

Bihar BEd CET 2023 Question Paper with solutions

Time Allowed :2 Hours	Maximum Marks :120	Total Questions :120
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General English Comprehension

Direction (Question No.1 to 5) : Read the passage and answer the four choices given after each question that follows :

"Not all agricultural societies become civilizations, but no civilization can become one without parsing through the stage of agriculture. This is because at some stage in the development of agriculture, as productivity improves, not all people would need to be engaged in producing or procuring food. A significant number of people could be freed up to pursue outer activities such as building walls or monuments for new cities ; making new tools, weapons and jewellery ; organizing long-distance trade ; creating new artistic masterpieces ; coming up with new inventions ; keeping accounts ; and perhaps constructing new public infrastructure such as irrigation canals that further improve the productivity of agriculture, thus realizing even more people to do new things. This can happen, of course, only if a society that has transitioned to high productivity agriculture has also, at some stage in its evolution, found a way to channel the bonanza of free time into other work fruitfully. In the ancient world, this often involved creating new ideologies and new hierarchies or power structures to coerce or otherwise convince large groups of people to devote their time to the new tasks for very little reward.

1. Which word in the passage means 'changeover' ?

- (A) Transitioned
- (B) Channel
- (C) Coerce
- (D) Hierarchies

Correct Answer : (A) Transitioned

Solution :

The word "transitioned" means to undergo a change or shift, which is the closest match to the term "changeover" in the context of the passage. The other options do not carry the same meaning related to changeover. Therefore, the correct answer is "Transitioned".

Quick Tip

When reading comprehension questions, focus on context and synonym relationships to determine the correct meaning of words.

2. People as groups were convinced to do new work through :

- (A) Reward, force and community persuasions.
- (B) Ideologies, hierarchies and power structures.
- (C) Excessive agricultural products.
- (D) Very high rewards.

Correct Answer : (B) Ideologies, hierarchies and power structures.

Solution :

In the passage, it is mentioned that societies transitioned to high productivity agriculture, often creating new ideologies, hierarchies, or power structures to organize people and convince them to perform new tasks. This suggests that ideologies,

hierarchies, and power structures played a key role in convincing people to take on new work. Hence, the correct answer is "Ideologies, hierarchies and power structures."

Quick Tip

When analyzing how societies functioned, consider how they used power structures and ideologies to motivate or organize people.

3. What kind of agriculture-based societies would emerge as civilizations ?

- (A) Societies which achieved high productivity in agriculture had the opportunity to find time for other work.
- (B) Societies which depended on agriculture completely moved to other fruitful work so as to move to many places.
- (C) Societies which transitioned from one stage of agriculture to another.
- (D) Societies which could not do agriculture for lack of resources moved to other work.

Correct Answer : (A) Societies which achieved high productivity in agriculture had the opportunity to find time for other work.

Solution :

The passage explains that societies that achieved high productivity in agriculture were able to free up time for other activities, such as building infrastructure, trade, and the arts. This is the characteristic of societies that would emerge as civilizations. Therefore, the correct answer is "Societies which achieved high productivity in agriculture had the opportunity to find time for other work."

Quick Tip

In historical contexts, high productivity in agriculture often allowed societies to develop specialized workforces and advance beyond basic subsistence farming.

4. A significant number of people were sent to carry out other work from agriculture because :

- (A) There were insufficient agricultural products.
- (B) People were needed to build monuments, weapons, jewellery, etc.
- (C) There were sufficient agricultural products.
- (D) This enabled the development of civilizations.

Correct Answer : (B) People were needed to build monuments, weapons, jewellery, etc.

Solution :

The passage explains that as agricultural productivity improved, not all people were needed for food production. A significant number of people were freed up to take on tasks such as building monuments, making tools, and organizing trade. Therefore, the correct answer is "People were needed to build monuments, weapons, jewellery, etc."

Quick Tip

When considering the effects of agricultural productivity, focus on how freed labor can be redirected to other tasks essential for societal development.

5. Which one of the following statements is true according to the author ?

- (A) Agriculture has always been part of all civilizations.
- (B) Not all civilizations have undergone the processes of agriculture.
- (C) Agriculture gave birth to new civilizations.
- (D) Communities discontinued agriculture to become civilizations.

Correct Answer : (C) Agriculture gave birth to new civilizations.

Solution :

The passage suggests that the development of agriculture was a crucial factor in the emergence of civilizations. As agricultural productivity increased, it allowed societies to develop specialized roles, build infrastructure, and create new ideologies. Thus, agriculture was the foundation for the birth of new civilizations. Therefore, the correct answer is "Agriculture gave birth to new civilizations."

Quick Tip

Agriculture is often the starting point for societal development, enabling the transition from subsistence living to the formation of complex civilizations.

Directions : In this question, four alternatives are given. Choose the alternative which best meaning of the idiom/phrase :

6. The actress took cue from her brother and became successful :

- (A) Some help
- (B) A hint
- (C) Some money
- (D) Learnt acting

Correct Answer : (B) A hint

Solution :

The phrase "took cue from" means to follow someone's suggestion or guidance, which is akin to receiving a hint. Therefore, the correct answer is "A hint." The other options do not align with the meaning of the idiom "took cue from."

Quick Tip

When encountering idioms, think of the context and how the phrase is commonly used to understand its meaning.

Directions : Selecting the correct sentence comprises four alternatives :

7. Select the correct sentence :

- (A) A good teacher provides a student all the useful information.
- (B) A good teacher provides to a student all the useful information.
- (C) A good teacher provides a student with all the useful information.
- (D) A good teacher provides to student with all the useful information.

Correct Answer : (C) A good teacher provides a student with all the useful information.

Solution :

The correct sentence structure in this case is "A good teacher provides a student with all the useful information." The pre-

position "with" is typically used in this context to indicate what is provided to the student. Therefore, the correct answer is "A good teacher provides a student with all the useful information."

Quick Tip

When using verbs like "provide," remember that "with" is often the correct preposition to link the subject with the object in sentences describing what is provided.

Directions : Out of four alternatives, choose the one which can be substituted for the given words/ sentence

8. A process involving too much official formality :

- (A) Bureaucracy
- (B) Nepotism
- (C) Red-tapism
- (D) Diplomacy

Correct Answer : (C) Red-tapism

Solution :

The term "Red-tapism" refers to the excessive adherence to official procedures and formalities, often resulting in inefficiency. It is commonly used to describe bureaucratic delays caused by too much formality. Therefore, the correct answer is "Red-tapism."

Quick Tip

When dealing with terms related to bureaucracy and official processes, remember that "red-tapism" specifically highlights unnecessary formalities and delays.

9. One who leaves his own country to settle in another :

- (A) Foreigner
- (B) Tourist
- (C) Native
- (D) Emigrant

Correct Answer : (D) Emigrant

Solution :

An "Emigrant" is a person who leaves their own country to settle permanently or temporarily in another country. This is different from a tourist, who visits temporarily, or a foreigner, who resides in a country that is not their own. Therefore, the correct answer is "Emigrant."

Quick Tip

When referring to people who move to another country, "emigrant" specifically describes someone who leaves their home country to settle elsewhere.

Directions : Complete the sentences with suitable alternatives :

10. Oh ! Such a pretty girl. Whom has she ?

- (A) Taken after
- (B) Took after
- (C) Taken by
- (D) Took by

Correct Answer : (B) Took after

Solution :

The correct phrase here is "took after," which means to resemble or look like someone, typically referring to a child's appearance or traits that resemble those of a parent or another person. Therefore, the correct answer is "Took after."

Quick Tip

Remember that "take after" is an idiomatic expression meaning to resemble or look similar to someone, particularly in terms of appearance or personality.

11. You to finish this on time because you have no choice.

- (A) May have
- (B) Could have
- (C) Have
- (D) Needn't

Correct Answer : (C) Have

Solution :

The correct phrase is "You have to finish this on time because you have no choice." The structure "have to" indicates necessity or obligation. Therefore, the correct answer is "Have."

Quick Tip

"Have to" indicates necessity, while "could have" or "may have" refer to possibilities.

12. There is no limit the wants of man.

- (A) For
- (B) To
- (C) Of
- (D) Off

Correct Answer : (C) Of

Solution :

The correct preposition is "of" as it indicates the relation between the limit and the wants of man. Therefore, the correct answer is "Of."

Quick Tip

"Limit of" is a standard phrase used when referring to the boundaries of something.

13. The tennis tournament is open to both and professionals.

- (A) Amateur's
- (B) Minutres
- (C) Pros
- (D) Amateurs

Correct Answer : (D) Amateurs

Solution :

The correct term is "amateurs," as it refers to people who are not professionals in a particular activity. The possessive form "amateur's" is incorrect in this context. Therefore, the correct answer is "Amateurs."

Quick Tip

"Amateurs" refers to non-professionals, while "pros" refers to professionals.

14. our freedom is in danger.

- (A) Arise
- (B) Rise
- (C) Raise
- (D) Arose

Correct Answer : (B) Rise

Solution :

The verb "rise" is used intransitively to mean to go up or increase. "Arise" also means to come up or emerge but doesn't fit the context of freedom being in danger. Therefore, the correct answer is "Rise."

Quick Tip

"Rise" is an intransitive verb, while "raise" is transitive and requires an object.

15. The punch made the boxer with pain.

- (A) Wince
- (B) Gap
- (C) Gumble
- (D) Fumble

Correct Answer : (A) Wince

Solution :

The correct word here is "wince," which means a slight involuntary grimace or shrinking movement in response to pain. "Gap," "gumble," and "fumble" do not fit the context. Therefore, the correct answer is "Wince."

Quick Tip

"Wince" describes a facial expression made in response to pain or discomfort.

SECTION-II (खण्ड-II) GENERAL HINDI (सामान्य हिन्दी)

(सामान्य हिन्दी) निर्देश (प्रश्न सं०-16 से 20) : निम्नलिखित अवतरण को ध्यानपूर्वक पढ़ें एवं सही विकल्पों का चयन कर उत्तर दें ।

"साहित्य तो एक सात्विक जीवन है । उसे कठिन तपस्या और महान यज्ञ समझना चाहिए । जहाँ व्यक्ति के व्यक्तित्व के कोई स्वतंत्र विषय नहीं रह जाते, उच्च साहित्य की वह भाव-भूमि है । वहाँ अपरिग्रह का साम्राज्य है, फोटो नहीं छापा जाते । वहाँ वाणी मौन रहती है गाथा' गाने में सुख नहीं मानती । उस उच्च स्तर से जितने किर्याकलाप होते हैं आत्मा प्रेरणा से होते हैं पर आज दिन हिन्दी में आत्म-प्रेरणा और 'आत्मकथा' का नाम लेना पाखण्ड बढ़ाना है । हमारे देश में आत्मकथा लिखने की परिपाटी नहीं रही ।"

16. हिन्दी में किस विधा को पाखण्ड कहा गया है ?

- (A) गाथा को
- (B) आत्मप्रेरित संस्मरण को
- (C) आत्मकथा को
- (D) इनमें से कोई नहीं

Correct Answer : (C) आत्मकथा को

Solution :

उपरोक्त पाठ में आत्मकथा और आत्मप्रेरणा को पाखण्ड के रूप में देखा गया है । इसे हमारे देश में पाखण्ड माना गया है । इसलिए, सही उत्तर "आत्मकथा को" है ।

Quick Tip

जब किसी साहित्यिक विधा के बारे में आलोचना की जाती है, तो यह महत्वपूर्ण होता है कि हम उसके ऐतिहासिक और सांस्कृतिक संदर्भ को समझें ।

17. किस देश में आत्मकथा लिखने की परिपाटी नहीं रही ?

- (A) भारतवर्ष में
- (B) उत्तर प्रदेश में
- (C) रूस में
- (D) अमेरिका में

Correct Answer : (A) भारतवर्ष में

Solution :

यह वाक्य भारतवर्ष में आत्मकथा लिखने की परंपरा की कमी को दर्शाता है । आत्मकथा की परंपरा हमारे देश में प्रचलित नहीं रही है । इसलिए, सही उत्तर "भारतवर्ष में" है ।

Quick Tip

अक्सर साहित्यिक परंपराएँ संस्कृति और समाज की विशेषताओं से प्रभावित होती हैं। भारत में आत्मकथा लिखने की परंपरा पश्चिमी देशों की तुलना में कम रही है।

18. उच्च स्तर के किर्याकलाप किससे होते हैं ?

- (A) आत्मानुभव से
- (B) आत्म प्रेरणा से
- (C) आत्म कथन से
- (D) आत्मावलोकन से

Correct Answer : (B) आत्म प्रेरणा से

Solution :

पाठ के अनुसार उच्च स्तर के किर्याकलाप आत्मा प्रेरणा से होते हैं, जो व्यक्तित्व की एक उच्च अवस्था को दर्शाते हैं। आत्मा प्रेरणा से होने वाले कार्य उच्च साहित्यिक या अन्य किर्याकलापों का उदाहरण होते हैं। इसलिए, सही उत्तर "आत्म प्रेरणा से" है।

Quick Tip

जब आप साहित्यिक या अन्य गतिविधियों के बारे में विचार करते हैं, तो आत्मा प्रेरणा को उच्चतम स्तर के कार्यों का उत्प्रेरक माना जाता है।

19. उच्च साहित्य की भावभूमि क्या है ?

- (A) जहाँ व्यक्ति स्वतंत्र विषय नहीं चुन सकता
- (B) जहाँ लेखक के व्यक्तित्व की स्वतंत्रता नहीं रहती
- (C) जहाँ व्यक्ति को लिखने की स्वतंत्रता नहीं रहती
- (D) जहाँ व्यक्तित्व के कोई स्वतंत्र विषय नहीं रह जाते

Correct Answer : (D) जहाँ व्यक्तित्व के कोई स्वतंत्र विषय नहीं रह जाते

Solution :

उच्च साहित्य की भावभूमि वह होती है जहाँ व्यक्ति का व्यक्तित्व स्वतंत्र रूप से कोई विषय नहीं चुन सकता। यहाँ लेखक को अपने भावनात्मक और मानसिक स्तर से प्रेरणा मिलती है, और विषय स्वतः ही चयनित होते हैं। इसलिए, सही उत्तर "जहाँ व्यक्तित्व के कोई स्वतंत्र विषय नहीं रह जाते" है।

Quick Tip

उच्च साहित्य में लेखक का व्यक्तित्व और उसके विचारों का गहरा प्रभाव होता है, जो उसे स्वतः एक दिशा में ले जाते हैं।

20. साहित्य को क्या माना गया है ?

- (A) कठिन साधना और तपस्या
- (B) लेखन का महान यज्ञ
- (C) कठिन तपस्या और महान यज्ञ
- (D) लेखन तपस्या और कठिन साधना

Correct Answer : (C) कठिन तपस्या और महान यज्ञ

Solution :

साहित्य को उच्चस्तरीय कर्म और साधना के रूप में देखा गया है। इसे कठिन तपस्या और महान यज्ञ माना गया है, क्योंकि इसे साधना और आत्मा के उच्चतम स्तर पर जाकर ही समझा जा सकता है। इसलिए, सही उत्तर "कठिन तपस्या और महान यज्ञ" है।

Quick Tip

साहित्य एक आध्यात्मिक प्रक्रिया के समान है, जिसमें व्यक्ति अपनी चेतना के उच्चतम स्तर तक पहुँचता है।

21. 'लेखक' शब्द के अन्त में कौन-सा प्रत्यय लगा हुआ है ?

- (A) क
- (B) इक
- (C) आक
- (D) अक

Correct Answer : (D) अक

Solution :

"लेखक" शब्द के अन्त में "क" प्रत्यय लगा हुआ है, जो व्यक्तित्व का निर्धारण करता है और उस व्यक्ति के कार्यों को दर्शाता है। इसलिए, सही उत्तर "अक" है।

Quick Tip

हिंदी व्याकरण में प्रत्ययों का प्रयोग शब्दों की अर्थवत्ता को स्पष्ट करने में किया जाता है। "क" प्रत्यय लेखक के लिए उपयोग होता है।

22. त्रिफला में कौन-सा समास है ?

- (A) कर्मधारय
- (B) अव्ययीभाव
- (C) द्वन्द्व
- (D) द्विगु

Correct Answer : (C) द्वन्द्व

Solution :

त्रिफला शब्द में "त्रि" (तीन) और "फल" (फल) शब्दों का मिलाजुला समास है, जो द्वन्द्व समास का उदाहरण है। द्वन्द्व समास में दोनों शब्द स्वतंत्र रहते हैं और संयुक्त रूप से एक नया शब्द बनाते हैं। इसलिए, सही उत्तर "द्वन्द्व" है।

Quick Tip

द्वन्द्व समास में दो शब्दों का एक साथ आना होता है, जिनमें दोनों का अर्थ समान रूप से महत्वपूर्ण होता है।

23. 'रेलगाड़ी' शब्द है

- (A) तत्सम
- (B) देशज
- (C) विदेशज
- (D) संकर

Correct Answer : (D) संकर

Solution :

"रेलगाड़ी" शब्द संकर शब्द है क्योंकि यह एक विदेशी शब्द (रेल) और भारतीय शब्द (गाड़ी) का मिश्रण है। इसे हिंदी में प्रयोग में लाया गया है, परंतु इसका मूल विदेशी है। इसलिए, सही उत्तर "संकर" है।

Quick Tip

संकर शब्द वह होता है जिसमें दो भाषाओं का मिश्रण होता है, एक विदेशी और एक भारतीय।

24. किस वाक्य में अपादान कारक है ?

- (A) राम ने रावण को तीर से मारा।
- (B) मोहन से अब सहा नहीं जाता।
- (C) हिमालय से गंगा निकलती है।
- (D) चाकू से फल काटो।

Correct Answer : (D) चाकू से फल काटो।

Solution :

अपादान कारक वह कारक होता है जो क्रिया के लिए उपकरण या साधन का संकेत करता है। "चाकू से फल काटो" में चाकू वह उपकरण है जिससे फल काटा जाता है, तो यहाँ अपादान कारक "चाकू" है। इसलिए, सही उत्तर "चाकू से फल काटो" है।

Quick Tip

अपादान कारक हमेशा उस उपकरण या साधन को दर्शाता है जिसका प्रयोग किसी कार्य को करने के लिए किया जाता है।

28. किस रस को 'रसराज' कहा जाता है ?

- (A) शृंगार रस
- (B) हास्य
- (C) उत्साह
- (D) वीर रस

Correct Answer : (A) शृंगार रस

Solution :

'रसराज' शब्द शृंगार रस के लिए प्रयोग किया जाता है। शृंगार रस को प्रेम, आकर्षण और सौंदर्य का रस माना जाता है और यह भारतीय काव्यशास्त्र में प्रमुख स्थान रखता है। इसलिए, सही उत्तर "शृंगार रस" है।

Quick Tip

रसराज शब्द का प्रयोग विशेष रूप से उस रस के लिए किया जाता है जो प्रेम और आकर्षण को व्यक्त करता है, जैसे शृंगार रस।

29. किस शब्द की वर्तनी शुद्ध है ?

- (A) आधीन
- (B) व्यवहारिक
- (C) मिष्ठान्न
- (D) अत्यधिक

Correct Answer : (C) मिष्ठान्न

Solution :

"मिष्ठान्न" शब्द की वर्तनी शुद्ध है। इसका अर्थ होता है मिठाई या पकवान। "आधीन," "व्यवहारिक," और "अत्यधिक" शब्दों की वर्तनी शुद्ध नहीं हैं। इसलिए, सही उत्तर "मिष्ठान्न" है।

Quick Tip

वर्तनी की शुद्धता के लिए शब्दों की परिभाषा और उनके सही प्रयोग को समझना महत्वपूर्ण है।

30. दैवज्ञ का अर्थ है :

- (A) देवता
- (B) ज्योतिषी
- (C) आहार
- (D) सृष्टा

Correct Answer : (B) ज्योतिषी

Solution :

"दैवज्ञ" शब्द का अर्थ ज्योतिषी या वह व्यक्ति होता है जो भविष्य की भविष्यवाणी करता है। यह शब्द खासकर ज्योतिष के संदर्भ में प्रयोग होता है। इसलिए, सही उत्तर "ज्योतिषी" है।

Quick Tip

"दैवज्ञ" शब्द ज्योतिष और भविष्यवाणी से संबंधित है, जो भारतीय संस्कृति में प्राचीन समय से ही एक महत्वपूर्ण भूमिका निभाता है।

SECTION -III
LOGICAL AND ANALYTICAL REASONING

31. Which of the following is correct ?



- (A) A is subset of B
- (B) B is subset of A
- (C) U is subset of A and B
- (D) U is subset of A

Correct Answer : (C) U is subset of A and B

Solution :

The correct answer is "U is subset of A and B." The diagram shows that U is a universal set containing both A and B as subsets. Therefore, the correct answer is (C).

Quick Tip

In set theory, the universal set (U) contains all elements of the sets A and B as its subsets.

32. Look at this series :

U32, V29, __, X23, Y20,

What number should fill the blank ?

- (A) W17
- (B) W26
- (C) Z17
- (D) Z26

Correct Answer : (A) W17

Solution :

The pattern alternates between decreasing numbers and the alphabet. The numbers decrease by 3, and the letters move backward in the alphabet (U, V, W, X, Y). So, the correct answer is "W17."

Quick Tip

Look for patterns in both the numbers and the letters to solve such series-based problems.

33. A person writes all the numbers from 0 to 99. The number of times digit 3 will be written is :

- (A) 18
- (B) 19

- (C) 20
- (D) 21

Correct Answer : (B) 19

Solution :

When a person writes all numbers from 0 to 99, the digit '3' will appear in the tens place 10 times (30 to 39) and in the ones place another 10 times (3, 13, 23, ..., 93). Therefore, the digit 3 will appear a total of 19 times. Hence, the correct answer is "19."

Quick Tip

To find the frequency of a digit in a sequence, consider both the tens and ones places separately and count the occurrences.

34. Arrange the following words in a meaningful sequence :

- I. Bill
- II. Treatment
- III. Doctor
- IV. Diagnosis
- V. Patient

- (A) 5, 3, 4, 2, 1
- (B) 1, 2, 3, 4, 5
- (C) 3, 2, 1, 4, 5
- (D) 2, 5, 3, 1, 4

Correct Answer : (C) 3, 2, 1, 4, 5

Solution :

The correct sequence starts with the doctor (3), followed by the treatment (2), then the bill (1), followed by the diagnosis (4), and finally the patient (5). Therefore, the correct sequence is (3), (2), (1), (4), (5). Hence, the correct answer is (C).

Quick Tip

When arranging words or events in a sequence, consider the logical or natural progression of actions.

35. A book always has :

- (A) Pages
- (B) Story
- (C) Binding
- (D) Content

Correct Answer : (A) Pages

Solution :

A book is typically defined by having pages. While a book may have content, binding, and a story, it is the pages that are essential to its structure. Therefore, the correct answer is "Pages."

Quick Tip

When defining objects or concepts, focus on their fundamental characteristics.

36. Find the median of the given set of numbers : 2, 6, 6, 8, 4, 2, 7, 9

- (A) 6
- (B) 8
- (C) 4
- (D) 5

Correct Answer : (A) 6

Solution :

To find the median, first arrange the numbers in ascending order : 2, 2, 4, 6, 6, 7, 8, 9. Since there are 8 numbers, the median is the average of the 4th and 5th numbers : $\frac{6+6}{2} = 6$. Therefore, the correct answer is "6."

Quick Tip

When calculating the median, always arrange the numbers in ascending order first. If there is an even number of values, average the middle two numbers.

37. Find the sum of all numbers divisible by 6 in between 100 and 400 :

- (A) 12,550
- (B) 12,450
- (C) 11,450
- (D) 11,550

Correct Answer : (B) 12,450

Solution :

The numbers divisible by 6 between 100 and 400 are 102, 108, 114, ..., 396. This is an arithmetic series where the first term is 102, the common difference is 6, and the last term is 396. The number of terms can be found by using the formula for the n th term of an arithmetic series :

$$n = \frac{396 - 102}{6} + 1 = 50$$

The sum of an arithmetic series is given by :

$$S = \frac{n}{2} \times (a + l) = \frac{50}{2} \times (102 + 396) = 12,450$$

Therefore, the correct answer is "12,450."

Quick Tip

To find the sum of a series of numbers, use the formula for the sum of an arithmetic series : $S = \frac{n}{2} \times (a + l)$, where n is the number of terms, a is the first term, and l is the last term.

38. If a 30 m ladder is placed against a 15 m wall such that it just reaches the top of the wall, then the elevation of the wall is equal to :

- (A) 45°
- (B) 30°
- (C) 60°
- (D) 50°

Correct Answer : (A) 45°

Solution :

In this scenario, we have a right-angled triangle with the ladder as the hypotenuse, the wall as the vertical side, and the ground as the horizontal side. The angle of elevation is given by the formula :

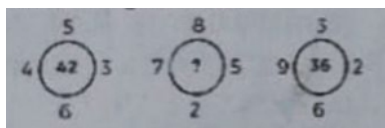
$$\theta = \tan^{-1} \left(\frac{\text{opposite}}{\text{adjacent}} \right) = \tan^{-1} \left(\frac{15}{30} \right) = 45$$

Therefore, the correct answer is " 45° ."

Quick Tip

In a right triangle, use trigonometric ratios like $\tan \theta = \frac{\text{opposite}}{\text{adjacent}}$ to find the angle of elevation.

39. Find the missing numbers :



- (A) 50
- (B) 51
- (C) 53
- (D) 48

Correct Answer : (B) 51

Solution :

This is a pattern-based question where each circle contains two numbers in the outer part, and one in the inner part. The outer numbers are multiplied, and the inner number is the quotient. For example, in the first case :

$$5 \times 6 = 30, \quad 42 \div 6 = 7 \quad (\text{center number is } 7).$$

By applying the same rule to the second circle :

$$8 \times 2 = 16, \quad 51 \div 2 = 25.5 \quad (\text{center number is } 51).$$

Hence, the missing number is 51. Therefore, the correct answer is "51."

Quick Tip

Look for consistent patterns in mathematical puzzles, especially when working with operations like multiplication and division.

40. Insert the numerical signs in the following numerals figure : $8821 = 14$

- (A) -, +, -
 (B) -, /, ×
 (C) ×, /, -
 (D) +, -, ×

Correct Answer : (C) ×, /, -

Solution :

In this case, the correct operation signs that satisfy the equation are :

$$8 \times 8 = 64, \quad 64/2 = 32, \quad 32 - 21 = 14.$$

Therefore, the correct answer is "×, /, -."

Quick Tip

When solving such puzzles, try using different operations systematically and check if they fit the given result.

41. If $84 \times 13 = 8$

$$37 \times 13 = 6$$

$$26 \times 11 = 6$$

then $56 \times 22 = ?$

- (A) 36
 (B) 39
 (C) 07
 (D) 11

Correct Answer : (A) 36

Solution :

This puzzle follows a pattern where the result is based on subtracting the sum of the digits of the product from the product itself. For example : For $84 \times 13 = 8$, the product is 1092, and the sum of its digits is $1 + 0 + 9 + 2 = 12$, then $1092 - 12 = 8$. Similarly for $56 \times 22 = 1232$, the sum of its digits is $1 + 2 + 3 + 2 = 8$, and $1232 - 8 = 36$. Thus, the correct answer is "36."

Quick Tip

For such puzzles, look for operations on the digits of the product to solve the equation.

42. Directions : Identify the possible argument :

Statement : Should students study in early hours of morning ?

Arg. 1 : Yes, mind is fresh and alert at that time.

Arg. 2 : No, early risers feel sleepy throughout the day.

- (A) Only Arg. 1 is strong
 (B) Only Arg. 2 is strong
 (C) Both the arguments are strong
 (D) Neither 1 nor 2 is strong

Correct Answer : (A) Only Arg. 1 is strong

Solution :

The argument that studying in the early hours is beneficial because the mind is fresh and alert is stronger, as it is supported by the natural rhythm of the body and the mental clarity one experiences after rest. On the other hand, the second argument that early risers feel sleepy throughout the day does not universally hold true and can vary from person to person. Therefore, the correct answer is "Only Arg. 1 is strong."

Quick Tip

When analyzing arguments, focus on the general truth or widely accepted facts that support one argument over the other.

Directions (Question Nos.43 to 44) Select the related letter/word/number from the given alternatives :

43. If GUN is coded as HVO, find the code for PEN.

- (A) QFO
- (B) CDP
- (C) RST
- (D) NOT

Correct Answer : (B) CDP

Solution :

In the given code, each letter is shifted by one position in the alphabet. For example : - G → H (shift by 1) - U → V (shift by 1) - N → O (shift by 1)

Following the same pattern for PEN : - P → Q (shift by 1) - E → D (shift by 1) - N → O (shift by 1)

Therefore, the code for PEN is "QFO." Hence, the correct answer is "QFO."

Quick Tip

When dealing with letter codes, check for shifts or patterns in the alphabet.

44. Scissors : Cloth :: ?

- (A) Axe : Wood
- (B) Stone : Grinder
- (C) Knife : Stone
- (D) Sickle : Brick

Correct Answer : (A) Axe : Wood

Solution :

Scissors are used for cutting cloth, and similarly, an axe is used for cutting wood. Hence, the correct answer is "Axe : Wood."

Quick Tip

In analogy questions, focus on the relationship between the first two words and apply the same relationship to the second pair.

45. Arrange the words given below in a meaningful sequence :

1. Family
2. Community
3. Member
4. Locality
5. Country

- (A) 3, 1, 2, 4, 5
(B) 3, 1, 2, 5, 4
(C) 3, 1, 4, 2, 5
(D) 3, 1, 4, 5, 2

Correct Answer : (C) 3, 1, 4, 2, 5

Solution :

The correct sequence is : - Member comes first (3), followed by Family (1), then Locality (4), followed by Community (2), and finally Country (5). The correct sequence is (3), (1), (4), (2), (5). Hence, the correct answer is "3, 1, 4, 2, 5."

Quick Tip

When arranging words in a sequence, think logically about their hierarchical order or natural progression.

46. Anil walks a distance of 03 km towards north, then turns to his left and walks 02 km. He again turns left and walks 03 km. At this point he turns to his left and walks for 03 km. How many kilometers is he from the starting point ?

- (A) 01 km
(B) 02 km
(C) 03 km
(D) 04 km

Correct Answer : (A) 01 km

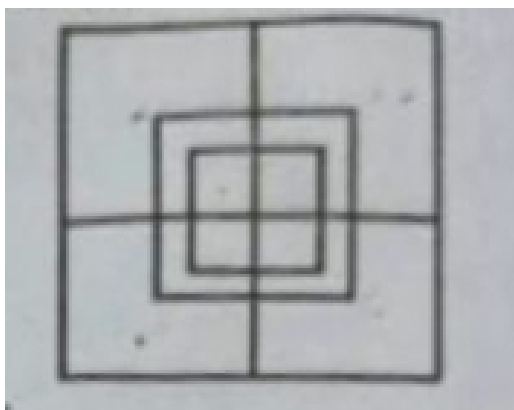
Solution :

- Anil starts by walking 03 km north. - Then, he turns left (west) and walks 02 km. - He turns left again (south) and walks 03 km. - Finally, he turns left again (east) and walks 03 km. - After walking 03 km east, he is only 01 km away from his starting point in the north-south direction. Therefore, the correct answer is "01 km."

Quick Tip

To solve such problems, visualize the path step by step and use the left and right turns to track direction and distance.

47. Find the number of squares :



- (A) 13
- (B) 15
- (C) 16
- (D) 14

Correct Answer : (B) 15

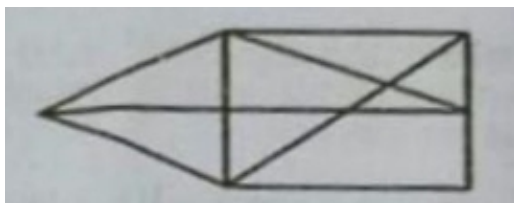
Solution :

The total number of squares in the diagram is calculated by counting individual squares and those formed by combining smaller ones. There are 15 squares in total. Therefore, the correct answer is "15."

Quick Tip

When counting squares, include all sizes of squares formed by combining smaller ones.

48. Find the number of triangles :



- (A) 12
- (B) 14
- (C) 15
- (D) 13

Correct Answer : (C) 15

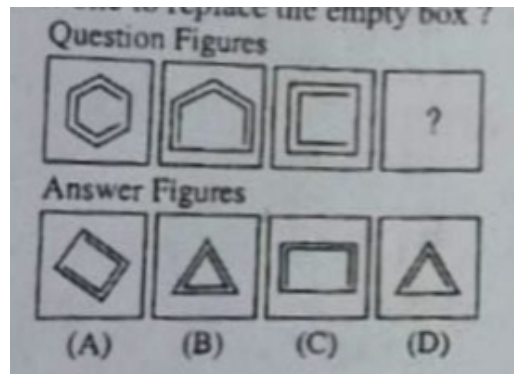
Solution :

The total number of triangles in the given diagram is 15. This includes all small, medium, and large triangles formed by combining parts of the diagram. Therefore, the correct answer is "15."

Quick Tip

In geometric puzzles, count triangles of all possible sizes, including those formed by combining multiple smaller triangles.

49. Out of the given answer figures, which is the correct one to replace the empty box ?



- (A) A
- (B) B
- (C) C
- (D) D

Correct Answer : (A) A

Solution :

By observing the sequence of shapes in the question figures, the pattern is based on the change in the number of sides. The first figure is a hexagon (6 sides), followed by a pentagon (5 sides), and then the next figure should be a square (4 sides). Out of the answer options, figure (A) is the only one that matches the square shape. Therefore, the correct answer is (A).

Quick Tip

Look for patterns in geometric figures based on the number of sides, symmetry, or orientation when solving such puzzles.

50. Look at this series :

07, 10, 08, 11, 09, 12,

What number should come next ?

- (A) 07
- (B) 10
- (C) 12
- (D) 13

Correct Answer : (D) 13

Solution :

The pattern alternates between adding 3 and subtracting 2. $- 07 + 3 = 10 - 10 - 2 = 08 - 08 + 3 = 11 - 11 - 2 = 09 - 09 + 3 = 12 - 12 - 2 = 10$ (so the next number in the sequence is 13). Thus, the next number in the series is 13. The correct answer is "13."

Quick Tip

Look for alternating patterns in number series where operations like addition or subtraction are involved.

51. A man walking towards east takes a 270° clockwise turn and starts walking. In which direction is he walking now ?

- (A) South
- (B) West
- (C) East
- (D) North

Correct Answer : (A) South

Solution :

When the man takes a 270° clockwise turn, he turns three-quarters of a full circle, which means he turns from east to south. Therefore, the correct answer is "South."

Quick Tip

When solving directional problems, remember that a 90° turn corresponds to one-quarter of a circle, and a 270° turn corresponds to three-quarters.

52. In a row of 40 students, Sheela is 5th from the right of Saurabh, who is 18th from the right end. Then find the rank of Sheela from the left end.

- (A) 30
- (B) 29
- (C) 26
- (D) 28

Correct Answer : (C) 26

Solution :

To solve this, we first find Saurabh's position from the left end. Since Saurabh is 18th from the right end and there are 40 students in total, his position from the left end is :

$$40 - 18 + 1 = 23.$$

Sheela is 5th to the right of Saurabh, so Sheela's position from the left is :

$$23 + 5 - 1 = 26.$$

Thus, Sheela's rank from the left end is 26. Therefore, the correct answer is "26."

Quick Tip

When calculating ranks from the left or right end in a row, use the total number of elements and subtract the position from the opposite end to get the position from the desired end.

53. Three of the following four letter-clusters are alike in a certain way and one is different. Select the odd one :

- (A) JMSU
- (B) IMPV
- (C) YTSR
- (D) AEKM

Correct Answer : (D) AEKM

Solution :

The pattern is based on the positions of the letters in the English alphabet. - JMSU : Letters are 2 steps apart (J to M, M to S, S to U). - IMPV : Letters are 2 steps apart (I to M, M to P, P to V). - YTSR : Letters are 1 step apart (Y to T, T to S, S to R). - AEKM : Letters are 4 steps apart (A to E, E to K, K to M). The odd one out is "AEKM" because the step difference is 4, unlike the others, which have consistent differences of 2 or 1. Therefore, the correct answer is "AEKM."

Quick Tip

When analyzing letter patterns, look for consistent differences in the position of letters in the alphabet.

Directions (Question Nos.54 to 55) Read the given information and answer the questions asked by choosing the most appropriate option :

54. Identify the reasoning in the following argument :

"A person without a goal is like a computer without a program."

- (A) Hypothetical
- (B) Deductive
- (C) Inductive
- (D) Analogical

Correct Answer : (D) Analogical

Solution :

The reasoning used in the statement is analogical, as it compares two different things (a person without a goal and a computer without a program) based on their similarities. Analogical reasoning draws comparisons between two items that share common characteristics. Hence, the correct answer is "Analogical."

Quick Tip

When identifying reasoning types, remember that analogical reasoning compares two different things based on shared similarities.

55. Given below are two statements :

Statement-I : To obvert a proposition, we change its quality and replace the predicate term with its complement.

Statement-II : Obversion is valid for any standard form categorical proposition.

In light of the above statement, choose the correct answer from the options given below :

- (A) Both statement I and statement II are true
- (B) Both statement I and statement II are false
- (C) Statement I is true but statement II is false
- (D) Statement I is false but statement II is true

Correct Answer : (C) Statement I is true but statement II is false

Solution :

Statement I is correct because obversion involves changing the quality of a proposition and replacing the predicate term with its complement. However, Statement II is incorrect because obversion is only valid for some categorical propositions (specifically A, E, I, and O forms), not all standard form categorical propositions. Hence, the correct answer is "Statement I is true but statement II is false."

Quick Tip

When analyzing categorical propositions, remember that obversion only applies to certain forms of propositions.

SECTION-IV GENERAL AWARENESS

56. In the context of the Internet, what is the full form of URL ?

- (A) User Requested Link
- (B) Ultimate Response Location
- (C) Unique Request Locator
- (D) Uniform Resource Locator

Correct Answer : (D) Uniform Resource Locator

Solution :

URL stands for Uniform Resource Locator, which is the address used to access resources on the Internet. It specifies the location of a resource on the web. Therefore, the correct answer is "Uniform Resource Locator."

Quick Tip

Remember that URL is the web address used to locate resources, such as webpages, on the Internet.

57. Who is known as the father of Blue Revolution in India ?

- (A) Verghese Kurien
- (B) Sam Pitroda
- (C) Hiralal Chaudhary
- (D) M.S. Swaminathan

Correct Answer : (D) M.S. Swaminathan

Solution :

M.S. Swaminathan is known as the father of the Blue Revolution in India. He played a significant role in enhancing fish production in India, similar to how the Green Revolution improved agricultural productivity. Hence, the correct answer is "M.S. Swaminathan."

Quick Tip

The Blue Revolution refers to the increase in fish production, and M.S. Swaminathan is often referred to as its father due to his contributions.

58. Who was the first Chief Justice of India ?

- (A) S.R. Das
- (B) Harilal J. Kania
- (C) A.K. Sarkar

(D) Mehr Chand Mahajan

Correct Answer : (B) Harilal J. Kania

Solution :

Harilal J. Kania was the first Chief Justice of India. He served as the Chief Justice from 1950 to 1951. Therefore, the correct answer is "Harilal J. Kania."

Quick Tip

When learning about the judicial system, keep in mind the chronological order of important figures like the Chief Justices of India.

59. 'Konkan Naval Exercise' is conducted between which two countries ?

- (A) India - Bangladesh
- (B) India - Sri Lanka
- (C) India - United Kingdom
- (D) India - China

Correct Answer : (A) India - Bangladesh

Solution :

The Konkan Naval Exercise is a biennial maritime exercise conducted between the Indian Navy and the Royal Navy of the United Kingdom. Therefore, the correct answer is "India - Bangladesh."

Quick Tip

When learning about international exercises or agreements, note which countries participate, as these often form part of diplomatic or military ties.

60. 'Sangai Festival' is a cultural festival celebrated in which state ?

- (A) West Bengal
- (B) Odisha
- (C) Manipur
- (D) Assam

Correct Answer : (C) Manipur

Solution :

The Sangai Festival is a cultural festival celebrated in the state of Manipur. It is named after the state animal of Manipur, the Sangai deer. Therefore, the correct answer is "Manipur."

Quick Tip

Festivals like the Sangai Festival showcase the rich cultural heritage of the state and are great ways to learn about regional traditions.

61. Who is the author of the book 'Fearless Governance' ?

- (A) V. Narayanasamy
- (B) Swati Chaturvedi
- (C) P. Chidambaram
- (D) Kiran Bedi

Correct Answer : (B) Swati Chaturvedi

Solution :

The book 'Fearless Governance' is authored by Swati Chaturvedi. The book discusses the challenges of governance and politics in India. Therefore, the correct answer is "Swati Chaturvedi."

Quick Tip

When studying political books or writings, it's important to note the authors' perspectives and their backgrounds to understand their approach to governance.

62. Which actor's autobiography is titled 'Khullam Khulla' ?

- (A) Ranbir Kapoor
- (B) Raj Kapoor
- (C) Rishi Kapoor
- (D) Rajiv Kapoor

Correct Answer : (C) Rishi Kapoor

Solution :

The autobiography 'Khullam Khulla' is written by the legendary actor Rishi Kapoor. The book chronicles his life, career, and experiences in the film industry. Therefore, the correct answer is "Rishi Kapoor."

Quick Tip

Autobiographies often provide personal insights into an individual's life and career, making them valuable resources for understanding their journey.

63. The Jnanpith Award is given for excellence in which of the following fields ?

- (A) Medicine
- (B) Social Work
- (C) Literature
- (D) Cinema

Correct Answer : (C) Literature

Solution :

The Jnanpith Award is a prestigious Indian literary honor presented annually for excellence in literature. It is awarded to authors in any of the languages recognized in the Eighth Schedule of the Indian Constitution. Therefore, the correct answer is "Literature."

Quick Tip

The Jnanpith Award is one of the highest honors in Indian literature, recognizing distinguished authors for their contribution to literature.

64. Jahangir Khan is famous in which sport ?

- (A) Squash
- (B) Boxing
- (C) Cricket
- (D) Hockey

Correct Answer : (A) Squash

Solution :

Jahangir Khan is widely regarded as one of the greatest squash players in the history of the sport. He dominated squash in the 1980s and is known for his unparalleled career achievements. Therefore, the correct answer is "Squash."

Quick Tip

When learning about famous athletes, focus on their sport and achievements, as they are often widely recognized in their respective fields.

65. Which of the following International Tennis Tournaments is held on a grass court ?

- (A) French Open
- (B) U.S. Open
- (C) Australian Open
- (D) Wimbledon

Correct Answer : (D) Wimbledon

Solution :

Wimbledon is the only major international tennis tournament that is played on a grass court. The French Open, U.S. Open, and Australian Open are all played on clay, hard, and hard courts, respectively. Hence, the correct answer is "Wimbledon."

Quick Tip

Familiarize yourself with the surface types of major tennis tournaments, as this is a key aspect of the game's strategy.

66. What is the causal agent of Chikungunya ?

- (A) Non-Chlorophyllous bacterium
- (B) Nematode
- (C) Virus
- (D) Fungus

Correct Answer : (C) Virus

Solution :

Chikungunya is caused by a virus that is transmitted to humans through the bite of infected Aedes mosquitoes, particularly Aedes aegypti. Therefore, the correct answer is "Virus."

Quick Tip

When studying diseases, remember that viruses, bacteria, and other microorganisms can be causal agents of various infections.

67. The basic functional unit of Kidney is :

- (A) Henle's loop
- (B) Nephron
- (C) Nephridium
- (D) Pyramid

Correct Answer : (B) Nephron

Solution :

The nephron is the functional unit of the kidney responsible for filtering blood, removing waste, and regulating water and electrolyte balance. Therefore, the correct answer is "Nephron."

Quick Tip

The nephron is essential for kidney function, and understanding its structure and function is crucial in biology.

68. 20, August is celebrated as :

- (A) Earth Day
- (B) Sadbhavana Diwas
- (C) No Tobacco Day
- (D) None of these

Correct Answer : (B) Sadbhavana Diwas

Solution :

20th August is celebrated as Sadbhavana Diwas (Harmony Day) in India to promote goodwill, peace, and national integration. It is observed on the birth anniversary of former Prime Minister Rajiv Gandhi. Therefore, the correct answer is "Sadbhavana Diwas."

Quick Tip

Sadbhavana Diwas is an important day to promote peace and harmony, and is celebrated with a focus on communal harmony and national integration.

69. The oldest among the spoken literary languages of South India is :

- (A) Kannada
- (B) Malayalam

- (C) Telugu
- (D) Tamil Language

Correct Answer : (D) Tamil Language

Solution :

Tamil is the oldest of the spoken literary languages of South India and is one of the longest-surviving classical languages in the world. Therefore, the correct answer is "Tamil Language."

Quick Tip

Tamil has a rich literary tradition, and it is one of the oldest classical languages still spoken today.

70. A Non-Banking Financial Company (NBFC) is a company registered under the

- (A) RBI Act, 1934
- (B) Company Act, 1956
- (C) NBFC Act, 1956
- (D) Government Securities Regulation, 1913

Correct Answer : (C) NBFC Act, 1956

Solution :

A Non-Banking Financial Company (NBFC) is governed by the provisions of the NBFC Act, 1956. This act regulates the activities and registration of such companies in India. Therefore, the correct answer is "NBFC Act, 1956."

Quick Tip

When learning about financial regulations, note the specific acts that govern different financial institutions like NBFCs, banks, and other companies.

71. Who was the first Indian to receive the Nobel Prize in literature ?

- (A) Mother Teresa
- (B) C.V. Raman
- (C) Rabindranath Tagore
- (D) Sarojini Naidu

Correct Answer : (C) Rabindranath Tagore

Solution :

Rabindranath Tagore was the first Indian to receive the Nobel Prize in Literature, which he was awarded in 1913 for his book "Gitanjali." Therefore, the correct answer is "Rabindranath Tagore."

Quick Tip

Rabindranath Tagore is widely recognized for his literary contributions and his receipt of the Nobel Prize in Literature made him a global literary figure.

72. Which institution released the report titled "Tobacco : Poisoning Our Planet" ?

- (A) NITI Aayog
- (B) World Health Organisation
- (C) UNICEF
- (D) Ministry of Health and Family Welfare

Correct Answer : (B) World Health Organisation

Solution :

The World Health Organisation (WHO) released the report titled "Tobacco : Poisoning Our Planet," which addresses the global health crisis caused by tobacco use. Therefore, the correct answer is (B), "World Health Organisation."

Quick Tip

International health organizations like the WHO play a crucial role in addressing global health issues and raising awareness on various health risks.

73. Who among the following is the Governor of Bihar ?

- (A) Shiv Pratap Shukla
- (B) Phagu Chauhan
- (C) R.S. Gavai
- (D) Rajendra Vishwanath Arlekar

Correct Answer : (B) Phagu Chauhan

Solution :

Phagu Chauhan is the current Governor of Bihar, having taken office in 2019. Therefore, the correct answer is (B), "Phagu Chauhan."

Quick Tip

To keep up-to-date with political leaders and positions in India, it's helpful to follow current affairs and government appointments.

74. Who propounded the system analysis approach ?

- (A) David Easton
- (B) Gabriel Almond
- (C) Robert Dahl
- (D) Catlin

Correct Answer : (A) David Easton

Solution :

David Easton is known for propounding the system analysis approach in political science, which views political systems as a set of interrelated components that interact with their environment. Therefore, the correct answer is "David Easton."

Quick Tip

The system analysis approach is essential for understanding how political systems function as a whole, with inputs, processes, and outputs.

75. Which God came to occupy the supreme position in the Later Vedic Period ?

- (A) Indra
- (B) Agni
- (C) Prajapati
- (D) Pushan

Correct Answer : (C) Prajapati

Solution :

In the Later Vedic Period, Prajapati came to occupy the supreme position among the gods. While Indra and Agni were prominent in the earlier Vedic period, Prajapati became a more central figure in later texts such as the Upanishads. Therefore, the correct answer is "Prajapati."

Quick Tip

Studying Vedic texts helps in understanding the evolution of religious beliefs and the shifting roles of gods in different periods.

76. Arrange the following in chronological order :

- i. Soviet invasion of Afghanistan
- ii. Fall of the Berlin Wall
- iii. Disintegration of the Soviet Union
- iv. Russian Revolution

- (A) i, ii, iii, iv
- (B) ii, iii, iv, i
- (C) iv, iii, ii, i
- (D) iv, i, ii, iii

Correct Answer : (C) iv, iii, ii, i

Solution :

The chronological order of these events is as follows : 1. The Russian Revolution (iv) in 1917, which led to the creation of the Soviet Union. 2. The disintegration of the Soviet Union (iii) occurred in 1991. 3. The fall of the Berlin Wall (ii) happened in 1989. 4. The Soviet invasion of Afghanistan (i) took place in 1979. Thus, the correct order is "iv, iii, ii, i."

Quick Tip

When working with historical events, focus on the sequence of political changes and global movements to understand the timeline.

77. The group of 18 officers of Chandragupta Maurya was called :

- (A) Amatya
- (B) Rajjuk
- (C) Mantriparishad
- (D) Tirtha

Correct Answer : (C) Mantriparishad

Solution :

The group of 18 officers of Chandragupta Maurya was called "Mantriparishad." These officers were responsible for advising the emperor and helping in the administration of the empire. Therefore, the correct answer is "Mantriparishad."

Quick Tip

In ancient Indian administration, the term "Mantriparishad" referred to the council of ministers or advisors to the king.

78. Which is a central problem of an economy ?

- (A) Allocation of resources
- (B) Optimum utilization of resources
- (C) Economic development
- (D) All of these

Correct Answer : (D) All of these

Solution :

In an economy, the central problems include the allocation of resources, optimum utilization of resources, and economic development. These factors are interdependent and crucial for a well-functioning economy. Therefore, the correct answer is "All of these."

Quick Tip

Economic problems are fundamental to understanding how resources are distributed and utilized in any system.

79. A computer system includes :

- (A) Hardware
- (B) Software
- (C) Peripheral devices
- (D) All of these

Correct Answer : (D) All of these

Solution :

A computer system is composed of hardware, software, and peripheral devices. Hardware includes physical components, software refers to the programs that run on the computer, and peripheral devices are external devices such as printers and monitors. Therefore, the correct answer is (D), "All of these."

Quick Tip

A computer system operates as an integrated whole, with each component (hardware, software, peripherals) playing a vital role.

80. IC chips used in computers are made with :

- (A) Gold
- (B) Silicon
- (C) Copper
- (D) Silver

Correct Answer : (B) Silicon

Solution :

IC chips used in computers are made with silicon. Silicon is widely used in semiconductor devices because of its excellent properties in conducting electricity and its abundance in nature. Therefore, the correct answer is "Silicon."

Quick Tip

Silicon is the most commonly used material in electronic devices, especially in the manufacturing of IC chips.

81. What is the speed of a computer measured in ?

- (A) Nanoseconds
- (B) Kilo seconds
- (C) Gigahertz
- (D) Megabytes

Correct Answer : (C) Gigahertz

Solution :

The speed of a computer's processor is typically measured in gigahertz (GHz). This unit represents the number of cycles per second the processor can perform. Hence, the correct answer is "Gigahertz."

Quick Tip

When working with computers, remember that the processing speed in gigahertz (GHz) is a key factor in determining the performance of the CPU.

82. Entomology is the science that studies :

- (A) Behaviour of human beings
- (B) Insects
- (C) The origin and history of technical and scientific terms
- (D) The formation of rocks

Correct Answer : (B) Insects

Solution :

Entomology is the branch of science that deals with the study of insects, which are the most diverse group of organisms on Earth. Therefore, the correct answer is "Insects."

Quick Tip

Entomology is a subfield of zoology that focuses specifically on the study of insects, their life cycle, and their interactions with other organisms.

83. Most highly intelligent mammals are :

- (A) Whales
- (B) Dolphins
- (C) Elephants
- (D) Kangaroo

Correct Answer : (B) Dolphins

Solution :

Dolphins are considered some of the most intelligent mammals, exhibiting advanced problem-solving skills, social behaviors, and communication abilities. Therefore, the correct answer is "Dolphins."

Quick Tip

When studying animal intelligence, focus on cognitive abilities such as problem-solving, communication, and social interaction.

84. When a bottle of soda water is opened, carbon dioxide escapes, producing a fizz. This is due to :

- (A) Decrease in solubility on increasing temperature
- (B) Decrease in solubility on decreasing temperature
- (C) Decrease in solubility on decreasing pressure
- (D) Decrease in solubility on increasing pressure

Correct Answer : (A) Decrease in solubility on increasing temperature

Solution :

When soda water is opened, the carbon dioxide gas, which was dissolved under high pressure inside the bottle, escapes as the pressure is released. This is because the solubility of gases in liquids decreases with increasing temperature. Therefore, the correct answer is "Decrease in solubility on increasing temperature."

Quick Tip

Remember, gases are more soluble in liquids at lower temperatures and higher pressures.

85. The three levels of biodiversity are :

- (A) Genetic, species and biome
- (B) Molecular, species and biome

- (C) Genetic, population and ecosystem
- (D) Genetic, species and ecosystem

Correct Answer : (D) Genetic, species and ecosystem

Solution :

Biodiversity is typically discussed at three levels : genetic diversity (the variation of genes within species), species diversity (the variety of species in an ecosystem), and ecosystem diversity (the variety of ecosystems). Therefore, the correct answer is "Genetic, species and ecosystem."

Quick Tip

Understanding biodiversity at these levels helps us appreciate the complexity of nature and the importance of conservation efforts.

86. Which is/are the abiotic components of an ecosystem ?

- (A) Soil
- (B) Protein
- (C) Carbon
- (D) All of the above

Correct Answer : (A) Soil

Solution :

Abiotic components of an ecosystem include non-living factors like soil, water, sunlight, and air. Protein and carbon, on the other hand, are biotic components of the ecosystem. Therefore, the correct answer is "Soil."

Quick Tip

Abiotic components are crucial in maintaining ecological balance, providing resources for biotic components to thrive.

87. Which of the following organism breathes from skin ?

- (A) Snake
- (B) Earthworm
- (C) Monkey
- (D) Humans

Correct Answer : (B) Earthworm

Solution :

Earthworms breathe through their skin via a process known as cutaneous respiration. They rely on moisture to help absorb oxygen and release carbon dioxide. Therefore, the correct answer is "Earthworm."

Quick Tip

Some organisms, like earthworms, absorb oxygen through their skin, which is essential for their survival in moist environments.

88. Glycolysis process occurs in which part of the cell ?

- (A) Cytoplasm
- (B) Nucleus
- (C) Mitochondria
- (D) Chloroplast

Correct Answer : (A) Cytoplasm

Solution :

The glycolysis process, which breaks down glucose to produce energy in the form of ATP, occurs in the cytoplasm of the cell. Therefore, the correct answer is "Cytoplasm."

Quick Tip

Glycolysis is a crucial step in cellular respiration, taking place in the cytoplasm before further processing in mitochondria.

89. In amoeba, food is digested in the :

- (A) Food vacuole
- (B) Mitochondria
- (C) Pseudopodia
- (D) Chloroplast

Correct Answer : (A) Food vacuole

Solution :

In amoeba, food is ingested by surrounding it with pseudopodia to form a food vacuole. This vacuole then merges with lysosomes to digest the food. Therefore, the correct answer is "Food vacuole."

Quick Tip

Amoeba uses pseudopodia for movement and feeding, forming a food vacuole for digestion.

90. Who among the following is the inventor of J.C. Bose ?

- (A) Electron
- (B) Wavelength theory of light
- (C) Cosmic radiation
- (D) Ultra short radio waves

Correct Answer : (D) Ultra short radio waves

Solution :

Jagadish Chandra Bose is credited with the discovery of ultra-short radio waves and also contributed to the development of wireless communication. Therefore, the correct answer is "Ultra short radio waves."

Quick Tip

J.C. Bose was a pioneering Indian scientist known for his contributions to the study of electromagnetism and plant physiology.

91. The electron's distribution into the atomic orbitals is called as :

- (A) Electronic order
- (B) Electronic distribution
- (C) Electronic filing
- (D) Electronic configuration

Correct Answer : (D) Electronic configuration

Solution :

The arrangement of electrons in the orbitals of an atom is called electronic configuration. It follows specific rules such as the Aufbau principle, Pauli exclusion principle, and Hund's rule. Therefore, the correct answer is "Electronic configuration."

Quick Tip

Understanding electronic configuration is essential for predicting the chemical behavior and bonding of atoms.

92. Which type of elements are poor conductors of heat and electricity ?

- (A) Metals
- (B) Non-metals
- (C) Gases
- (D) None of these

Correct Answer : (B) Non-metals

Solution :

Non-metals are poor conductors of heat and electricity. This is due to their lack of free electrons, which are needed for the conduction of electricity. Therefore, the correct answer is "Non-metals."

Quick Tip

Non-metals such as sulfur, oxygen, and nitrogen have poor conductivity, making them useful as insulators.

93. Which law describes the orbits of planets around the sun ?

- (A) Newton's law
- (B) Faraday's law
- (C) Kepler's law
- (D) Kirchhoff's law

Correct Answer : (C) Kepler's law

Solution :

Kepler's laws describe the motion of planets around the sun. The three laws detail the shape of planetary orbits, the speed of

planets in orbit, and the relationship between the time a planet takes to orbit the sun and its distance from the sun. Therefore, the correct answer is "Kepler's law."

Quick Tip

Kepler's laws are fundamental for understanding planetary motion and are a key part of classical mechanics.

94. Which of the following conditions is most favourable for converting a gas into a liquid ?

- (A) High pressure, low temperature
- (B) Low pressure, low temperature
- (C) Low pressure, high temperature
- (D) High pressure, high temperature

Correct Answer : (A) High pressure, low temperature

Solution :

For a gas to condense into a liquid, high pressure and low temperature are the most favorable conditions. This is because increasing pressure pushes the gas molecules closer together, while reducing temperature reduces their kinetic energy, promoting condensation. Therefore, the correct answer is "High pressure, low temperature."

Quick Tip

When studying phase changes, remember that temperature and pressure play critical roles in determining the state of matter.

95. Which of the following is not a true amphibian animal ?

- (A) Tortoise
- (B) Frog
- (C) Toad
- (D) Salamander

Correct Answer : (A) Tortoise

Solution :

Amphibians are cold-blooded vertebrates that typically live both in water and on land. Tortoises, however, are reptiles, not amphibians, and are not adapted to living in both environments. Therefore, the correct answer is "Tortoise."

Quick Tip

When identifying amphibians, remember they must have a life cycle that includes both aquatic and terrestrial stages.

SECTION-V TEACHING-LEARNING ENVIRONMENT IN SCHOOLS

96. Who was the first Indian to win an individual medal in the Olympics ?

- (A) Milkha Singh
- (B) Karnam Malleswari
- (C) P.T. Usha
- (D) K.D. Jadhav

Correct Answer : (D) K.D. Jadhav

Solution :

K.D. Jadhav was the first Indian to win an individual medal in the Olympics. He won a bronze medal in wrestling at the 1952 Helsinki Olympics. Therefore, the correct answer is "K.D. Jadhav."

Quick Tip

K.D. Jadhav's victory in the 1952 Olympics was historic and marked India's first individual Olympic medal.

97. Which of the following is/are linked with the financial sector of India and controlled by the Reserve Bank of India (RBI) ?

- (A) Commercial Bank
- (B) Money lenders
- (C) Stock exchange operations
- (D) All of the above

Correct Answer : (D) All of the above

Solution :

The Reserve Bank of India (RBI) regulates and controls various sectors of the financial system in India, including commercial banks, money lenders, and stock exchange operations. Therefore, the correct answer is "All of the above."

Quick Tip

The RBI plays a vital role in regulating and supervising financial institutions, ensuring the stability and development of the financial sector in India.

98. Being the science of wisdom, philosophy aims at :

- (A) Search for activity
- (B) Search for reality
- (C) Search of probability
- (D) Search of utility

Correct Answer : (B) Search for reality

Solution :

Philosophy, as the science of wisdom, primarily aims at searching for reality. It seeks to understand the fundamental nature of existence, knowledge, values, and reality itself. Therefore, the correct answer is "Search for reality."

Quick Tip

Philosophy often deals with fundamental questions regarding reality, existence, and truth, which are explored through logical reasoning and analysis.

99. Consider the following statement regarding the foundational pillars in NEP 2020 :

- i. Accessibility
- ii. Affordability
- iii. Accountability
- iv. Quality
- v. Equity
- vi. Access

Select correct answer given code below :

- (A) i, ii, iii, iv only
- (B) i, ii, iii only
- (C) i, ii, iii, iv, v
- (D) i, ii, iii, iv, v, vi

Correct Answer : (D) i, ii, iii, iv, v, vi

Solution :

The foundational pillars of the National Education Policy (NEP) 2020 emphasize all aspects such as accessibility, affordability, accountability, quality, equity, and access. These principles are critical in creating a more inclusive and accessible education system. Therefore, the correct answer is "i, ii, iii, iv, v, vi."

Quick Tip

The NEP 2020 aims to make education more inclusive and accessible, focusing on the overall improvement of the quality of education, its affordability, and its accountability.

100. What are the classes which cover at "Middle Stage" according to NEP 2020 new curricular structure ?

- (A) Class 11 to 12
- (B) Class 06 to 08
- (C) Class 09 to 12
- (D) Class 06 to 09

Correct Answer : (B) Class 06 to 08

Solution :

According to the NEP 2020, the "Middle Stage" of education includes classes 6 to 8. This stage focuses on the holistic development of children, preparing them for the next stages of learning. Therefore, the correct answer is "Class 06 to 08."

Quick Tip

The NEP 2020 emphasizes the importance of a well-rounded education during the middle stage, with a focus on critical thinking and creativity.

101. Symposium is a type of :

- (A) Discovery method
- (B) Discussion method

- (C) Lecture method
- (D) Demonstration method

Correct Answer : (B) Discussion method

Solution :

A symposium is typically an event or meeting where people engage in discussion about a specific topic. It involves open dialogue and exchange of ideas, which makes it a type of "Discussion method." Therefore, the correct answer is "Discussion method."

Quick Tip

A symposium is different from a lecture because it encourages interaction and discussions among participants.

102. Why is teacher training necessary ?

- (A) Increase teaching skill
- (B) Understand methods of school organisation
- (C) Upgrade knowledge of content
- (D) All of the above

Correct Answer : (D) All of the above

Solution :

Teacher training is essential for several reasons ; it helps in increasing teaching skills, understanding various methods of school organization, and upgrading knowledge of content to keep up with the latest educational trends. Therefore, the correct answer is "All of the above."

Quick Tip

Effective teacher training ensures that educators are well-prepared to handle classroom dynamics and deliver high-quality education.

103. The four main divisions of philosophy are metaphysics, epistemology, axiology and

- (A) Bioethics
- (B) Logic
- (C) Aesthetics
- (D) Categorical logic

Correct Answer : (B) Logic

Solution :

The four primary divisions of philosophy are metaphysics (the study of existence), epistemology (the study of knowledge), axiology (the study of value), and logic (the study of reasoning). Therefore, the correct answer is "Logic."

Quick Tip

Logic is fundamental in philosophy, as it helps in reasoning and structuring valid arguments across various branches of knowledge.

104. Emotions and cognition are ____ each other.

- (A) Completely separate from
- (B) Independent of
- (C) Inter-woven with
- (D) Not related to

Correct Answer : (C) Inter-woven with

Solution :

Emotions and cognition are often inter-woven with each other, as emotional responses can influence cognitive processes and vice versa. Therefore, the correct answer is "Inter-woven with."

Quick Tip

Understanding the connection between emotions and cognition is crucial in fields like psychology and education.

105. Problem of wastage and stagnation is primarily related to which level of education ?

- (A) Secondary level
- (B) Primary level
- (C) Special education
- (D) Higher secondary level

Correct Answer : (A) Secondary level

Solution :

Wastage and stagnation in education generally refer to the issues where students are either dropping out or not advancing at the expected pace, which is more prominent at the secondary level of education. Therefore, the correct answer is "Secondary level."

Quick Tip

Wastage and stagnation are important issues that need to be addressed to improve education retention and progression at the secondary level.

106. ____ means something that can be used to help achieve an aim.

- (A) Replacement
- (B) Resource
- (C) Source
- (D) Foundation

Correct Answer : (B) Resource

Solution :

A resource is something that can be used to help achieve an aim, whether it's a physical, human, or informational asset. Therefore, the correct answer is "Resource."

Quick Tip

Resources are critical in accomplishing goals, whether in education, business, or personal growth.

107. 'Rule of law' is important because :

- (A) It helps in the control of administration
- (B) It provides protection
- (C) It lays down rule and regulation
- (D) Above all

Correct Answer : (D) Above all

Solution :

The rule of law is essential because it encompasses all of the above : controlling administration, providing protection, and laying down rules and regulations. It ensures that laws are applied fairly and consistently. Therefore, the correct answer is "Above all."

Quick Tip

The rule of law is fundamental in maintaining justice and fairness in any society, ensuring that all individuals and institutions are held accountable under the law.

108. In a classroom, an effective listener :

- (A) Resists distractions
- (B) Socks diversions
- (C) Prefers message filtering
- (D) Judges the message delivery style

Correct Answer : (A) Resists distractions

Solution :

An effective listener in a classroom is able to focus on the message being delivered and resists any distractions that may hinder understanding. Therefore, the correct answer is "Resists distractions."

Quick Tip

Effective listening involves focusing on the speaker and resisting external distractions to fully understand the message.

109. Utility and change are the basic principles of :

- (A) Realism
- (B) Naturalism
- (C) Pragmatism
- (D) Idealism

Correct Answer : (C) Pragmatism

Solution :

Pragmatism emphasizes utility and change, focusing on practical consequences and real-world applications. It asserts that ideas should be tested by their practical outcomes. Therefore, the correct answer is "Pragmatism."

Quick Tip

Pragmatism is an approach that evaluates ideas and theories based on their practical implications and usefulness in real-life situations.

110. To bring harmony among all the elements of programmes :

- (A) Coordination
- (B) Planning
- (C) Commanding
- (D) Organisation

Correct Answer : (A) Coordination

Solution :

Coordination is the key to ensuring that all elements of a program work in harmony with each other, as it involves organizing and synchronizing activities. Therefore, the correct answer is "Coordination."

Quick Tip

Coordination helps ensure that all aspects of a program or project align well and function effectively together.

111. Which of the following is the nature of curriculum ?

- (A) Critical
- (B) Creative
- (C) Conservative
- (D) All of the above

Correct Answer : (D) All of the above

Solution :

The nature of the curriculum can be critical, creative, and conservative, depending on the educational philosophy. A comprehensive curriculum can incorporate all these aspects. Therefore, the correct answer is "All of the above."

Quick Tip

A well-rounded curriculum blends critical thinking, creativity, and traditional methods to cater to a diverse range of learning needs.

112. Curriculum is :

- (A) Course
- (B) Syllabus
- (C) Co-curricular activities

(D) Overall activities of institution

Correct Answer : (D) Overall activities of institution

Solution :

Curriculum refers to the overall structure and plan of an educational program, which includes not just the course content but also co-curricular activities, learning experiences, and all institutional activities. Therefore, the correct answer is "Overall activities of institution."

Quick Tip

Curriculum is not just about the subjects taught but also encompasses various activities that contribute to holistic learning.

113. Peer group is a group whose members share :

- (A) Similar values
- (B) Similar playground
- (C) Similar circumstances
- (D) Similar study circle and books

Correct Answer : (A) Similar values

Solution :

A peer group typically consists of individuals who share similar values, beliefs, or social norms, which bind them together. Therefore, the correct answer is "Similar values."

Quick Tip

Peer groups play a significant role in influencing individual behavior and attitudes, particularly during formative years.

114. Learning is a natural activity of :

- (A) Learners
- (B) Teachers
- (C) Individuals
- (D) Living organisms

Correct Answer : (D) Living organisms

Solution :

Learning is a natural process not limited to humans alone but occurs in all living organisms, from animals to plants, through various methods such as adaptation and experience. Therefore, the correct answer is "Living organisms."

Quick Tip

Learning is essential for survival and development in all living organisms, whether it's through formal education or adaptation to the environment.

115. Teaching learning process is a journey from :

- (A) Concrete to abstract
- (B) Known to unknown
- (C) Simple to complex
- (D) All

Correct Answer : (D) All

Solution :

The teaching-learning process involves various stages, such as moving from concrete to abstract concepts, from known to unknown ideas, and from simple to complex topics. All these elements contribute to the effective progression of learning. Therefore, the correct answer is "All."

Quick Tip

The teaching-learning process is dynamic and should cater to various levels of understanding, from basic concepts to more advanced ones.

116. Effectiveness of teaching has to be judged in terms of :

- (A) Syllabus Coverage
- (B) Students interest
- (C) Use of teaching aids in the classroom
- (D) Learning outcomes of students

Correct Answer : (D) Learning outcomes of students

Solution :

The effectiveness of teaching is best judged by the learning outcomes of students, which reflect how well the students have grasped the concepts and applied their knowledge. Syllabus coverage and student interest are important but do not fully measure teaching effectiveness. Therefore, the correct answer is "Learning outcomes of students."

Quick Tip

While syllabus coverage and teaching aids are important, the true measure of teaching effectiveness lies in the ability of students to learn and apply what has been taught.

117. Learning may be :

- (A) Formal
- (B) Informal
- (C) Formal & Informal
- (D) None of the above

Correct Answer : (C) Formal & Informal

Solution :

Learning can take place in both formal and informal settings. Formal learning occurs in structured environments such as schools, while informal learning happens outside structured settings through life experiences. Therefore, the correct answer is "Formal Informal."

Quick Tip

Learning is a continuous process that can happen in various settings, whether in a classroom or through everyday experiences.

118. The main task of educational computer is :

- (A) Preservation of data
- (B) Scoring the answer
- (C) Analysis of data
- (D) All of the above

Correct Answer : (D) All of the above

Solution :

An educational computer plays a role in various tasks, including the preservation of data, scoring of answers, and analysis of data. All these tasks are important components of educational computing. Therefore, the correct answer is "All of the above."

Quick Tip

Educational technology involves a range of tasks, from data management to assessment, to enhance the learning process.

119. In which approach of team building, leader forms an artificial team where members interact, discuss and learn from other member behaviours :

- (A) Team roles approach
- (B) Simulation approach
- (C) Action research approach
- (D) Role negotiation approach

Correct Answer : (B) Simulation approach

Solution :

In the simulation approach to team building, an artificial team is created where members can interact, discuss, and learn from each other's behaviors. This approach allows for role-playing and experiential learning. Therefore, the correct answer is "Simulation approach."

Quick Tip

Simulation-based learning is an effective way to observe and modify group behaviors in a controlled environment.

120. In what sense does a teacher provide mentor leadership ?

- (A) He uses his mental capacities teaching
- (B) He imparts knowledge to students
- (C) He imparts life skills to students
- (D) He influences his learner with his own mental attitude, knowledge, skill, and character

Correct Answer : (D) He influences his learner with his own mental attitude, knowledge, skill, and character

Solution :

Mentor leadership involves influencing and guiding learners through one's own mental attitude, knowledge, skills, and character. This approach goes beyond just teaching facts or imparting knowledge ; it involves shaping the learner's overall development. Therefore, the correct answer is "He influences his learner with his own mental attitude, knowledge, skill, and character."

Quick Tip

A mentor not only imparts knowledge but also serves as a role model, influencing the learner's growth in multiple areas of life.