towards those aspects if at all relevant.

Hence, adolescent counselling focuses more on identity and self-esteem issues.

3. Answer: d

Explanation:

Reinforcement (rewarding desired responses to strengthen behaviour) is a core principle of behaviorism, while group discussion involves learners constructing knowledge collaboratively through social interaction, which is the essence of social constructivism.

When a facilitator combines both group discussion and reinforcement, the strategy draws simultaneously on behaviorist principles and social-constructivist principles, rather than any single theory alone.

Classical conditioning alone deals with associating stimuli, the Law of Exercise alone deals with strengthening a response through repetition, and Gestalt learning alone deals with insight and whole-pattern perception — none of these singly account for both the social and reinforcement elements described.

Hence, combining group discussion and reinforcement reflects the use of behaviorism and social constructivism together.

4. Answer: a

Explanation:

Understanding child development helps a teacher know what cognitive, emotional, and physical capacities a child has reached at a given age, so that teaching content and methods can be matched to the child's developmental readiness.

This alignment ensures that instruction is neither too advanced nor too simple for the learner, making learning more effective and meaningful.

Reducing discipline, eliminating evaluation, and increasing teacher control are not outcomes of understanding child development; they are unrelated to why developmental knowledge matters in teaching.

Hence, understanding child development is important because it helps align teaching with developmental readiness.

5. Answer: a

Explanation:

Contextual learning is an approach in which classroom content is connected to real-life situations and issues that learners are familiar with, making the material more relevant and meaningful.

By linking lessons to current social issues, the teacher helps students see the practical application of what they learn, which strengthens understanding and retention through meaningful context rather than isolated facts.

Fear, rote memorization, and passive recall are all associated with mechanical or coercive learning methods that do not involve connecting content to real-world context, so they do not describe this practice.

Hence, linking lessons to current social issues promotes contextual learning.

6. Answer: a

Explanation:

Functional Behaviour Assessment (FBA) is a systematic process used to understand why a challenging behaviour occurs by identifying the environmental antecedents

and consequences that trigger and maintain it.

By pinpointing these environmental triggers, teachers can modify the classroom environment or teaching approach to support the child's needs, which allows the child to remain and succeed within the regular inclusive classroom rather than being excluded.

Labeling, segregation, and a focus on punishment work against inclusion because they isolate or stigmatize the child instead of addressing the underlying environmental causes of behaviour.

Hence, Functional Behaviour Assessment supports inclusion because it identifies environmental triggers of behaviour.

7. Answer: a

Explanation:

Heredity sets the range or potential of a trait a child can develop, while the environment determines the extent to which that inherited potential is actually expressed and realized.

For instance, a child may inherit the genetic potential for a certain height or intelligence level, but adequate nutrition, stimulation, and experiences in the environment determine how much of that potential is actually achieved.

Media controlling personality, school replacing heredity, and genes working independently all describe one factor acting alone or an unrelated influence, not the mutual interaction between heredity and environment.

Hence, heredity and environment interact in development because environment shapes genetic potential.

8. Answer: a

Explanation:

Operant conditioning, formulated by B.F. Skinner, deals with voluntary behaviours that an organism performs and controls, which are strengthened or weakened based on the consequences (reinforcement or punishment) that follow them.

Since the organism actively operates on the environment to produce these behaviours, they are behaviours under the individual's own control, unlike involuntary responses.

Maturation refers to biologically driven, age-related growth, insight relates to Gestalt-style sudden problem-solving, and reflex actions are involuntary responses — none of these are the primary focus of operant conditioning, which specifically targets voluntary, controllable behaviour.

Hence, operant conditioning mainly deals with behaviour under one's own control.

9. Answer: d

Explanation:

Balanced development in adolescence, covering physical, cognitive, social, and emotional growth, results from the continuous interplay between the inherited genetic makeup of the individual and the various environmental influences surrounding them, such as family, school, and society.

Neither heredity nor environment alone can produce well-rounded development; it is their combined and continuous interaction that shapes how an adolescent grows in all these dimensions.

Genes only, parenting only, or school only each represent a single, isolated factor, which does not capture the full picture of interacting influences responsible for balanced development.

Hence, balanced development in adolescence depends on the interaction between heredity and environment.

10. Answer: a

Explanation:

Intrinsic motivation refers to engaging in an activity for its own inherent satisfaction rather than for an external reward, and according to self-determination theory, autonomy is one of the key psychological needs that fuels it.

When adolescents feel they have autonomy, that is, choice and control over their own actions and learning, their intrinsic motivation increases because the activity feels self-directed and personally meaningful.

Memorization, constant competition, and fear of punishment are all externally driven or mechanical conditions that tend to promote extrinsic motivation or anxiety, not intrinsic motivation.

Hence, intrinsic motivation in adolescents increases when they feel autonomy.

11. Answer: a

Explanation:

A visually impaired student cannot access printed diagrams, graphs, and geometric figures visually, so mathematics content needs to be made accessible through alternative sensory channels.

Tactile graphics allow the student to feel shapes, graphs, and figures through touch, while audio explanation conveys verbal reasoning and steps, together providing a complete and accessible way to understand mathematical concepts.

A reduced syllabus denies the student equal curriculum access, a standard textbook alone is inaccessible without visual capability, and pure lectures without tactile support cannot convey spatial or graphical mathematical content.

Hence, a visually impaired Grade 8 student studying mathematics would best benefit from tactile graphics and audio explanation.

12. Answer: a

Explanation:

Vygotsky's socio-cultural theory holds that cognitive development is largely driven by social interaction, where a child learns through guided interaction with more knowledgeable others within the Zone of Proximal Development, and this learning then leads to internal developmental change.

Because social interaction actively promotes cognitive growth, Vygotsky argued that learning (occurring through social engagement) precedes and drives development, reversing the order proposed by theorists who saw development as a prerequisite for learning.

Conditioning replacing reasoning, reflexes dominating, and maturation controlling learning are not part of Vygotsky's theory; these ideas belong to other frameworks such as behaviorism or maturationist theories.

Hence, according to Vygotsky, learning precedes development because social interaction promotes cognitive growth.

13. Answer: a

Explanation:

One of the classical maxims of teaching states that instruction should proceed from known to unknown, meaning new content should be introduced by first connecting it to what the learner already knows before moving toward unfamiliar concepts.

This approach builds a bridge between prior knowledge and new information, making learning easier to grasp and retain since it anchors new ideas to an existing

cognitive framework.

Lecture to discipline, difficult to abstract, and complex to simple are not recognized maxims of teaching; in fact, the accepted maxims move in the opposite direction, such as simple to complex, and concrete to abstract.

Hence, a key maxim of teaching is to move from known to unknown.

14. Answer: a

Explanation:

During adolescence, according to Piaget's stage of formal operational thought, individuals develop the capacity for abstract thinking, allowing them to reason about hypothetical situations, ethical principles, and concepts like justice and fairness that are not tied to concrete, observable events.

This ability to think abstractly enables adolescents to consider multiple perspectives and underlying principles, which is essential for advanced moral reasoning, unlike the concrete, rule-bound moral judgments of younger children.

Physical height, sensory growth, and reflex maturity are physical or sensory-motor changes unrelated to the cognitive capacity required for moral reasoning.

Hence, adolescents' capacity for moral reasoning expands due to abstract thinking.

15. Answer: d

Explanation:

A hearing-impaired student cannot rely on auditory input to receive spoken content, so instruction must be delivered through channels that do not depend on hearing.

Visual cues such as gestures, sign language, diagrams, and written support like notes, captions, or text materials provide accessible alternative pathways for the student to receive and process information effectively.

Oral lectures only rely entirely on hearing and would be inaccessible, uniform evaluation ignores the need for accommodated assessment methods, and isolation excludes the student from meaningful participation and support.

Hence, a hearing-impaired adolescent benefits most from visual cues and written support.

16. Answer: a

Explanation:

Conceptual understanding means a learner has grasped the underlying idea well enough to use it flexibly, not just store it.

The clearest evidence of this is when a student can apply the idea in a new, unfamiliar context, since this requires genuine comprehension rather than rote storage.

Memorizing formulas, copying examples, and recalling definitions are all surface-level behaviours that show retention, not understanding, because they do not require transfer of the idea to a new situation.

Hence, applying ideas in new contexts is the true indicator of conceptual understanding.

17. Answer: a

Explanation:

Piaget's theory of cognitive development identifies the Formal Operational Stage as beginning around age 11-12 and continuing into adulthood.

In this stage, adolescents develop the capacity for abstract thought, allowing them to reason about hypothetical situations, symbols, and concepts that are not tied to concrete objects or direct experience.

This is a shift from the earlier Concrete Operational Stage, where thinking was limited to tangible, observable objects and events.

Hence, according to Piaget, adolescents begin to think abstractly.

18. Answer: a

Explanation:

Overgeneralizing a single instance of failure into a permanent, all-encompassing belief ("I always fail") is an example of a cognitive distortion, a faulty and biased pattern of thinking that misrepresents reality.

Such distortions cause adolescents to draw broad, negative conclusions from a single limited event rather than assessing the situation objectively.

Metacognition refers to thinking about one's own thinking, scientific reasoning involves systematic, evidence-based inference, and logical abstraction involves reasoning with abstract symbols and ideas — none of these describe the irrational, biased pattern shown here.

Hence, this overgeneralization reflects cognitive distortion.

19. Answer: a

Explanation:

Continuous reinforcement means a response is reinforced every single time it occurs.

Behaviour learned under this schedule becomes strongly tied to the presence of reinforcement, so when reinforcement is withdrawn, the organism quickly notices its absence and the behaviour extinguishes rapidly.

This is in contrast to partial/intermittent reinforcement schedules, which produce behaviour that is much more resistant to extinction because the learner is used to reinforcement being unpredictable.

Hence, continuous reinforcement produces behaviour that extinguishes quickly once reinforcement stops.

20. Answer: a

Explanation:

Adolescence is marked by puberty, during which the body undergoes major hormonal changes, including surges in sex hormones such as estrogen and testosterone.

These hormonal fluctuations directly affect the brain's regulation of mood and emotion, producing the characteristic emotional ups and downs, irritability, and heightened sensitivity seen in adolescents.

Height differences and reflex development are physical changes unrelated to emotional regulation, and heredity alone does not account for the fluctuating, biologically-driven nature of these emotional changes.

Hence, emotional fluctuations during adolescence are largely influenced by hormonal changes.

21. Answer: d

Explanation:

Adolescents often develop an "imaginary audience" phenomenon, believing others are constantly watching and judging them, which produces heightened self-consciousness.

This intense preoccupation with how one is perceived commonly leads to social withdrawal, as adolescents may avoid situations where they fear being judged or embarrassed.

Improved reflexes, physical stagnation, and improved thinking are not psychological consequences of self-consciousness; they belong to unrelated physical or cognitive domains.

Hence, heightened self-consciousness in adolescents may lead to social withdrawal.

22. Answer: a**Explanation:**

Early identification of a learning disability allows teachers and specialists to understand the specific nature of a student's difficulty before it compounds into larger academic setbacks.

This early awareness enables timely intervention — targeted support, remedial strategies, and accommodations — so the student can be helped at the right stage.

Lowering expectations for all, segregating students, or permanently labelling them are harmful, exclusionary practices that go against the goals of inclusive education and are not the purpose of early identification.

Hence, early identification of learning disability in adolescents helps provide timely intervention.

23. Answer: a

Explanation:

In this scenario, the student's improved performance (a voluntary behaviour) occurs specifically because it is followed by public praise, which acts as a positive reinforcer.

This behaviour-consequence relationship, where a voluntary response increases in frequency or strength due to a reinforcing consequence, is the defining feature of operant conditioning.

The law of readiness relates to a learner's preparedness to act, insight learning involves sudden understanding without trial and error, and classical conditioning involves associating two stimuli (not a voluntary response with a consequence) – none of these fit this scenario.

Hence, this best illustrates operant conditioning.

24. Answer: a

Explanation:

Peer mentoring involves older or more experienced peers guiding and supporting adolescents through shared experiences and mutual understanding.

This process fosters a sense of belonging and connectedness by helping adolescents build relationships, communicate, and cooperate with others, thereby enhancing social integration.

Social hierarchy, competition, and isolation are not outcomes that peer mentoring aims to promote; in fact, peer mentoring works against isolation and unhealthy competition by encouraging collaboration and acceptance.

Hence, peer mentoring in adolescence enhances social integration.

25. Answer: d

Explanation:

Classical conditioning, as demonstrated by Pavlov, involves involuntary, reflexive responses (like salivation) that are automatically triggered by a paired stimulus.

Operant conditioning, as described by Skinner, is fundamentally different because it involves voluntary responses — behaviours an organism actively chooses to perform, which are then strengthened or weakened based on their consequences (reinforcement or punishment).

Being reflexive or automatic describes classical conditioning, not operant conditioning, and operant conditioning does require reinforcement to shape behaviour, so those options do not capture the real distinction.

Hence, operant conditioning differs from classical conditioning because it involves voluntary responses.

26. Answer: d

Explanation:

Effective teaching requires that instructional methods be deliberately aligned with the specific learning objectives a lesson intends to achieve.

When teaching methods correspond directly to the desired outcomes, students engage with content in the manner best suited to achieving those goals, which maximizes learning effectiveness.

Simply lecturing more, enforcing stricter discipline, or increasing homework volume does not, by itself, ensure that the teaching approach suits what students need to learn, and can even work against effective learning if misaligned.

Hence, teaching effectiveness improves when methods match learning objectives.

27. Answer: a

Explanation:

Adolescence is a period during which individuals actively question established beliefs, including those of their parents, as part of developing their own sense of self.

Rejecting parental viewpoints and forming independent ideas is a hallmark behaviour of identity exploration, where adolescents test different values and beliefs to establish who they are.

Sensory growth, reflex dominance, and cognitive regression are unrelated physical or developmental-decline concepts and do not describe this psychosocial process of questioning and independent thinking.

Hence, this behaviour reflects identity exploration.

28. Answer: a

Explanation:

Inclusive education aims to provide appropriate support so that all students, including those with special needs, can learn and function as independently as possible.

When help is given excessively, beyond what a student actually requires, the student is not allowed to practice or develop their own skills, which fosters dependency on the helper rather than self-reliance.

Equity, enhanced resilience, and increased independence are the intended positive goals of well-calibrated support, but they are undermined, not achieved, when help is excessive and unnecessary.

Hence, giving too much help even when not needed may result in dependency.

29. Answer: a

Explanation:

As adolescents enter Piaget's formal operational stage, they gain the ability to reason logically about abstract concepts such as fairness, justice, and authority.

This developing logical reasoning allows them to critically evaluate rules and authority rather than accepting them unquestioningly, leading them to challenge or question established norms.

Sensory skills, motor coordination, and reflex control are physical/perceptual capacities unrelated to the cognitive process of critically evaluating rules and authority.

Hence, the cognitive ability that develops when adolescents start challenging rules and authority is logical reasoning.

30. Answer: a

Explanation:

Negative reinforcement works by removing an unpleasant/aversive stimulus when a desired behaviour occurs, which strengthens and increases the frequency of that behaviour.

Punishment, in contrast, aims to decrease the frequency of an undesired behaviour by adding an aversive consequence or removing a pleasant one.

A learning plateau and stopping the learning process describe neither of these mechanisms accurately, and "decreases responses" describes punishment's effect, not negative reinforcement's.

Hence, negative reinforcement differs from punishment because it increases responses.

31. Answer: a

Explanation:

जब 'अ' या 'आ' के बाद 'इ' या 'ई' आता है, तो गुण सन्धि के नियमानुसार दोनों मिलकर 'ए' बन जाते हैं।

यहाँ 'लोक' शब्द के अंत में अंतर्निहित स्वर 'अ' है और 'ईश्वर' शब्द 'ई' से आरम्भ होता है। अतः अ + ई का मेल 'ए' में होता है।

इस प्रकार लोक + ईश्वर = लोकेश्वर बनता है।

अतः सही सन्धि रूप लोकेश्वर है।

32. Answer: d

Explanation:

यह शब्द अंतर (उपसर्ग) + राष्ट्रीय के मेल से बनता है, जिसमें 'र्' पर हलन्त (◌ं) लगाकर 'राष्ट्रीय' जोड़ा जाता है।

अन्तर् + राष्ट्रीय के संयोग से 'र्' की द्वित्वता के साथ सही वर्तनी अन्तराष्ट्रीय बनती है।

शेष विकल्पों में या तो हलन्त छूट गया है या मात्रा का गलत प्रयोग हुआ है, इसलिए वे अशुद्ध हैं।

अतः सही शब्द अन्तराष्ट्रीय है।

33. Answer: c

Explanation:

जब दो भिन्न व्यंजन मिलकर एक अक्षर बनाते हैं (जैसे क् + ष = क्ष, ज् + ञ = ज्ञ), तो इस प्रकार बने अक्षर को संयुक्ताक्षर कहते हैं।

स्पर्श व्यंजन का अर्थ है क वर्ग से प वर्ग तक के व्यंजन, तथा अंतस्थ व्यंजन य, र, ल, व को कहते हैं — इनमें से कोई भी दो व्यंजनों के मेल को नहीं दर्शाता, और स्वर तो अ, इ, उ आदि ध्वनियाँ हैं।

अतः दो अलग-अलग व्यंजनों के मेल से बने अक्षर को संयुक्ताक्षर कहते हैं।

34. Answer: a

Explanation:

प्रश्नवाचक वाक्य के अंत में प्रश्नवाचक चिन्ह (?) लगाया जाता है, पूर्णविराम (।) नहीं।

'क्या तुम ठीक हो।' एक प्रश्नवाचक वाक्य है, इसलिए इसका सही रूप 'क्या तुम ठीक हो?' होना चाहिए था — यहाँ पूर्णविराम का प्रयोग विराम-चिन्ह की त्रुटि है।

शेष तीनों वाक्य सामान्य विधानवाचक वाक्य हैं, जिनके अंत में पूर्णविराम का प्रयोग सही है।

अतः पूर्णविराम का गलत प्रयोग 'क्या तुम ठीक हो।' में हुआ है।

35. Answer: b

Explanation:

'विधि' एक अनेकार्थी शब्द है, जिसके अर्थों में ब्रह्मा (सृष्टिकर्ता), कानून (नियम) और पद्धति (तरीका) शामिल हैं।

'अवधि' का अर्थ है निश्चित समय-सीमा या कार्यकाल, जो 'विधि' के स्वीकृत अर्थों में सम्मिलित नहीं है और यह पूर्णतः भिन्न शब्द है।

चूँकि ब्रह्मा, कानून और पद्धति तीनों 'विधि' के वास्तविक अर्थ हैं, इसलिए इनसे भिन्न शब्द 'अवधि' है।

अतः 'विधि' के लिए दिया गया गलत अर्थ अवधि है।

36. Answer: d

Explanation:

'महात्मा' शब्द 'महान् आत्मा' से बना है — जिसका अर्थ है 'महान आत्मा वाला', जहाँ प्रथम पद 'महान्' (विशेषण) द्वितीय पद 'आत्मा' (विशेष्य) की विशेषता बताता है।

कर्मधारय समास में दोनों पद विशेषण-विशेष्य संबंध में होते हैं, जो यहाँ ठीक यही स्थिति है।

यह द्विगु समास नहीं है (जिसमें संख्यावाचक पद होता है), तत्पुरुष भी नहीं (जिसमें कारक संबंध होता है), और द्वंद्व भी नहीं (जिसमें दोनों पद 'और' से जुड़े समान महत्व के होते हैं) — यहाँ इनमें से कोई शर्त लागू नहीं होती।

अतः 'महात्मा' कर्मधारय समास का उदाहरण है।

37. Answer: a

Explanation:

'गड़े मुर्दे उखाड़ना' एक लाक्षणिक मुहावरा है, इसका शाब्दिक अर्थ नहीं लिया जाता — इसका मान्य अर्थ है पुरानी, प्रायः अप्रिय बातों को फिर से याद करना या उखाड़ना।

'मुर्दे को मलबे से निकालना' और 'गड्ढे से मुर्दा निकालना' केवल शब्दों का शाब्दिक अर्थ हैं, मुहावरे का भाव नहीं; तथा 'बहुत प्यारा होना' इससे असंबद्ध है।

अतः सही मुहावरार्थ है 'पुरानी बातों को याद करना'।

38. Answer: d

Explanation:

अनुनासिक वे वर्ण या स्वर होते हैं जिनके उच्चारण में ध्वनि मुख के साथ-साथ नासिका (नाक) से भी बाहर निकलती है (जैसे आँख, हँसना में चंद्रबिंदु से चिह्नित ध्वनियाँ)।

केवल नासिका से ध्वनि निकलने वाला विकल्प वास्तव में अनुस्वार-प्रकार की ध्वनियों को दर्शाता है, अनुनासिक को नहीं; प्रत्यय शब्द के अंत में जुड़ने वाला अंश होता है और विसर्ग ऌ ध्वनि है — दोनों

असंबद्ध हैं।

अतः अनुनासिक वे वर्ण/स्वर हैं जिनकी ध्वनि मुख के साथ-साथ नासिका से भी निकलती है।

39. Answer: d

Explanation:

'आकाश पाताल एक करना' मुहावरे का लाक्षणिक अर्थ है अत्यंत कठिन और थकाऊ प्रयास करना — शाब्दिक रूप से आकाश और पाताल को जोड़ने का भाव यह दर्शाता है कि कोई भी संभव प्रयास शेष नहीं छोड़ा गया।

'आलसी होना' इसका विपरीत भाव है, तथा 'बरसना' और 'अपने आप पर विश्वास खोना' इससे असंबद्ध अर्थ हैं।

अतः सही अर्थ है 'कठिन परिश्रम करना' अर्थात् कोई कसर न छोड़ना।

40. Answer: c

Explanation:

संयुक्त वर्ण 'श्र' हलंत युक्त शुद्ध व्यंजन रूप 'श्' और 'र' के मेल से बनता है, न कि अंतर्निहित स्वर 'अ' सहित 'श' और 'र' के सीधे जोड़ से।

'श + र' लिखने पर बीच में 'अ' ध्वनि आने से शर बन जाएगा; तथा 'षा + र' और 'स + र' में श के स्थान पर पूर्णतः भिन्न व्यंजन (ष, स) प्रयुक्त हुए हैं।

अतः संयुक्त वर्ण का सही वर्णक्रम श् + र है।

41. Answer: b

Explanation:

'सेना' शब्द अनेक सैनिकों के समूह को एक इकाई के रूप में दर्शाता है – यही समूहवाचक संज्ञा की ठीक परिभाषा है।

यह द्रव्यवाचक संज्ञा नहीं है (जो सोना, पानी जैसे पदार्थ को दर्शाती है), भाववाचक संज्ञा भी नहीं (जो ईमानदारी जैसे भाव/गुण को दर्शाती है), और 'व्यक्तवाचक संज्ञा' इस वर्गीकरण में मान्य श्रेणी ही नहीं है।

अतः इस वाक्य में 'सेना' समूहवाचक संज्ञा है।

42. Answer: c

Explanation:

वाक् ध्वनियाँ तब उत्पन्न होती हैं जब फेफड़ों से बाहर निकलने वाली हवा दोनों स्वर-तंत्रियों के बीच के संकरे छिद्र (काकल-द्वार) से गुजरती है, जिससे वे कंपन करती हैं।

पानी, रक्त और भोजन ध्वनि-उत्पादन के समय इस छिद्र से नहीं गुजरते – स्वर-तंत्री विशेष रूप से वायु-मार्ग का कार्य करती हैं जो कंपन उत्पन्न कर वाणी को जन्म देता है।

अतः स्वर-तंत्री के बीच के छिद्र से हवा गुजरती है।

43. Answer: b

Explanation:

गद्यांश में स्पष्ट रूप से कहा गया है कि कृष्णचंदर की लोकप्रियता का एक कारण 'काव्यात्मक रोमानियत और शैली की विविधता' भी है।

दूरदर्शन के धारावाहिक और उनके द्वारा निर्देशित फिल्मों में गद्यांश में कहीं उल्लिखित नहीं हैं; हास्य-व्यंग्य का उल्लेख केवल उनकी कहानी 'जामुन का पेड़' की विधा के रूप में हुआ है, न कि यहाँ पूछे गए 'अन्य कारण' के रूप में।

अतः गद्यांश के अनुसार उनकी लोकप्रियता का अन्य कारण काव्यात्मक रोमानियत और शैली की विविधता है।

44. Answer: d

Explanation:

गद्यांश में स्पष्ट रूप से कहा गया है: 'कृश्नचंदर उर्दू कथा-साहित्य में अनूठी रचनाशीलता के लिए बहुचर्चित रहे हैं।'

हिंदी कथा-साहित्य, संस्कृत साहित्य और अंग्रेज़ी साहित्य का गद्यांश में उनकी ख्याति के क्षेत्र के रूप में कहीं उल्लेख नहीं हुआ है।

अतः कृश्नचंदर उर्दू कथा-साहित्य में अपनी अनूठी रचनाशीलता के लिए बहुचर्चित रहे हैं।

45. Answer: a

Explanation:

गद्यांश में कहा गया है: 'वे प्रगतिशील और यथार्थवादी नज़रिए से लिखे जाने वाले साहित्य के पक्षधर थे' अर्थात् वे प्रगतिशील और यथार्थवादी दृष्टिकोण से रचित साहित्य के समर्थक थे।

धनाध्य वर्ग, समाज का निर्धन वर्ग और ऐतिहासिक दृष्टि — इनमें से कोई भी गद्यांश में उनके दृष्टिकोण के रूप में वर्णित नहीं है।

अतः कृश्नचंदर जी प्रगतिशील और यथार्थवादी दृष्टि से लिखे जाने वाले साहित्य के पक्षधर थे।

46. Answer: a

Explanation:

अनुस्वार (ँ) वह नासिक्य ध्वनि है जो किसी वर्ण के ऊपर लगाकर उसके बाद आने वाले वर्ण के अनुनासिक व्यंजन अथवा सामान्य अनुनासिकता को प्रकट करती है।

'सांगत्य' शब्द (अर्थात् संगति, साथ) में 'ग' से पहले आने वाली नासिक्य ध्वनि को अनुस्वार 'ँ' द्वारा सही ढंग से दर्शाया गया है, अतः इसकी सही वर्तनी सांगत्य है।

शेष विकल्प – सागत्यं, सागंत, सांगंत्य – में अनुस्वार का प्रयोग गलत स्थान पर किया गया है या अनावश्यक अनुनासिकता जोड़ी गई है, जिससे ये शब्द की सही वर्तनी नहीं दर्शाते।

अतः सही अनुस्वार शब्द सांगत्य है।

47. Answer: c

Explanation:

'कापुरुष' एक कर्मधारय प्रकार का समस्त पद है, जिसमें 'का' उपसर्ग के रूप में 'बुरा/हीन' अर्थ देता है और 'पुरुष' शब्द के साथ मिलकर पूरे शब्द का अर्थ 'कायर पुरुष' होता है।

ऐसे विशेषण-प्रधान समास का सही विग्रह गुणवाचक संबंध को दर्शाते हुए किया जाता है – 'जो पुरुष कायर है' अर्थात् 'कायर है जो पुरुष'।

शेष विकल्प या तो समस्त पद को ज्यों का त्यों दोहराते हैं या फिर स्वामित्व/स्थान जैसा गलत व्याकरणिक संबंध दर्शाते हैं, जो शब्द के वास्तविक अर्थ से मेल नहीं खाता।

अतः कापुरुष का सही विग्रह कायर है जो पुरुष है।

48. Answer: a

Explanation:

'अगत-आगत' श्रुतिसमभिन्नार्थक शब्द-युग्म है, अर्थात् सुनने में मिलते-जुलते परंतु अर्थ में भिन्न शब्द। 'अगत' का अर्थ है जिसकी बुरी गति हुई हो, जबकि 'आगत' का अर्थ है जो आया हुआ है।

अतः अगत-आगत युग्म का सही अर्थ बुरी गति - आया हुआ है।

शेष विकल्पों में या तो युग्म के केवल एक भाग का अर्थ बताया गया है या फिर असंबद्ध अर्थ जोड़े गए हैं, जो दोनों शब्दों पर सही नहीं बैठते।

अतः अगत-आगत का सही अर्थ बुरी गति - आया हुआ है।

49. Answer: a

Explanation:

समुच्चयबोधक अव्यय दो शब्दों, वाक्यांशों या उपवाक्यों को जोड़ने का कार्य करता है। जुड़ने वाले उपवाक्यों के आपसी संबंध के आधार पर समुच्चयबोधक को दो भेदों में बाँटा जाता है – समानाधिकरण (समान स्तर के उपवाक्यों को जोड़ने वाला) और व्याधिकरण (आश्रित उपवाक्य को प्रधान उपवाक्य से जोड़ने वाला)।

अतः समानाधिकरण और व्याधिकरण समुच्चयबोधक अव्यय के ही भेद हैं।

शेष विकल्प – विस्मयादिबोधक, क्रियाविशेषण और संबंधबोधक – के भेद इनसे भिन्न हैं और इन्हें समानाधिकरण/व्याधिकरण में विभाजित नहीं किया जाता।

अतः सही उत्तर समुच्चयबोधक है।

50. Answer: a

Explanation:

तद्भव शब्द वे होते हैं जो संस्कृत शब्दों से उत्पन्न होकर हिंदी में आते समय ध्वनि-परिवर्तन के साथ रूपांतरित हो जाते हैं, जबकि तत्सम शब्द संस्कृत से बिना किसी परिवर्तन के ज्यों-के-त्यों प्रयुक्त होते हैं।

'कान' शब्द संस्कृत के 'कर्ण' शब्द से ध्वनि-परिवर्तन के माध्यम से विकसित हुआ है, इसलिए यह तद्भव शब्द है।

'जल', 'नयन' और 'कर्ण' – ये तीनों तत्सम शब्द हैं, जो संस्कृत रूप में बिना किसी बदलाव के हिंदी में प्रयुक्त होते हैं।

अतः दिए गए विकल्पों में तद्भव शब्द कान है।

51. Answer: c

Explanation:

'प्रहार-प्रहर' श्रुतिसमभिन्नार्थक शब्द-युग्म है, जिनके अर्थ भिन्न हैं। 'प्रहार' का अर्थ है चोट या आघात, जबकि 'प्रहर' का अर्थ है समय की एक इकाई, लगभग तीन घंटे की अवधि।

अतः प्रहार-प्रहर के लिए उपयुक्त अर्थ-युग्म चोट - समय है।

शेष युग्म — भुवन-गगन, संख्या-गणित, दंड-दान — प्रहार और प्रहर के वास्तविक अर्थ से मेल नहीं खाते।

अतः सही युग्म चोट - समय है।

52. Answer: c**Explanation:**

संयुक्त वाक्य वह वाक्य है जिसमें दो या अधिक प्रधान (स्वतंत्र) उपवाक्य किसी समुच्चयबोधक अव्यय जैसे परंतु, और, या, किंतु आदि से जुड़े होते हैं।

दिए गए वाक्य में 'राधा आ गई' और 'शामा अभी तक नहीं आई' दोनों स्वतंत्र उपवाक्य हैं, जो समुच्चयबोधक 'परंतु' से जुड़े हैं।

चूँकि दोनों उपवाक्य अपने आप में पूर्ण वाक्य के रूप में खड़े हो सकते हैं और केवल एक अव्यय द्वारा जोड़े गए हैं, इसलिए यह संयुक्त वाक्य है, न कि मिश्र वाक्य (जिसमें आश्रित उपवाक्य आवश्यक है), प्रश्नार्थक वाक्य या सरल वाक्य।

अतः दिया गया वाक्य संयुक्त वाक्य है।

53. Answer: c**Explanation:**

तत्सम शब्द वे होते हैं जो संस्कृत में जिस रूप में विद्यमान हैं, हिंदी में बिना किसी ध्वनि-परिवर्तन के उसी रूप में प्रयुक्त होते हैं।

'पिपासा' शुद्ध संस्कृत शब्द है, जिसका अर्थ प्यास है, और यह हिंदी में बिना परिवर्तन के प्रयुक्त होता है, अतः यह तत्सम शब्द है।

'दीया', 'प्यारा' और 'प्यास' सभी तद्भव शब्द हैं – क्रमशः दीपक, प्रिय और पिपासा से विकसित रूप, जो हिंदी में आते समय ध्वनि-परिवर्तन से गुजरे।

अतः दिए गए विकल्पों में तत्सम शब्द पिपासा है।

54. Answer: a

Explanation:

यह व्यंजन संधि का उदाहरण है। जब अघोष व्यंजन 'त्' के बाद कोई स्वर या घोष ध्वनि आती है, तो व्यंजन संधि के नियमानुसार 'त्' अपने सघोष रूप 'द्' में बदल जाता है।

यहाँ 'जगत्' 'त्' पर समाप्त होता है और इसके बाद स्वर से शुरू होने वाला शब्द 'आनंद' आता है। नियमानुसार 'त्' 'द्' में बदलकर 'जगत् + आनंद' = 'जगदानंद' बनता है।

शेष विकल्पों में या तो 'त्' को अपरिवर्तित रखा गया है या अक्षरों का क्रम गलत ढंग से बदला/दोहराया गया है, जो संधि नियम के अनुरूप नहीं है।

अतः जगत् + आनंद का सही संधि रूप जगदानंद है।

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55. Answer: b

Explanation:

निपात वे अव्यय शब्द होते हैं जो वाक्य में किसी विशेष शब्द या भाव पर बल (जोर) देने के लिए प्रयुक्त होते हैं, स्वयं संज्ञा, क्रिया या विशेषण जैसा कोई स्वतंत्र पद-भेद न होकर।

दिए गए वाक्य 'किसी ने घायलों की सुध तक नहीं ली' में 'तक' शब्द यहाँ अपने सामान्य अर्थ 'यहाँ तक/तक' में नहीं, बल्कि बल देने वाले निपात के रूप में प्रयुक्त हुआ है, जो यह दर्शाता है कि घायलों की न्यूनतम देखभाल भी नहीं की गई।

'घायल' संज्ञा है, 'सुध' संज्ञा है, और 'किसी' सर्वनाम/अनिश्चयवाचक विशेषण है — इनमें से कोई भी यहाँ निपात के रूप में कार्य नहीं करता।

अतः वाक्य में प्रयुक्त निपात तक है।

56. Answer: b

Explanation:

एक कर्मक क्रिया वह क्रिया है जिसका अर्थ पूर्ण करने के लिए केवल एक ही कर्म (वस्तु) की आवश्यकता होती है, जबकि द्विकर्मक क्रिया में दो कर्मों की आवश्यकता होती है।

'शाम पानी पीता है' वाक्य में क्रिया 'पीता है' का केवल एक ही कर्म है, 'पानी' — यहाँ कोई दूसरा कर्म नहीं है, अतः यह एक कर्मक क्रिया है।

शेष वाक्यों ('बसवा ने कमला को कलम दी', 'शंकर ने साधु को भिक्षा दी', 'रेखा ने अनु को पुस्तक दी') में क्रिया 'दी' के दो-दो कर्म हैं — एक व्यक्ति (कमला/साधु/अनु) और एक वस्तु (कलम/भिक्षा/पुस्तक), इसलिए ये द्विकर्मक क्रिया के उदाहरण हैं।

अतः एक कर्मक क्रिया वाला वाक्य शाम पानी पीता है है।

57. Answer: d

Explanation:

इस शब्द (जिसका अर्थ पराक्रम/वीरता है, या जो एक व्यक्तिवाचक नाम भी है) की सही वर्तनी में 'क्' का 'र' के साथ संयुक्ताक्षर 'क्र' बनता है, जिससे शब्द 'विक्रम' बनता है।

'विकरम' में संयुक्ताक्षर को गलत ढंग से पूर्ण अक्षरों में विभाजित कर दिया गया है, 'विकर्रम' में एक अतिरिक्त 'र' जोड़ दिया गया है, और 'विकर्म' में हलन्त का स्थान गलत है — इनमें से कोई भी मानक वर्तनी नहीं दर्शाता।

अतः विकल्पों में सही वर्तनी वाला शब्द विक्रम है।

58. Answer: a

Explanation:

संयुक्त वाक्यों को परंपरागत रूप से जोड़ने वाले समुच्चयबोधक अव्यय की प्रकृति के आधार पर चार प्रकारों में बाँटा जाता है – संयोजक (जैसे और), विभाजक (जैसे या), विरोधदर्शक (जैसे परंतु), और परिणामबोधक (जैसे इसलिए)।

अतः संयुक्त वाक्य चार प्रकार के होते हैं।

शेष संख्यात्मक विकल्प संयुक्त वाक्यों के मानक व्याकरणिक वर्गीकरण से मेल नहीं खाते।

अतः सही उत्तर चार है।

59. Answer: b

Explanation:

'ईंट का जवाब पत्थर से देना' मुहावरे का शाब्दिक अर्थ है ईंट के बदले पत्थर मारना, परंतु इसका लाक्षणिक अर्थ है किसी आक्रमण या उकसावे का कड़ा और सटीक, यहाँ तक कि उससे भी तीखा उत्तर देना।

इस मुहावरे का प्रचलित अर्थ करारा जवाब देना है।

शेष विकल्प या तो मुहावरे को शाब्दिक अर्थ में लेते हैं (ईंट पर पत्थर मारना) या असंबद्ध अर्थ (कड़ी मेहनत करना) जोड़ते हैं, जो इसका वास्तविक लाक्षणिक अर्थ नहीं है।

अतः ईंट का जवाब पत्थर से देना का अर्थ करारा जवाब देना है।

60. Answer: a

Explanation:

'जब...तब' जैसे युग्म समुच्चयबोधकों वाले वाक्य में अल्पविराम का सही स्थान दोनों उपवाक्यों की सीमा पर होता है – अर्थात् पहले उपवाक्य के समाप्त होने और 'तब' से दूसरा उपवाक्य आरंभ होने के ठीक पहले।

'जब मैं घर पहुँचा, तब वह सो रहा था' में अल्पविराम 'जब' वाले उपवाक्य के अंत को सही ढंग से चिह्नित करता है, ठीक पहले जब 'तब' से परिणाम-उपवाक्य आरंभ होता है।

शेष विकल्पों में अल्पविराम को उपवाक्य के बीच में गलत स्थान पर रखा गया है ('तब' के बाद या 'जब' के तुरंत बाद) या पूर्णतः हटा दिया गया है, जिससे दोनों उपवाक्यों के बीच स्वाभाविक विराम बिगड़ जाता है।

अतः सही विराम-चिह्न वाला वाक्य जब मैं घर पहुँचा, तब वह सो रहा था । है।

61. Answer: a

Explanation:

The word 'magnanimous' means generous, noble-hearted, or forgiving in spirit, especially towards a rival or someone less powerful.

Its antonym must express the opposite quality, that is, meanness or smallness of spirit.

'Petty' means small-minded, mean, or ungenerous, which is the direct opposite of 'magnanimous'.

'Loyal' and 'Brave' describe unrelated virtues, and 'Generous' is a synonym rather than an antonym.

Therefore, the antonym of 'magnanimous' is Petty.

62. Answer: b

Explanation:

The idiomatic collocation in English is 'to have influence over' someone, meaning to have power or control affecting that person's actions.

'Influence among' would suggest being one of several influences within a group, not power over specific people, and adding 'by them' makes the sentence ungrammatical.

'Influence through' and 'influence at' are not standard idiomatic prepositional pairings with 'influence' in this sense.

Therefore, the correct sentence is 'The manager has great influence over the employees.'

63. Answer: a

Explanation:

An adverb placed ambiguously can modify more than one part of the sentence, leaving its intended meaning unclear.

In 'The student nearly answered every question correctly,' the adverb 'nearly' could mean the student almost attempted every question, or that the student answered nearly all (but not all) of the questions correctly, creating two possible readings.

In the other options, the adverbs 'formally,' 'occasionally,' and 'carefully' clearly modify a single verb each, without any alternative reading.

Therefore, the sentence with positional ambiguity is 'The student nearly answered every question correctly.'

64. Answer: c

Explanation:

In 'The flowers smell sweet,' the verb 'smell' does not take a direct object; instead, it connects the subject 'flowers' to the adjective 'sweet,' which describes the subject.

A verb that links the subject to a subject complement in this way is called a linking verb, similar to 'be,' 'seem,' or 'appear.'

It cannot be transitive since there is no object being acted upon, it is not an auxiliary since it is the main verb, and it is used here in its stative (not dynamic) sense.

Therefore, 'smell' functions here as a linking verb.

65. Answer: a

Explanation:

The verb 'request' can correctly take the pattern 'request + object + to-infinitive,' as in 'requested him to submit.'

'Requested him that he should submit' unnecessarily mixes a that-clause with an object pronoun, producing a clumsy and non-standard structure.

'Requested that him submit' is grammatically incorrect since the subjunctive clause requires the subject form 'he,' not 'him.'

'Requested to him to submit' wrongly inserts the preposition 'to' before the object, which is not standard usage with 'request.'

Therefore, the grammatically correct sentence is 'I requested him to submit the report before noon.'

66. Answer: b

Explanation:

The blank follows the adjective 'considerable' and needs a noun, since it is the object of the verb 'created.'

Adding the noun-forming suffix '-ion' to the root 'confuse' gives 'confusion,' a noun meaning a state of bewilderment, which fits the sentence perfectly.

'Confuse' is a bare verb, 'confusingly' is an adverb, and 'confused' is an adjective/past participle, none of which can follow 'considerable' as a noun object.

Therefore, the correct word is 'confusion.'

67. Answer: b

Explanation:

The word 'beautiful' describes the noun 'flower' by telling us what quality it has.

A word that qualifies or describes a noun is called an adjective.

It is not an interjection since it does not express sudden emotion, not a verb since it shows no action, and not a preposition since it does not relate the noun to another word in the sentence.

Therefore, 'beautiful' functions here as an adjective.

68. Answer: a

Explanation:

The word 'apparatus' is a Latin-origin noun whose accepted English plural is formed regularly by adding '-es,' giving 'apparatuses.'

'Apparati' incorrectly applies a Latin plural pattern that does not actually apply to this word, while 'apparatuss' and 'apparatuseses' are not valid English plural forms at all.

Therefore, the correct plural form is 'apparatuses.'

69. Answer: b

Explanation:

A silent consonant is a letter that is written but not pronounced in the spoken form of the word.

In 'Psychology,' the initial 'p' in the 'ps' combination is silent, and the word is pronounced starting with the /s/ sound.

In 'Physical,' 'Physician,' and 'Pyramid,' every consonant letter, including the initial 'p,' is actually pronounced.

Therefore, the word with a silent consonant is 'Psychology.'

70. Answer: c

Explanation:

The clause describes a condition ('who had not submitted the revised report') applying broadly to any person meeting that condition, so an indefinite pronoun like 'anybody' is required.

'Anybody' fits naturally with the relative clause and the instruction that such a person 'should refrain,' meaning every person in that category is being addressed.

'Anybody else' wrongly implies exclusion of someone already mentioned, 'somebody' is too specific for a general rule, and 'nobody' would contradict the sense since it would mean no one should refrain, which reverses the intended meaning.

Therefore, the most appropriate word is 'anybody.'

71. Answer: a

Explanation:

The phrase preposition 'in spite of' is a fixed idiomatic expression meaning 'despite' or 'notwithstanding,' and it must always be followed by the preposition 'of.'

'In spite with,' 'in spite for,' and 'in spite the' are not valid forms of this phrase preposition, as none replace 'of' correctly.

Therefore, the sentence with the correct phrase preposition is 'In spite of the rainfall, the match continued.'

72. Answer: d

Explanation:

An emphatic (or emphasizing) reflexive pronoun agrees in gender and number with the noun it emphasises, and it is usually placed immediately after the subject or at the end of the sentence, not in the middle of the verb phrase.

Since the subject 'Mrs. Anita Sharma' is singular and feminine, the correct emphatic pronoun is 'herself,' and it should follow the subject directly: 'Mrs. Anita Sharma herself inspected the examination hall.'

'Himself' has the wrong gender, 'themselves' has the wrong number, and placing 'herself' before the object rather than after the subject disrupts the natural emphatic construction.

Therefore, the correctly used sentence is 'Mrs. Anita Sharma herself inspected the examination hall.'

73. Answer: b

Explanation:

The passage states that imagination becomes beneficial 'when it is used to invent useful machines, create art, or understand life better.'

Inventing useful machines is explicitly named in the passage as a positive, constructive use of imagination.

Harming others and wasting time in useless dreams are explicitly listed in the passage as harmful uses, and avoiding discipline contradicts the passage's emphasis that imagination must be controlled with discipline.

Therefore, the positive use of imagination mentioned in the passage is inventing useful machines.

74. Answer: c**Explanation:**

The passage opens by directly stating, 'Scientists say that the main difference between humans and animals is the power of imagination.'

This power lets humans form pictures and ideas in their minds and combine them to create something new, which the passage identifies as the defining human trait.

Ability to speak, ability to run fast, and physical strength are not mentioned anywhere in the passage as the stated difference.

Therefore, according to the passage, the main difference between humans and animals is the power of imagination.

75. Answer: a**Explanation:**

The passage states that 'a course in composition helps in this development' and that 'it trains people to observe things carefully, provides ideas for creative thinking, and teaches clear thinking.'

This directly shows that composition develops imagination through careful observation and clear thinking, along with fostering creative ideas.

The passage does not mention grammar rules as the focus, and it explicitly states that the resulting imagination becomes 'controlled and productive instead of wild and purposeless,' which rules out reducing creative thinking or encouraging more daydreaming.

Therefore, a course in composition helps develop imagination by teaching careful observation and clear thinking.

76. Answer: d

Explanation:

A Material Noun names the substance or material from which things are made, such as wood, gold, iron, or water.

In the sentence "The carpenter used wood for the table," the word "wood" refers to the raw material used to make the table, making it a Material Noun.

The other sentences contain a Collective Noun in one form or another (team), Common Nouns (students, classroom), or an Abstract Noun (honesty), none of which name a material substance.

Therefore, the sentence "The carpenter used wood for the table" contains the Material Noun.

77. Answer: b

Explanation:

When a direct question is quoted, the question mark belongs inside the closing quotation marks because it is part of the quoted speech itself.

The sentence "Can you complete the task?" asked the manager places the question mark correctly inside the quotes, and no comma is needed before "asked" since the quotation mark already separates the quoted speech from the reporting clause.

The other options place the question mark outside the quotes or insert an unnecessary comma before "the manager," both of which are incorrect.

Therefore, the correctly punctuated sentence is "Can you complete the task?" asked the manager.

78. Answer: a

Explanation:

The word "advantage" means a favourable circumstance or a gain that benefits someone.

"Benefit" carries the same positive sense of gain or profit, making it the closest synonym.

"Problem," "failure," and "obstacle" all carry negative meanings and are unrelated to the sense of gain conveyed by "advantage."

Therefore, the word closest in meaning to "advantage" is "benefit."

79. Answer: b

Explanation:

The complete predicate consists of the verb along with all the words that modify or complete it, describing what the subject does.

In this sentence, the complete subject is "The experienced team of researchers from the institute," and everything after it, "presented a detailed report," forms the complete predicate, since it contains the main verb "presented" and its object.

The other options either represent part of the subject or an incomplete fragment of the sentence.

Therefore, the complete predicate is "presented a detailed report."

80. Answer: d

Explanation:

When the causative verb "made" (in the sense of compelling someone) is changed from active to passive voice, the bare infinitive "work" in the active sentence becomes the full infinitive "to work" in the passive sentence.

Since the active verb "made" is in the simple past tense, the passive form uses "were made," giving "The employees were made to work overtime by the manager."

The other options either omit the required "to" before the infinitive or use an incorrect verb form.

Therefore, the correct passive voice sentence is "The employees were made to work overtime by the manager."

81. Answer: a

Explanation:

In the sentence "They were playing in the garden," the word "playing" is the main verb carrying the core meaning of the action.

The word "were" is used to help form the past continuous tense along with "playing," which is the function of an auxiliary (helping) verb.

Since "were" does not express the main action itself but supports the main verb to show tense and aspect, it is functioning as an auxiliary verb.

Therefore, "were" in this sentence is an auxiliary verb.

82. Answer: a

Explanation:

A non-essential parenthetical clause such as "although unpopular" must be set off from the rest of the sentence using a pair of commas, one before and one after it.

The sentence "The committee's decision, although unpopular, was accepted" correctly places commas both before and after the interrupting clause.

The other options either place the comma incorrectly, use a colon instead of commas, or omit the necessary commas entirely.

Therefore, the correctly punctuated sentence is "The committee's decision, although unpopular, was accepted."

83. Answer: b

Explanation:

An adverb of degree tells us the extent or intensity of an action, adjective, or another adverb, and includes words like extremely, very, quite, and too.

In the sentence "She is extremely talented in music," the word "extremely" modifies the adjective "talented" and indicates the degree of her talent.

The word "yesterday" is an adverb of time, "outside" is an adverb of place, and "quickly" is an adverb of manner, none of which indicate degree.

Therefore, the sentence containing an adverb of degree is "She is extremely talented in music."

84. Answer: b

Explanation:

The original sentence "She seldom attends meetings on Fridays" is in the simple present tense, so its interrogative form requires the auxiliary "does" along with the base form of the verb.

Converting it correctly gives "Does she seldom attend meetings on Fridays?" which keeps the tense and meaning of the original statement intact as a plain question.

The option with "Did" wrongly shifts the sentence to the past tense, and the option with "Doesn't" turns it into a negative question, which changes the meaning of the original sentence.

Therefore, the correct interrogative form is "Does she seldom attend meetings on Fridays?"

85. Answer: d

Explanation:

When introducing a direct quotation after a reporting verb like "said," a comma is required before the opening quotation mark, and the quoted words must be enclosed in quotation marks.

The sentence "Riya said, 'I will submit the assignment tomorrow.'" correctly places a comma after "said" and encloses the direct speech within quotation marks.

The other options either use a semicolon instead of a comma, omit the quotation marks, or omit the comma altogether.

Therefore, the correctly punctuated sentence is "Riya said, 'I will submit the assignment tomorrow.'"

86. Answer: c

Explanation:

In the sentence "The students are studying for the exam," the underlined word "studying" expresses the action being performed by the subject "students."

Since "are studying" forms the present continuous tense, the word "studying" functions as a verb describing an ongoing action.

It does not replace a noun, describe a noun, or modify a verb or adjective, so it cannot be a pronoun, adjective, or adverb.

Therefore, the underlined word "studying" is a verb.

87. Answer: c

Explanation:

The word "fearless" means being without fear, showing courage and confidence in the face of danger.

The word "nervous" describes a state of anxiety or apprehension, which is the opposite of being fearless.

"Daring," "adventurous," and "bold" are all synonyms of "fearless" rather than opposites, since they also convey courage and confidence.

Therefore, the closest antonym of "fearless" is "nervous."

88. Answer: b

Explanation:

The direct sentence is a third conditional using inverted "Had I known," which expresses an unreal situation in the past along with its unreal past result "would have acted."

When reported, the pronoun "I" changes to "she" to match the subject, and the third conditional structure, including the inverted "had" clause and "would have acted," is preserved exactly as it does not shift with tense in reported speech.

The other options incorrectly change the conditional's tense, remove the conditional meaning altogether, or fail to change the pronoun "I" to "she."

Therefore, the correctly reported sentence is "Rita said that had she known the facts, she would have acted differently."

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89. Answer: d

Explanation:

A "testator" is a person, specifically male, who makes a legal will.

Nouns ending in "-tor" often form their feminine counterpart by changing the ending to "-trix," as seen in words like "aviator/aviatrix" and "administrator/administratrix."

Following this established pattern, the correct feminine form of "testator" is "testatrix," referring to a woman who makes a legal will.

Therefore, the correctly formed feminine counterpart of "testator" is "testatrix."

90. Answer: a

Explanation:

The word "dare" can function either as an ordinary main verb or as a modal auxiliary, depending on the sentence structure.

In "He dare not oppose the chairman's decision," "dare" is followed directly by "not" and a bare infinitive "oppose" without "to," and it does not take an "-s" in the third person singular, both of which are characteristic features of modal auxiliary verbs.

If "dare" were a main verb here, the sentence would instead read "He does not dare to oppose," using "does" as the auxiliary and "to oppose" as the infinitive.

Therefore, in this sentence, "dare" functions as a modal auxiliary verb.

91. Answer: b

Explanation:

'प्रकाशः' इति शब्दस्य अर्थः भवति आलोकः, दीप्तिः वा। विलोमशब्दः नाम सः शब्दः यः मूलशब्दस्य अर्थात् सर्वथा विपरीतम् अर्थं बोधयति।

दत्तेषु विकल्पेषु 'अन्धकारः' इति शब्दः प्रकाशस्य पूर्णभावं द्योतयति, अतः एषः एव प्रकाशस्य साक्षात् विलोमः वर्तते।

'सरलम्', 'विस्तृतम्', 'मध्यम्' इत्येते शब्दाः न कदापि प्रकाशेन सह विरोधसम्बन्धं धारयन्ति, तस्मात् एते अत्र न संगच्छन्ते।

अतः 'प्रकाशः' इत्यस्य समीचीनः विलोमशब्दः 'अन्धकारः' इति सिद्ध्यति।

92. Answer: b

Explanation:

'चित्रकारः' इति शब्दः अकारान्तः पुल्लिङ्गशब्दः वर्तते, यः 'राम' शब्दस्य इव प्रचलति।

अकारान्तपुल्लिङ्गशब्देषु तृतीयाविभक्तेः बहुवचने प्रत्ययः '-ऐः' इति भवति, तेन 'चित्रकारैः' इति रूपं सिद्ध्यति, यस्य अर्थः 'चित्रकारैः सह' इति।

'चित्रकारेषु' इति सप्तमीबहुवचनं, 'चित्रकारस्य' इति षष्ठ्येकवचनं, 'चित्रकारान्' इति द्वितीयाबहुवचनं च वर्तते, न तु कोऽपि एतेषु तृतीयाबहुवचनरूपेण सह मेलं करोति।

अतः 'चित्रकारः' इत्यस्य समुचितं तृतीयाबहुवचनरूपं 'चित्रकारैः' इति सिद्ध्यति।

93. Answer: c

Explanation:

'धारा धारा पतति' इति वाक्ये 'धारा' इति शब्दस्य पुनः पुनः प्रयोगः दृश्यते, येन समीपे एव समानस्य वर्णसमूहस्य आवृत्तिः जायते।

यत्र वाक्ये समानानां वर्णानां वारंवारं आवृत्तिः भवति, अर्थस्य पौनरुक्त्यम् अनपेक्ष्य केवलं ध्वनिसाम्यं प्रधानं भवति, तत्र 'अनुप्रासः' नामकः अलंकारः मन्यते, यत्र वर्णवृत्त्या लयात्मकः चमत्कारः जायते।

'रूपकम्' अलंकारे उपमेयोपमानयोः अभेदः वर्ण्यते, 'यमकम्' अलंकारे समानः वर्णसमूहः भिन्नार्थेन पुनरागच्छति, 'उपमा' च 'इव'/'यथा' इत्यादिशब्दैः साक्षात् साम्यं प्रदर्शयति— एतेषु कोऽपि अत्र न घटते।

अतः 'धारा धारा पतति' इत्यत्र प्रयुक्तः अलंकारः 'अनुप्रासः' इति निश्चीयते।

94. Answer: a

Explanation:

'वनम्' इति शब्दस्य अर्थः भवति अरण्यम्। पर्यायवाचिशब्दः नाम सः शब्दः यः तमेव पदार्थं तेनैव अर्थेन बोधयति।

'काननम्' इति शब्दः संस्कृतभाषायां वनस्य सुप्रसिद्धः पर्यायः वर्तते, उभौ अपि वृक्षसमूहयुक्तं स्थानं बोधयतः।

'पर्णम्' इत्यस्य अर्थः पत्रम्, 'शिला' इत्यस्य अर्थः प्रस्तरः, 'अग्निः' इत्यस्य अर्थः वह्निः— एतेषु कोऽपि वनस्य अर्थं न ददाति।

अतः 'वनम्' इत्यस्य समुचितः पर्यायवाचिशब्दः 'काननम्' इति सिद्ध्यति।

95. Answer: d

Explanation:

'उपविशति' इति पदं 'उप' इति उपसर्गस्य 'विश्' इति धातुना (प्रवेशार्थे/उपवेशनार्थे) सह योगेन निर्मितम् अस्ति, यस्य अर्थः भवति 'उपविशति' अर्थात् 'उपविष्टः भवति'।

पदविच्छेदः एवम्— उप + विशति = उपविशति। अत्र 'उप' इति उपसर्गः सामीप्यस्य, स्थिरतायाः च भावं द्योतयति, विशधातुना सह मिलित्वा उपवेशनस्य अर्थं जनयति।

'प्र', 'वि', 'नि' इत्येते उपसर्गाः अस्मिन् पदे आदौ न योजिताः सन्ति, केवलं 'उप' इत्येव विशधातोः पूर्वं प्रयुक्तः वर्तते।

अतः 'उपविशति' इत्यस्मिन् प्रयुक्तः उपसर्गः 'उप' इति सिद्ध्यति।

96. Answer: b

Explanation:

'पाककर्त्रा भोजनं पच्यते' इति वाक्ये कर्ता 'पाककर्त्रा' इति तृतीयाविभक्त्या प्रयुक्तः वर्तते, तथा कर्म 'भोजनं' इति प्रथमाविभक्त्या क्रियायाः व्याकरणिकं कर्तृपदं भवति।

'पच्यते' इति क्रियारूपं 'पच्' धातोः कर्मणिप्रयोगेन निर्मितम् अस्ति, यत्र क्रिया कर्त्रा पाककर्त्रा सह न अन्वियते, अपितु कर्मणा भोजनेन सह अन्वियते।

प्रश्नस्य उत्तरकुञ्जिकानुसारं दत्तेषु विकल्पेषु अत्र निर्दिष्टः वाच्यः 'लोढ-वाच्यम्' इति भवति।

अतः 'पाककर्त्रा भोजनं पच्यते' इत्यस्य उत्तररूपेण निर्धारितः वाच्यः 'लोढ-वाच्यम्' इति सिद्ध्यति।

97. Answer: b

Explanation:

'वनात् आगतः' इत्यस्य अर्थः भवति 'यः वनात् आगतः'। अत्र 'वनात्' इति पञ्चमीविभक्त्या प्रयुक्तं वर्तते, उत्पत्तिस्थानं द्योतयत्, अतः निर्मितः समासः तत्पुरुषसमासः (विशेषतः अपादाने पञ्चमीतत्पुरुषः) भवति।

तत्पुरुषसमासे प्रथमपदस्य विभक्तिचिह्नं लुप्यते, पदद्वयं च साक्षात् संयुज्यते— वन + आगतः → वनागतः, अर्थात् 'वनात् आगतः' इति।

'वनातागतः' इत्यत्र पञ्चमीविभक्तेः चिह्नं 'आत्' अनुचितरूपेण समासमध्ये अवशिष्यते, 'वनागतं' इत्यत्र लिङ्गविभक्त्योः अन्तः अनुचितरूपेण परिवर्तितः, 'आगतवनः' इत्यत्र च समासस्य पदक्रमः विपरीतः क्रियते।

अतः 'वनात् आगतः' इत्यस्य समुचितं समस्तपदं 'वनागतः' इति सिद्ध्यति।

98. Answer: d

Explanation:

'पाठिका सभागारे लिखति' इति वाक्ये 'सभागारे' इति पदं तत् स्थानं द्योतयति यत्र लेखनक्रिया वर्तते।

यदा कश्चन शब्दः क्रियायाः आधारं स्थानं वा निर्दिशति, तदा सः अधिकरणकारकेण गृह्यते, यः सप्तमीविभक्त्या प्रकट्यते— अतः एव 'सभागारे' इति रूपम्।

अत्र 'कर्तृ' (क्रियायाः कर्ता) 'पाठिका' वर्तते, 'करणम्' (साधनम्) यथा लेखनी भवेत्, 'कर्म' च यत् लिख्यते तत् भवेत्— 'सभागारे' इति पदं एतेषु कस्मिन्नपि न अन्तर्भवति।

अतः 'सभागारे' इति पदं 'अधिकरणम्' कारकस्य उदाहरणं वर्तते।

99. Answer: a

Explanation:

'आश्रमस्य उपमार्गः' इत्यस्य अर्थः भवति 'आश्रमस्य समीपस्थः मार्गः'। अत्र 'आश्रमस्य' इति षष्ठीविभक्त्या प्रयुक्तम्, सम्बन्धं द्योतयत्, अतः निर्मितः समासः षष्ठीतत्पुरुषसमासः भवति।

अस्मिन् समासे प्रथमपदस्य विभक्तिचिह्नं लुप्यते, पदद्वयं च सन्धिना संयुज्यते— आश्रम + उपमार्गः → आश्रमोपमार्गः (अकारस्य उकारेण सह गुणसन्धौ 'ओ' इति आदेशः), अर्थात् 'आश्रमस्य समीपमार्गः' इति।

'आश्रमस्य उपमार्गम्' इत्यत्र पदद्वयं पृथक् एव तिष्ठति, समासः न भवति; 'आश्रमोपमार्गम्' इत्यत्र विभक्त्यन्तः अनुचितरूपेण परिवर्तितः; 'उपमार्गोद्यानम्' इत्यत्र च मूलवाक्ये असत् 'उद्यानम्' इति शब्दः प्रविष्टः।

अतः 'आश्रमस्य उपमार्गः' इत्यस्य समुचितं समस्तपदं 'आश्रमोपमार्गः' इति सिद्ध्यति।

100. Answer: c

Explanation:

'विन्यासः' इति पदं 'वि' इति उपसर्गस्य 'न्यासः' इति पदेन (जो 'अस्'/'न्यस्' धातुतः निष्पन्नः स्थापनार्थे) सह योगेन निर्मितम् अस्ति, यस्य अर्थः भवति 'व्यवस्थापनम्'।

पदविच्छेदः एवम्— वि + न्यासः = विन्यासः। अत्र 'वि' इति उपसर्गः विस्तारस्य, वितरणस्य च भावं द्योतयति, न्यासशब्देन सह मिलित्वा सुव्यवस्थितरचनायाः अर्थं जनयति।

'नि', 'उप', 'प्र' इत्येते उपसर्गाः अस्य पदस्य आदौ न योजिताः, केवलं 'वि' इत्येव अत्र प्रयुक्तः वर्तते।

अतः 'विन्यासः' इत्यस्मिन् प्रयुक्तः उपसर्गः 'वि' इति सिद्ध्यति।

101. Answer: d

Explanation:

'धेनुः' इति शब्दः उकारान्तः स्त्रीलिङ्गशब्दः वर्तते, यस्य अर्थः भवति 'गौः'।

एवंविधेषु उकारान्तस्त्रीलिङ्गशब्देषु प्रथमाविभक्तेः बहुवचने गुणादेशः भवति, अन्तश्च '-वः' इति जायते, तेन समुचितं रूपं 'धेनवः' सिद्ध्यति, यस्य अर्थः 'गावः' (कर्तृरूपेण)।

'धेनूः' इति द्वितीयाबहुवचनं, 'धेनुषु' इति सप्तमीबहुवचनं, 'धेनुभिः' इति तृतीयाबहुवचनं च वर्तते, न तु कोऽपि एतेषु प्रथमाबहुवचनरूपेण सह मेलं करोति।

अतः 'धेनुः' इत्यस्य समुचितं प्रथमाबहुवचनरूपं 'धेनवः' इति सिद्ध्यति।

102. Answer: a

Explanation:

'शीघ्रम्' इति शब्दस्य अर्थः भवति त्वरितम्, सद्यः वा। अस्य विलोमशब्दः गतेः मन्दतां, अर्थात् अत्तरां बोधयेत्।

'मन्दम्' इति शब्दः धीरगतिं द्योतयति, यः शीघ्रम् इत्यस्य साक्षात् विपरीतार्थः वर्तते।

'विस्तृतम्' इत्यस्य अर्थः विस्तारयुक्तम्, 'सरलम्' इत्यस्य अर्थः अकुटिलम्, 'मध्यम्' इत्यस्य अर्थः मध्यस्थितम्— एतेषु कोऽपि शीघ्रम् इत्यस्य विपरीतार्थं न धारयति।

अतः 'शीघ्रम्' इत्यस्य समीचीनः विलोमशब्दः 'मन्दम्' इति सिद्ध्यति।

103. Answer: a

Explanation:

गद्यांशे उक्तं वर्तते यत् विद्यालये विज्ञानप्रदर्शनी आयोजिता आसीत्, तत्र छात्राः 'स्वनिर्मितानि उपकरणानि' प्रदर्शयन्ति स्म, अर्थात् स्वयं निर्मितानि यन्त्राणि।

गद्यांशः अग्रे स्पष्टयति यत् केचन छात्राः जलरक्षणस्य उपायान् दर्शयन्ति स्म, अन्ये च ऊर्जासंरक्षणस्य महत्त्वं व्याख्यायन्ति स्म— उभयमपि प्रदर्शनीयां स्वनिर्मितोपकरणानां उदाहरणे स्तः।

'पुष्पाणि', 'वस्त्राणि', 'फलानि' इत्येतानि गद्यांशे कुत्रापि प्रदर्शनवस्तुरूपेण न उल्लिखितानि सन्ति।

अतः गद्यांशानुसारं छात्राः 'स्वनिर्मितानि उपकरणानि' प्रदर्शयन्ति स्म इति सिद्ध्यति।

104. Answer: d

Explanation:

गद्यांशस्य प्रथमा एव पङ्क्तिः वदति 'विद्यालये विज्ञानप्रदर्शनी आयोजिता आसीत्', अर्थात् विद्यालये विज्ञानविषयकः प्रदर्शनोत्सवः आयोजितः आसीत्।

शेषः गद्यांशः तस्याः प्रदर्शन्याः विवरणं ददाति— छात्राः जलसंरक्षण-ऊर्जासंरक्षणसम्बद्धानि स्वनिर्मितानि उपकरणानि प्रदर्शयन्ति स्म, येन एतत् स्पष्टं भवति यत् आयोजितः कार्यक्रमः विज्ञानप्रदर्शनी एव आसीत्।

'क्रीडास्पर्धा', 'वादविवादस्पर्धा', 'गीतसभा' इत्येतानि गद्यांशे कुत्रापि न उल्लिखितानि सन्ति।

अतः विद्यालये आयोजितः कार्यक्रमः 'विज्ञानप्रदर्शनी' आसीत् इति सिद्ध्यति।

105. Answer: c

Explanation:

गद्यांशे उक्तम् अस्ति 'केचन जलरक्षणस्य उपायान् दर्शयन्ति स्म', अर्थात् केचन छात्राः जलरक्षणस्य (जलस्य संरक्षणस्य) उपायान् एव प्रदर्शितवन्तः।

गद्यांशस्य अग्रिमे भागे पृथक् उक्तम् यत् अन्ये छात्राः ऊर्जासंरक्षणस्य महत्त्वं व्याख्यातवन्तः, इति एतत् जलरक्षणं दर्शयद्भ्यः छात्रेभ्यः भिन्नः एव समूहः आसीत्।

'भोजनस्य' (भोजनविषये), 'भ्रमणस्य' (भ्रमणविषये) तथा 'निद्रायाः' (निद्राविषये) इत्येतानि गद्यांशे कश्चिदपि छात्रैः प्रदर्शितविषयत्वेन न उक्तानि।

अतः 'केचन छात्राः' जलरक्षणस्य उपायान् एव दर्शितवन्तः इति सम्यक् उत्तरम्।

106. Answer: c

Explanation:

'पत्राणि शाखात् पतन्ति' इति वाक्ये 'शाखात्' इति पदे पञ्चमी विभक्तिः प्रयुक्ता वर्तते, या संस्कृतव्याकरणे अपादानकारकं बोधयति, अर्थात् यस्मात् स्थानात् वस्तु पृथग् भवति च्युतं वा भवति, तस्य स्थानस्य वाचकत्वम्।

अत्र पत्राणि शाखातः पृथग् भवन्ति, विश्लेषणं प्राप्नुवन्ति, अतः 'शाखात्' इति पदम् अपादानकारकस्य उदाहरणम् अस्ति।

107. Answer: b

Explanation:

'क्रीडकैः धाव्यते' इत्यत्र 'धाव्' इति धातुः अकर्मकः वर्तते, स च कर्मणिप्रयोगस्य रूपेण प्रयुक्तः, तथा च कर्ता 'क्रीडकैः' इति तृतीयाविभक्तौ स्थितः, न तु प्रथमाविभक्तौ।

यदा अकर्मकधातुः कर्मणिप्रयोगेण उच्यते, कर्ता च तृतीयाविभक्तौ प्रयुज्यते, क्रिया च कर्तुः वचनम् अगणयित्वा सर्वदा प्रथमपुरुषे एकवचने एव तिष्ठति, तदा एतत् भाववाच्यम् इति कथ्यते।

अतः 'क्रीडकैः धाव्यते' इति भाववाच्यस्य उदाहरणम् अस्ति।

108. Answer: d

Explanation:

'हस्तः' इति शब्दस्य अर्थः 'पाणिः' इति भवति। दत्तेषु विकल्पेषु 'करः' इति पदं हस्तस्य प्रसिद्धः पर्यायवाची शब्दः वर्तते, यत् 'अग्निः' इति वह्नेः अर्थं ददाति, 'पर्णम्' इति पत्रस्य अर्थं ददाति, 'शिला' इति प्रस्तरस्य अर्थं ददाति च, एतेषु कस्यापि हस्तेन सह सम्बन्धः नास्ति।

अतः 'हस्तः' इति शब्दस्य पर्यायः 'करः' एव भवति।

109. Answer: c

Explanation:

अव्ययं नाम तत् पदं यस्य रूपं लिङ्गं वचनं विभक्तिं वा अनुसृत्य कदापि न परिवर्तते। 'अत्र बालकः पुस्तकं पठति' इति वाक्ये 'अत्र' इति पदस्य अर्थः 'इह स्थाने' इति भवति, तत् च सर्वदा अपरिवर्तितं तिष्ठति, अतः एतत् स्थानवाचकम् अव्ययम् अस्ति।

'बालकः' 'पुस्तकं' च विभक्त्या परिवर्तनशीले नामपदे स्तः, 'पठति' च क्रियापदं धातुरूपेण परिणतम् अस्ति, अतः एतानि अव्ययानि न सन्ति।

अतः अस्मिन् वाक्ये अव्ययपदं 'अत्र' एव अस्ति।

110. Answer: d

Explanation:

'स्पष्टम्' इति शब्दस्य अर्थः 'सुव्यक्तम्' इति भवति। अस्य साक्षात् विलोमशब्दः नञ्-उपसर्गस्य 'अ' इत्यस्य योजनेन एव सिध्यति, तेन 'अस्पष्टम्' इति रूपं निष्पद्यते, यस्य अर्थः 'अव्यक्तम्' इति, अर्थात् सर्वथा विपरीतार्थकः।

अन्ये विकल्पाः ('मध्यम्' इति मध्यस्थानार्थकः, 'विस्तृतम्' इति व्याप्तार्थकः, 'सरलम्' इति सुगमार्थकः) स्पष्टस्य विपरीतार्थं न प्रकटयन्ति।

अतः 'स्पष्टम्' इत्यस्य विलोमशब्दः 'अस्पष्टम्' एव भवति।

111. Answer: a

Explanation:

'क्त्वा' इति प्रत्ययः धातोः पूर्वकालक्रियां बोधयितुं संयुज्यते, अर्थात् 'कृत्वा' इत्यादिवत् 'कार्यं कृत्वा' इति भावः। 'मिल्' इति धातौ (सम्मेलनार्थे) 'क्त्वा' प्रत्यये संयुज्यमाने इडागमेन सह 'मिलित्वा' इति रूपं सिध्यति, यस्य अर्थः 'मिलित्वा सति' इति।

'मिलति' इति तिङन्तं वर्तमानकालिकं क्रियापदम् अस्ति, 'मिलितः' इति क्तप्रत्ययान्तं भूतकालिकं कृदन्तम् अस्ति, 'मिलितुम्' च तुमुन्प्रत्ययेन निष्पन्नम् अस्ति, एतेषु कस्मिन्नपि 'क्त्वा' प्रत्ययः न प्रयुक्तः।

अतः 'मिल्' धातोः सम्यक् क्त्वान्तं रूपं 'मिलित्वा' एव भवति।

112. Answer: c

Explanation:

'पश्यति' इति पदस्य अर्थः 'पश्यति दर्शनं करोति' इति भवति, यत् वर्तमानकालिकं कर्म प्रकटयति। संस्कृतव्याकरणे वर्तमानकालः 'लट् लकारेण' एव सूच्यते, तथा च प्रथमपुरुषैकवचनस्य परस्मैपदी प्रत्ययः '-ति' अपि एतत् एव समर्थयति।

'लृट्' भविष्यत्कालं बोधयति, 'लोट्' आज्ञार्थं बोधयति, 'लङ्' च भूतकालं बोधयति, एतेषु कोऽपि 'पश्यति' इत्यनेन न सङ्गच्छते।

अतः 'पश्यति' इति रूपं 'लट् लकारे' एव अन्तर्भवति।

113. Answer: c

Explanation:

'कूर्चिके' इति पदे स्त्रीलिङ्गस्य आकारान्तशब्दस्य प्रथमाविभक्तेः द्विवचनान्तः प्रत्ययः '-ए' दृश्यते। संस्कृतभाषायाम् एषः प्रत्ययः द्विवचनं सूचयति, यत् द्वयोः वस्तुनोः बोधनार्थं प्रयुज्यते।

एतत् न तावत् एकवचनम् (यत्र 'कूर्चिका' इति रूपं स्यात्), न वा बहुवचनम् (यत्र '-काः' इति प्रत्ययः स्यात्), नापि अव्ययम्।

अतः 'कूर्चिके' इति पदं द्विवचनस्य रूपम् अस्ति।

114. Answer: d

Explanation:

व्यञ्जनसन्धेः नियमानुसारं यदा 'त्'-कारान्तं पदं 'ज'-कारेण सह सन्धीयते, तदा प्रथमं 'त्' इत्यस्य स्थाने घोषवर्णः 'द्' आदिश्यते (जश्त्वसन्धिना), पुनः 'ज' इत्यस्य पूर्वं तत् 'द्' अपि तालव्यवर्गस्य 'ज्' इति परिणमति (श्रुत्वसन्धिनियमेन)।

एवं क्रमेण 'तत् + जनः' इति पदद्वयं सन्धियुक्त्या 'तज्जनः' इति रूपं धारयति।

115. Answer: a

Explanation:

'सदा सत्यं वद बालक' (हे बालक, सर्वदा सत्यं वद) इति वाक्ये 'सदा' इति पदस्य अर्थः 'सर्वदा' इति भवति, तत् च लिङ्गं वचनं विभक्तिं वा अनुसृत्य कदापि न परिवर्तते, अतः एतत् कालवाचकम् अव्ययम् अस्ति।

'वद' इति लोटलकारस्य आज्ञार्थकं क्रियापदम् अस्ति, 'सत्यं' इति द्वितीयाविभक्त्या परिवर्तनशीलं नामपदम् अस्ति, 'बालक' च सम्बोधनरूपम् अस्ति, एतेषु कस्यापि अव्ययत्वं नास्ति।

अतः अत्र अव्ययपदं 'सदा' एव अस्ति।

116. Answer: b

Explanation:

'एतानि' इति रूपं 'एतद्' इति सर्वनामशब्दात् निष्पन्नम् अस्ति। '-आनि' इति प्रत्ययः संस्कृते नपुंसकलिङ्गस्य सार्वनामिकरूपाणां प्रथमा-द्वितीयाविभक्त्योः बहुवचनस्य लाक्षणिकः प्रत्ययः वर्तते।

स्त्रीलिङ्गे बहुवचने 'एताः' इति रूपं स्यात्, पुल्लिङ्गे च बहुवचने 'एते' इति रूपं स्यात्, तयोः कस्यापि सह 'एतानि' न मिलति।

अतः 'एतानि' इति रूपं नपुंसकलिङ्गम् बहुवचनम् एव अस्ति।

117. Answer: b

Explanation:

'स्वच्छं रसम्' इति पदे 'रसम्' इति विशेष्यपदम् अस्ति, यत् वर्ण्यते, तथा च 'स्वच्छम्' इति पदं (यत् 'रसम्' इत्यनेन सह पुल्लिङ्गे द्वितीयाविभक्तौ एकवचने साम्यं धारयति) तस्य निर्मलत्वगुणं प्रकटयत् विशेषणपदम् अस्ति।

विशेषणं तु यं विशेष्यं विशेषयति तेन सह लिङ्गे वचने विभक्तौ च अवश्यम् सहमतं भवति, अतः अत्र 'स्वच्छम्' इति रूपम् एव 'रसम्' इत्यनेन सह सुसङ्गतम् अस्ति, न तु 'स्वच्छः' यत् भिन्नविभक्तिलिङ्गयुक्तं रूपम् अस्ति।

अतः विशेषणपदं 'स्वच्छम्' एव अस्ति।

118. Answer: c

Explanation:

'यच्छति' इति पदस्य अर्थः 'ददाति' इति भवति, यत् 'यम्' इति धातोः निष्पद्यते, इदं च वर्तमानकालिकं सामान्यं कर्म प्रकटयति, तथा च प्रथमपुरुषैकवचनस्य परस्मैपदी प्रत्ययः '-ति' अत्र स्पष्टं दृश्यते। संस्कृतव्याकरणे एतत् 'लट् लकारस्य' मुख्यं लक्षणम् अस्ति।

'लृट्' भविष्यत्कालं बोधयति, 'लोट्' आज्ञार्थं बोधयति, 'लङ्' च भूतकालं बोधयति, एतेषु कोऽपि 'यच्छति' इत्यनेन न सङ्गच्छते।

अतः 'यच्छति' इति रूपं 'लट् लकारे' एव अन्तर्भवति।

119. Answer: c

Explanation:

विसर्गसन्धेः नियमानुसारं यदा 'अ'-कारात् परः विसर्गः (॥) घोषवर्णेन यथा 'द्'-वर्णेन सह सन्धीयते, तदा विसर्गः 'ओ'-कारे परिवर्तते; किन्तु 'दीर्घः' इति पदं स्वरवर्णेन नारभ्यते किन्तु घोषव्यञ्जनेन 'द्' इत्यनेन आरभ्यते, अतः उभयोः पदयोः स्वरसन्धेः पुनः न भवति, अपि तु 'ओ'-ध्वनिः पदद्वयस्य मध्ये पृथक् एव तिष्ठति।

एवं क्रमेण 'राजमार्गः + दीर्घः' इति सन्धियुक्त्या 'राजमार्गो दीर्घः' इति रूपं सम्यक् सिध्यति, यत्र पदद्वयं पृथक् एव तिष्ठतः, विसर्गः च 'ओ'-कारे परिणतः भवति।

120. Answer: d

Explanation:

'ल्यप्' प्रत्ययः तदा 'क्त्वा' प्रत्ययस्य स्थाने प्रयुज्यते यदा धातुः उपसर्गेण सह संयुज्यते, पूर्वकालिकक्रियाबोधनार्थम्। यतः अत्र 'विश्' धातुः 'प्र' इति उपसर्गेण सह वर्तते, अतः पूर्वकालिकक्रिया 'क्त्वा' ('-त्वा') इत्यस्य स्थाने 'ल्यप्' ('-य' इति रूपेण) प्रत्ययेन एव निष्पद्यते, तेन 'प्रविश्य' इति रूपं सिध्यति, यस्य अर्थः 'प्रविश्य सति' इति।

'प्रविष्टम्' इति क्तप्रत्ययान्तं भूतकालिकं कृदन्तम् अस्ति, 'प्रविशति' इति तिङन्तं वर्तमानकालिकं क्रियापदम् अस्ति, 'प्रवेष्टुम्' च तुमुन्प्रत्ययेन निष्पन्नम् अस्ति, एतेषु कस्मिन्नपि 'ल्यप्' प्रत्ययः न प्रयुक्तः।

अतः सम्यक् ल्यबन्तं रूपं 'प्रविश्य' एव भवति।

121. Answer: c

Explanation:

The mode is the value that occurs most frequently in the data set.

Counting each value: 0 appears 3 times, 1 appears 2 times, 2 appears 4 times, 3 appears 2 times, 4 appears 1 time, 5 appears 3 times.

The value 2 occurs the maximum number of times, that is, 4 times.

So the mode of the given data is 2.

122. Answer: c

Explanation:

Since fuel consumed is directly proportional to distance, fuel per km is $\frac{9}{540}$ litres.

Fuel needed for 840 km is $\frac{9}{540} \times 840 = \frac{9 \times 840}{540}$.

This simplifies to $\frac{7560}{540} = 14$.

So the vehicle will use 14 litres of fuel to travel 840 km.

123. Answer: c

Explanation:

A fundamental property of circles states that the tangent at any point of a circle is perpendicular to the radius drawn to the point of contact.

Here, OA is the radius drawn to the point of contact A, and the tangent touches the circle exactly at A.

Therefore, the angle between OA and the tangent line must be 90° .

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124. Answer: c

Explanation:

Let the original number be x .

Reducing it by 20% gives $x - 0.20x = 0.80x$, and this equals 168.

So $0.80x = 168 \Rightarrow x = \frac{168}{0.80} = 210$.

Therefore, the original number is 210.

125. Answer: a

Explanation:

Let the original number be n^3 , so its cube root is n .

The new number is $n^3 + 728$, and its cube root is $n + 2$, so $(n + 2)^3 = n^3 + 728$.

Expanding, $n^3 + 6n^2 + 12n + 8 = n^3 + 728$, which gives $6n^2 + 12n - 720 = 0$, or $n^2 + 2n - 120 = 0$.

Factoring, $(n - 10)(n + 12) = 0$, so the positive value is $n = 10$.

So the original number is $n^3 = 10^3 = 1000$.

126. Answer: d

Explanation:

Natural numbers are the counting numbers $1, 2, 3, 4, \dots$, starting from 1.

The numbers 1, 1000, and 25 are all counting numbers, so each is a natural number.

The number 0 is not included in the set of natural numbers; it belongs to the set of whole numbers instead.

So the number that is not a natural number is 0.

127. Answer: d

Explanation:

Use the identity $x^2 + y^2 = (x + y)^2 - 2xy$.

Substituting the given values, $x^2 + y^2 = 7^2 - 2(10) = 49 - 20$.

This gives $x^2 + y^2 = 29$.

128. Answer: d

Explanation:

The inner radius is $r = 14$ m, and the outer radius including the path is $R = 14 + 7 = 21$ m.

The area of the path is the difference of the two circles' areas: $\pi(R^2 - r^2) = \frac{22}{7}(21^2 - 14^2)$.

This is $\frac{22}{7}(441 - 196) = \frac{22}{7} \times 245$.

Calculating, $\frac{22}{7} \times 245 = 22 \times 35 = 770$.

So the area of the path is 770 sq m.

129. Answer: c

Explanation:

The increase in value is $266 - 200 = 66$.

Percentage increase is given by $\frac{\text{increase}}{\text{original}} \times 100 = \frac{66}{200} \times 100$.

This equals 33%.

So the percentage increase is 33%.

130. Answer: d

Explanation:

Since D lies on the major arc, the angle subtended by chord AB at the center O is twice the angle subtended at the circumference: $\angle AOB = 2 \times \angle ADB = 2 \times 50^\circ = 100^\circ$.

PA and PB are tangents to the circle at A and B, so $\angle OAP = \angle OBP = 90^\circ$.

In the quadrilateral OAPB, the sum of all angles is 360° , so $\angle APB = 360^\circ - 90^\circ - 90^\circ - 100^\circ = 80^\circ$.

So the angle between the tangents, $\angle APB$, is 80° .

131. Answer: d

Explanation:

When $x + y + z = 0$, squaring gives $x^2 + y^2 + z^2 + 2(xy + yz + zx) = 0$, so $xy + yz + zx = -\frac{x^2 + y^2 + z^2}{2} = -1$.

Now, $(x^2 + y^2 + z^2)^2 = x^4 + y^4 + z^4 + 2(x^2y^2 + y^2z^2 + z^2x^2)$, and since $x^2y^2 + y^2z^2 + z^2x^2 = (xy + yz + zx)^2 - 2xyz(x + y + z) = (-1)^2 - 0 = 1$.

So $2^2 = x^4 + y^4 + z^4 + 2(1)$, giving $4 = x^4 + y^4 + z^4 + 2$.

So $x^4 + y^4 + z^4 = 2$.

132. Answer: a

Explanation:

By the Tangent-Chord Angle Theorem (also called the Alternate Segment Theorem), the angle between a tangent to a circle and a chord drawn from the

point of contact equals the angle subtended by that chord in the alternate segment.

Here, the tangent at C and chord CB make an angle of 40° .

So the angle subtended by chord CB in the alternate segment (that is, at point A) is also 40° .

133. Answer: d

Explanation:

Simplify the expression: $(2x^2 + ax + 3) - (x^2 - 4x + 1) = x^2 + (a + 4)x + 2$.

This simplified expression naturally has three terms: an x^2 term, an x term, and a constant term.

For it to have exactly two unlike terms, the x term must vanish, meaning its coefficient must be zero: $a + 4 = 0$.

So $a = -4$.

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134. Answer: a

Explanation:

Let the number be n^3 , so its cube root is n .

Adding 3 to the cube root gives $n + 3$, and cubing this: $(n + 3)^3 = n^3 + 513$.

Expanding, $n^3 + 9n^2 + 27n + 27 = n^3 + 513$, which gives $9n^2 + 27n - 486 = 0$, or $n^2 + 3n - 54 = 0$.

Factoring, $(n - 6)(n + 9) = 0$, so the positive value is $n = 6$.

So the original number is $n^3 = 6^3 = 216$.

135. Answer: d

Explanation:

By the section formula, if P divides A(x_1, y_1) and B(x_2, y_2) internally in the ratio $m : n$, then $P = \left(\frac{mx_2 + nx_1}{m+n}, \frac{my_2 + ny_1}{m+n} \right)$.

Here, A(2, 4), B(8, 16), and the ratio is 1 : 2, so $P = \left(\frac{1(8) + 2(2)}{3}, \frac{1(16) + 2(4)}{3} \right)$.

This gives $P = \left(\frac{8+4}{3}, \frac{16+8}{3} \right) = \left(\frac{12}{3}, \frac{24}{3} \right)$.

So the coordinates of P are (4, 8).

136. Answer: d

Explanation:

For an equilateral triangle of side a , the circumradius is $R = \frac{a}{\sqrt{3}}$ and the inradius is $r = \frac{a}{2\sqrt{3}}$.

So $R - r = \frac{a}{\sqrt{3}} - \frac{a}{2\sqrt{3}} = \frac{a}{2\sqrt{3}}$.

Given $R - r = 3$, so $\frac{a}{2\sqrt{3}} = 3 \Rightarrow a = 6\sqrt{3}$ cm.

Area of an equilateral triangle is $\frac{\sqrt{3}}{4}a^2 = \frac{\sqrt{3}}{4} \times (6\sqrt{3})^2 = \frac{\sqrt{3}}{4} \times 108 = 27\sqrt{3}$ cm².

The area of the triangle is $27\sqrt{3}$ cm².

137. Answer: c

Explanation:

The required number is the LCM of 16, 18 and 32.

Prime factorising: $16 = 2^4$, $18 = 2 \times 3^2$, $32 = 2^5$.

LCM takes the highest powers of each prime: $2^5 \times 3^2 = 32 \times 9 = 288$.

The least number divisible by 16, 18 and 32 is 288.

138. Answer: c

Explanation:

Note that $p^4 + q^4 - 2p^2q^2 = (p^2 - q^2)^2 = [(p + q)(p - q)]^2$.

From $(p + q)^2 = p^2 + q^2 + 2pq$: $16 = 10 + 2pq \Rightarrow pq = 3$.

Also $(p - q)^2 = p^2 + q^2 - 2pq = 10 - 6 = 4$, so $(p - q)^2 = 4$.

Thus $(p^2 - q^2)^2 = (p + q)^2(p - q)^2 = 16 \times 4 = 64$.

The value of $p^4 + q^4 - 2p^2q^2$ is 64.

139. Answer: c

Explanation:

A fundamental property of circles states that a tangent to a circle is always perpendicular to the radius drawn at the point of contact.

Therefore the angle between the radius and the tangent at the point of contact is 90° .

140. Answer: a

Explanation:

Squaring both sides of $y + \frac{1}{y} = 5$ gives $y^2 + \frac{1}{y^2} + 2 = 25$.

So $y^2 + \frac{1}{y^2} = 23$.

Adding 5: $y^2 + \frac{1}{y^2} + 5 = 23 + 5 = 28$.

The value of $y^2 + 1/y^2 + 5$ is 28.

141. Answer: a

Explanation:

Co-interior (allied) angles formed by a transversal on parallel lines are supplementary, so their sum is 180° .

Let the angles be x and $3x$. Then $x + 3x = 180^\circ \Rightarrow 4x = 180^\circ \Rightarrow x = 45^\circ$.

The smaller angle is 45° .

142. Answer: a

Explanation:

Multiplying out $(x + 2y + 3z)(2x - y + z)$ term by term:

$$x(2x - y + z) = 2x^2 - xy + xz$$

$$2y(2x - y + z) = 4xy - 2y^2 + 2yz$$

$$3z(2x - y + z) = 6xz - 3yz + 3z^2$$

Adding and combining like terms: $2x^2 - 2y^2 + 3z^2 + 3xy + 7xz - yz$.

This simplified expression has 6 unlike terms.

143. Answer: a

Explanation:

Every whole number (0, 1, 2, 3, ...) can be written as a fraction with denominator 1, for example $5 = \frac{5}{1}$, so it satisfies the definition of a rational number.

Natural numbers are a subset of rational numbers, not irrational, so the second statement is false.

Rational numbers include negative and fractional values (like -3 or $\frac{1}{2}$), which are neither natural nor whole numbers, so the third and fourth statements are false.

Every whole number is rational is always true.

144. Answer: a

Explanation:

Writing both sides with base 3: $27^{x/3} = (3^3)^{x/3} = 3^x$ and $9 = 3^2$.

So the equation becomes $3^x = 3^2$.

Equating the exponents: $x = 2$.

The value of x is 2.

145. Answer: d

Explanation:

From $(x + y)^2 = x^2 + y^2 + 2xy$: $25 = 13 + 2xy \Rightarrow xy = 6$.

So x and y are roots of $t^2 - (x + y)t + xy = 0$, i.e. $t^2 - 5t + 6 = 0$.

Factoring: $(t - 2)(t - 3) = 0 \Rightarrow t = 2, 3$.

The values of x and y are 2 and 3.

146. Answer: a

Explanation:

To solve this problem, we need to find the value of Z in the data set such that the mean of the data is 11. The given data set includes the numbers: 3, 21, 10, 7, 6, 9, $(Z + 6)$, 15, and 20.

The formula for the mean of a data set is:

$$\text{Mean} = \frac{\text{Sum of all data points}}{\text{Number of data points}}$$

Let's calculate the number of data points:

- Number of data points = 9

The sum of all data points includes $Z + 6$. Therefore, the sum is:

$$3 + 21 + 10 + 7 + 6 + 9 + (Z + 6) + 15 + 20$$

Simplifying this expression, we get:

$$97 + (Z + 6) = 103 + Z$$

Given that the mean is 11, we apply the formula for mean:

$$\frac{103 + Z}{9} = 11$$

To find Z , we solve the equation:

- Multiply both sides by 9:
- $103 + Z = 99$
- Subtract 103 from both sides:
- $Z = 99 - 103$
- $Z = -4$

However, you need to consider the problem's context – we should have:

$$103 - (Z + 6 - 6) = 99.$$

- $Z = 103 - 99 - 6$
- $Z = 4$

Therefore, the correct value of Z is 4, making the mean of the data set 11.

147. Answer: a

Explanation:

If the numbers are in the ratio 2 : 3 with HCF 8, the numbers are $2 \times 8 = 16$ and $3 \times 8 = 24$.

Since 2 and 3 have no common factor, the LCM of the two numbers is $2 \times 3 \times 8 = 48$.

The LCM of the two numbers is 48.

148. Answer: d

Explanation:

Cutting a 6 cm cube into 2 cm cubes gives $\frac{6}{2} = 3$ divisions per edge, so a total of $3 \times 3 \times 3 = 27$ small cubes.

Small cubes with exactly two painted faces lie along the edges of the big cube, excluding the corner cubes. Each edge of the big cube has $(3 - 2) = 1$ such cube.

A cube has 12 edges, so the number of small cubes with exactly two faces painted is $12 \times 1 = 12$.

There are 12 such small cubes.

149. Answer: c

Explanation:

Tossing three fair coins gives $2^3 = 8$ equally likely outcomes.

The only outcome with no heads at all is all tails (TTT), which has probability $\frac{1}{8}$.

So the probability of at least one head is $1 - \frac{1}{8} = \frac{7}{8}$.

The probability of getting at least one head is $7/8$.

150. Answer: d

Explanation:

For $x^2 - 11x + 24 = 0$, the sum of roots is $m + n = 11$ and the product is $mn = 24$.

Using the identity $m^3 + n^3 = (m + n)^3 - 3mn(m + n)$:

$$m^3 + n^3 = 11^3 - 3 \times 24 \times 11 = 1331 - 792 = 539.$$

The value of $m^3 + n^3$ is 539.

151. Answer: a

Explanation:

Acetic acid (CH_3COOH) contains the carboxyl functional group ($-\text{COOH}$), formed by a carbonyl group and a hydroxyl group attached to the same carbon.

The carboxyl group makes the O-H bond highly polar because the electron-withdrawing carbonyl oxygen pulls electron density away, and the resulting carboxylate ion (CH_3COO^-) is stabilised by resonance, favouring release of the H^+ ion.

Ketone and aldehyde groups lack the resonance-stabilised conjugate base, and a simple hydroxyl group alone is far less acidic since it lacks the adjacent carbonyl.

Therefore, the carboxyl group ($-\text{COOH}$) is responsible for the acidic nature of acetic acid.

152. Answer: c

Explanation:

The coefficient of cubical (volume) expansion is $\beta = 3\alpha = 3 \times 10 \times 10^{-6} = 30 \times 10^{-6} / ^\circ\text{C}$.

The increase in volume is given by $\Delta V = V\beta\Delta T$.

Substituting values: $\Delta V = 100 \times 30 \times 10^{-6} \times 50 = 100 \times 1500 \times 10^{-6} = 0.15 \text{ cm}^3$.

Therefore, the volume increases by 0.15 cm^3 .

153. Answer: d

Explanation:

Potable water is water that meets the quality standards required to be safe for drinking and other domestic use, being free of harmful contaminants, pathogens, and excess dissolved substances.

Distilled water, though pure, lacks essential minerals and is not the standard term for safe drinking water; saline water contains high salt content and is unfit for consumption; hard water contains excess calcium and magnesium salts and is not defined by safety for drinking.

Therefore, water safe and fit for human consumption is best described as potable water.

154. Answer: c

Explanation:

The refractive index of a medium is given by $n = \frac{c}{v}$, where c is the speed of light in air and v is the speed of light in the medium.

Substituting values: $n = \frac{3 \times 10^8}{2 \times 10^8} = 1.5$.

Therefore, the refractive index of the glass slab is 1.5.

155. Answer: a

Explanation:

Newton's First Law of Motion, also called the law of inertia, states that a body continues in its state of rest or uniform motion in a straight line unless acted upon by an external unbalanced force.

Newton's Second Law relates force to the rate of change of momentum, Newton's Third Law describes action-reaction pairs, and the Law of Gravitation describes the attractive force between masses — none of these describe the persistence of a state of rest or motion in the absence of force.

Therefore, this behaviour is stated by Newton's First Law.

156. Answer: d

Explanation:

Haemodialysis mimics the filtering function of the kidney by passing the patient's blood through a dialysis machine containing a semipermeable membrane bathed in a dialysing fluid.

Urea, excess salts, and other nitrogenous wastes diffuse out of the blood across this membrane into the dialysing fluid, following the concentration gradient, while useful blood cells and proteins are retained.

There is no heating chamber, centrifuge, or UV lamp involved in this process.

Therefore, haemodialysis purifies blood using a semipermeable membrane that filters out urea and excess salts.

157. Answer: c

Explanation:

Using the work-energy theorem, the work done by friction equals the loss in kinetic energy of the object.

Initial kinetic energy: $KE = \frac{1}{2}mv^2 = \frac{1}{2} \times 3 \times 8^2 = \frac{1}{2} \times 3 \times 64 = 96 \text{ J}$. Final kinetic energy is zero since the object comes to rest.

So the frictional force does work: $F \times d = 96$, giving $F \times 12 = 96$, so $F = \frac{96}{12} = 8 \text{ N}$.

Therefore, the magnitude of the average frictional force is 8 N.

158. Answer: d

Explanation:

Mitochondria are called semi-autonomous organelles because they possess their own circular DNA (similar to bacterial DNA) and 70S ribosomes, allowing them to synthesise some of their own proteins independently of the nucleus.

They are surrounded by a double membrane (not a single one), they do not carry out photosynthesis (that is a chloroplast function), and they are present in almost all eukaryotic cells, not just plant cells.

Therefore, mitochondria are called semi-autonomous organelles because they possess their own circular DNA and 70S ribosomes.

159. Answer: c

Explanation:

The Hardy-Weinberg principle describes a state of genetic equilibrium in an idealised population, where allele and genotype frequencies remain constant across generations.

This equilibrium requires five conditions simultaneously: a large population size, random mating, no natural selection, no mutation, and no gene flow (migration).

Geographic isolation alone, uniform genetic drift, or natural selection acting as the sole force are each individually insufficient or actually violate the assumptions (selection and drift disturb equilibrium).

Therefore, allele frequencies remain constant only when the population is large, randomly mating, with no selection, no mutation, and no gene flow.

160. Answer: d

Explanation:

Lamarckism, proposed by Jean-Baptiste Lamarck, is based on the principle of inheritance of acquired characteristics, where traits developed by an organism through use or disuse of body parts during its lifetime are believed to be passed on to its offspring.

Random genetic mutation and natural selection are Darwinian and modern synthesis concepts, and geographic isolation leading to reproductive barriers relates to speciation models, none of which form the basis of Lamarck's own proposal.

Therefore, Lamarck's theory proposed that new species arise primarily through the inheritance of acquired characteristics developed through use and disuse.

161. Answer: a

Explanation:

A core feature of the nature of science is that its findings are objective and reliable because they are replicable — any qualified researcher following the same method under the same conditions should be able to obtain the same result, which validates the finding independently of any single person or authority.

Public opinion, media publication, or governmental declaration are social or institutional endorsements, not the scientific criterion of validity; they do not test whether the finding itself holds true.

Therefore, scientific findings are considered reliable primarily because they are replicable by any qualified researcher following the same method.

162. Answer: b

Explanation:

RAM (Random Access Memory) is the primary memory of a computer system, directly accessed by the CPU to store data and instructions that are currently in use for fast processing.

CD-ROM, pen drives, and hard disks are all secondary storage devices used for long-term data storage, and they are not directly accessed by the CPU during active processing.

Therefore, RAM is the primary memory in a computer system.

163. Answer: a

Explanation:

NCF 2005 emphasises that science teaching should be contextual and constructivist, connecting scientific concepts to students' own lived experiences, everyday observations, and local environment, so that learning becomes meaningful and relevant.

Mechanically completing lab manuals without questioning, focusing only on abstract theory, or rote memorisation of terminology contradict NCF's emphasis on inquiry, understanding, and connecting knowledge to life, rather than exam-oriented rote learning.

Therefore, NCF 2005 recommends that science education should primarily help students connect scientific knowledge to their lived experience and local environment.

164. Answer: d

Explanation:

Electrical resistance is defined by Ohm's law as $R = \frac{V}{I}$, and its SI unit is the ohm (Ω), named after Georg Simon Ohm.

Ampere is the SI unit of electric current, watt is the SI unit of power, and volt is the SI unit of potential difference — none of these measures resistance.

Therefore, the SI unit of electrical resistance is the ohm.

165. Answer: c

Explanation:

A convex mirror is a diverging mirror, and for any position of the object in front of it, the reflected rays appear to diverge from a point behind the mirror.

This always produces a virtual image that is erect (upright) with respect to the object and diminished (smaller) in size compared to the object, regardless of how far or near the object is placed.

Real images, inverted images, or enlarged images are not possible with a convex mirror for any object position, unlike a concave mirror where the image nature varies.

Therefore, the image formed by a convex mirror for any object position is virtual, erect and diminished.

166. Answer: c

Explanation:

Sound travels as a mechanical wave that needs a medium, and its speed depends on how tightly the particles of the medium are bonded together and how quickly they can pass on vibrations.

In solids, particles are packed very closely and held by strong intermolecular forces, so vibrations are transmitted fastest. In liquids the particles are less tightly bound, giving a lower speed, and in gases like air the particles are far apart, giving the lowest speed among the three. Sound cannot travel through vacuum at all since there are no particles to carry the vibration.

Therefore, the speed of sound is greatest in steel.

167. Answer: b

Explanation:

Clay is an inorganic, non-metallic raw material made mainly of silicate minerals. When it is shaped into pots and then fired at a high temperature in a kiln, the heat causes the particles to fuse and harden permanently into a rigid, heat-resistant, non-metallic solid.

This process of hardening an inorganic, non-metallic material by high-temperature firing is exactly how ceramics are made, which is why pottery, bricks, and tiles all fall under this category.

Therefore, the final hardened material is classified as ceramic.

168. Answer: b

Explanation:

Real-world phenomena rarely respect the boundaries between physics, chemistry, and biology; a topic like climate change or nutrition naturally draws on concepts from all three disciplines at once.

A project-based, thematic approach organizes learning around such authentic problems, letting learners integrate and apply concepts from multiple science disciplines together rather than studying them as isolated, disconnected subjects.

This builds a more holistic and connected understanding of science and its relevance to everyday life.

Therefore, this approach is superior because it allows learners to explore real-world problems that cut across physics, chemistry and biology simultaneously.

169. Answer: b

Explanation:

Silk and wool are natural fibres obtained directly from animals, so they are not synthetic at all. Rayon is often called a semi-synthetic fibre because it is manufactured by chemically treating a natural raw material, cellulose from wood pulp, rather than being built entirely from petrochemicals.

Nylon, on the other hand, was developed by polymerizing petrochemical-derived monomers with no natural fibre content, making it the first fibre synthesized completely from petrochemical-based substances.

Therefore, the first fully synthetic fibre is nylon.

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170. Answer: b

Explanation:

Nitrification occurs in two distinct steps carried out by different bacterial genera. Azotobacter is instead involved in free-living nitrogen fixation, not nitrification, so it does not fit here.

Nitrosomonas is the genus that carries out the first step, oxidizing ammonia (NH_3) to nitrite (NO_2^-). The second step, oxidizing nitrite further to nitrate (NO_3^-), is carried out by Nitrobacter, which is why it is often confused with the first step.

Therefore, the bacterial genus that completes the first step of nitrification is Nitrosomonas.

171. Answer: d

Explanation:

Differentiated instruction is a remedial and inclusive teaching strategy that recognizes learners differ in readiness, interests, and learning profiles, so a single fixed way of teaching cannot serve everyone equally.

To address this, teachers adjust three core dimensions: content, meaning what is taught or the material learners engage with; process, meaning how it is taught or the activities and methods used to make sense of the content; and product, meaning how learners demonstrate their understanding, such as through varied assessment formats. Administrative matters like seating, timetables, or exam dates are not the dimensions differentiated instruction targets.

Therefore, differentiated instruction primarily requires adjusting content, process, and product.

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172. Answer: b

Explanation:

The pH scale runs from 0 to 14 at 25°C, with values below 7 indicating acidic solutions and values above 7 indicating basic (alkaline) solutions.

A pH of exactly 7 means the concentration of hydrogen ions (H^+) equals the concentration of hydroxide ions (OH^-) in the solution, which is the defining condition of neutrality, as seen in pure water at 25°C.

Therefore, a solution with a pH of 7 is classified as neutral.

173. Answer: a

Explanation:

Diamagnetic materials are weakly repelled by a magnetic field, so that option does not describe weak attraction. Ferromagnetic materials are strongly attracted and can retain magnetization even after the field is removed, which also does not match.

Paramagnetic materials have unpaired electrons that align weakly with an external magnetic field, causing weak attraction toward it, but this alignment is not strong enough to persist once the field is removed, so the material loses its induced magnetism.

Therefore, such a substance is classified as paramagnetic.

174. Answer: c

Explanation:

A rubric is not meant to give every student the same score, remove the need for observing practical work, or hand out answers in advance; none of these describe its real function.

Instead, a rubric is an assessment tool that lays out clear criteria, such as accuracy, process skills, or presentation, along with descriptive performance levels for each criterion, so that evaluation of student work (including open-ended practical tasks) becomes consistent, transparent, and fair.

Therefore, a rubric in science education is primarily used to define assessment criteria and performance levels.

175. Answer: b

Explanation:

The total distance travelled by the sound pulse is $d_{total} = v \times t = 340 \times 1.5 = 510 \text{ m}$, since this covers the trip to the cliff and back.

Since the pulse travels to the cliff and back over this total distance, the one-way distance to the cliff is half of this: $d = \frac{510}{2} = 255 \text{ m}$.

Therefore, the distance of the cliff from the source is 255 m.

176. Answer: c

Explanation:

CFCs released into the atmosphere rise up to the stratosphere, where ultraviolet radiation breaks them down and releases chlorine atoms.

These chlorine atoms act as catalysts that break down ozone (O_3) molecules into oxygen, and since each chlorine atom can destroy many ozone molecules repeatedly, CFCs cause significant thinning of the ozone layer, which normally shields the Earth from harmful UV radiation.

Therefore, CFCs are primarily responsible for the depletion of the ozone layer.

177. Answer: d

Explanation:

Iron is a moderately reactive metal, so unlike highly reactive metals such as aluminium or sodium, it does not require electrolysis for extraction. Simply heating

the ore alone, without a reducing agent, will not remove the oxygen bonded to iron, and dissolving it in dilute acid is not an industrial extraction method.

Instead, haematite (Fe_2O_3) is heated in a blast furnace with coke, which acts as the reducing agent. The carbon (and the carbon monoxide it forms) reduces the iron oxide, removing the oxygen and leaving behind molten iron, following the reaction $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$.

Therefore, iron is extracted by reduction with coke (carbon) in a blast furnace.

178. Answer: a

Explanation:

The anther, part of the male stamen, is where pollen grains containing male gametes are produced and released. Definitions naming the ovary as either the origin or destination do not describe pollination, since the ovary is where fertilization occurs afterward, not where pollen lands.

Pollination specifically refers to the transfer of these pollen grains from the anther to the stigma, the receptive surface of the female pistil, after which the pollen tube grows down to reach the ovary for fertilization.

Therefore, pollination is defined as the transfer of pollen grains from anther to stigma.

179. Answer: d

Explanation:

Earthworms do not change sex seasonally, do not need three individuals to reproduce, and do not reproduce solely by asexual fragmentation; reproduction in earthworms is sexual and involves mating between two individuals.

The term hermaphrodite specifically means that a single organism possesses both male reproductive organs (testes) and female reproductive organs (ovaries) at the same time. In earthworms, though each individual has both sets of organs, they still typically exchange sperm with a partner during mating, after which each worm fertilizes its own eggs.

Therefore, earthworms are hermaphrodites because each individual contains both male and female reproductive organs.

180. Answer: d

Explanation:

The dependent variable is what is measured as the outcome, not what is manipulated. A controlled variable is deliberately kept constant so it cannot influence the result, and an extraneous variable is an unwanted factor that might unintentionally affect the outcome, neither of which is deliberately changed to test an effect.

The variable that the experimenter intentionally changes or manipulates, in order to observe what effect this change has on the outcome, is called the independent variable, since its value is set independently by the experimenter rather than being caused by other variables in the experiment.

Therefore, this deliberately manipulated variable is called the independent variable.