

IGNOU Entrance Test for B.Ed. Programme 2017 Question Paper with Solution

Time Allowed :120 Minutes

Maximum Marks :100

Total Questions :160

General Instructions

Read the following instructions very carefully and strictly follow them:

1. No cell phones, calculators, books, slide-rules, note-books or written notes, etc. will be allowed inside the examination hall.
2. You should follow the instructions given by the Centre Superintendent and by the Invigilator at the examination venue. If you violate the instructions you will be disqualified.
3. Any candidate found copying or receiving or giving assistance in the examination will be disqualified.
4. The Test Booklet and the OMR Response Sheet (Answer Sheet) would be supplied to you by the Invigilators. After the examination is over, you should hand over the OMR Response Sheet to the Invigilator before leaving the examination hall. Any candidate who does not return the OMR Response Sheet will be disqualified and the University may take further action against him/her.
5. All rough work is to be done on the Test Booklet itself and not on any other paper. Scrap paper is not permitted. For arriving at answers you may work in the margins, make some markings or underline in the Test Booklet itself.
6. The University reserves the right to cancel scores of any candidate who impersonates or uses/adopts other malpractices or uses any unfair means. The examination is conducted under uniform conditions. The University would also follow a procedure to verify the validity of scores of all examinees uniformly. If there is substantial indication that your performance is not genuine, the University may cancel your score.

PART - A
(GENERAL ENGLISH COMPREHENSION)

White cement is the basic raw material for producing cement tiles and cement paint which are used extensively in building construction. The main consumers of white cement are, therefore, cement tile and cement paint manufacturing units. These consumers, mostly in the small scale sector, are today facing a major crisis because of a significant increase in the price of white cement during a short period. The present annual licensed production capacity of white and grey cement in the country is approximately 3.5 lakh tonnes. The average demand is 2-2.5 tonnes. This means that there is idle capacity to the tune of one lakh tonnes or more. The price rise is, therefore, not a phenomenon arising out of inadequate production capacity but evidently because of artificial scarcity created by the manufacturers in their self-interest.

The main reason for the continuing spurt in cement price is its decontrol. As it is, there is stiff competition in the cement paint and tile manufacturing business. Any further price revision at this stage is bound to have a severe adverse impact on the market conditions. The Government should take adequate steps to ensure that suitable controls are brought in. Else it should allow import of cement.

1. Why is the price of white cement going up?

- (1) Because the government is controlling the quota.
- (2) Because of export of white cement.
- (3) Because of the large usage of white cement.
- (4) None of the above

Correct Answer: (4) None of the above

Solution: The price of white cement has been increasing primarily due to its growing export demand. The international market has seen a rise in the need for white cement, which has put pressure on its domestic availability, leading to higher prices. While the other factors may also play a role, export is the key driver of the price increase.

Quick Tip

Export demand can significantly affect the price of a product, especially when the supply is limited domestically.

2. Which of the following statements is false according to the passage?

- (1) Price rise in white cement would increase the price of cement paint.
- (2) White cement is a controlled product.
- (3) Increase in price of white cement is not because of production problem.
- (4) Price rise in white cement would upset cement tile market.

Correct Answer: (2) White cement is a controlled product.

Solution: The passage clarifies that white cement is not a controlled product, and thus, option (2) is false. The price rise in white cement is not directly linked to production problems but is primarily due to high demand and the impact of the export market. Furthermore, the price hike would affect other industries such as cement paint and cement tiles.

Quick Tip

Understanding the status of a product (controlled vs. non-controlled) can help clarify its price behavior in the market.

3. What is the crisis being faced by the cement tile manufacturers as described in the passage?

- (1) White cement is priced very low.
- (2) White cement is not of good quality.
- (3) White cement usage is high.
- (4) White cement prices are very high.

Correct Answer: (4) White cement prices are very high.

Solution: The passage discusses the crisis faced by cement tile manufacturers due to the rising prices of white cement. This increase in cost has led to difficulties for manufacturers who rely on white cement for their products. The high prices are making it harder for them to maintain profitability and meet market demand.

Quick Tip

Price increases in key materials, like white cement, can significantly impact industries that depend on them for production.

4. Which of the following words has the same meaning as the word 'idle' as used in the passage?

- (1) Lazy
- (2) Clumsy
- (3) Large
- (4) Excess

Correct Answer: (4) Excess

Solution: In the context of the passage, 'idle' refers to something that is in excess, particularly the unused capacity or resources. It does not refer to laziness or clumsiness, which would be different interpretations in this context. Therefore, the word 'excess' aligns with the meaning intended in the passage.

Quick Tip

Context clues in a passage are crucial for understanding the meaning of certain words. Here, 'idle' refers to surplus or unused resources.

5. Which of the following is correct according to the passage?

- (1) White cement is not used in the manufacture of paint.
- (2) White cement forms a minor part of tile manufacturing.

- (3) White cement is very important for tile manufacturing.
- (4) White cement is used only for making paints.

Correct Answer: (3) White cement is very important for tile manufacturing.

Solution: According to the passage, white cement plays a crucial role in tile manufacturing, making it an essential material in the industry. It is used significantly in the production of cement tiles. The other options are incorrect as they either downplay its importance or misstate its use.

Quick Tip

Materials used in manufacturing cement tiles are critical to their quality and durability, making white cement an important component in the process.

6. Which of the following words has the same meaning as the word 'artificial' as used in the passage?

- (1) Unnatural
- (2) Prolonged
- (3) Deliberate
- (4) Practical

Correct Answer: (1) Unnatural

Solution: In the context of the passage, 'artificial' refers to something that is not natural, but created or synthesized. Therefore, the word 'unnatural' aligns with the intended meaning of 'artificial' in the passage.

Quick Tip

Understanding the context of words in a passage helps determine their most accurate meaning. 'Artificial' in this case refers to something that is man-made or not occurring naturally.

7. What is the author’s suggestion to bring down prices?

- (1) Government should control the white cement market.
- (2) Production capacity should be increased.
- (3) Usage of white cement in other areas should be reduced.
- (4) Competition among manufacturers of cement paints and tiles should be reduced.

Correct Answer: (1) Government should control the white cement market.

Solution: The author suggests that government should control the market of white cement is a way to reduce its prices. By increasing supply, the demand-supply imbalance would be addressed, which can help lower the prices in the market.

Quick Tip

Increasing production capacity is a common strategy to address price hikes caused by supply shortages.

8. Which of the following words has the opposite meaning as the word 'basic' as used in the passage?

- (1) Vital
- (2) Unimportant
- (3) Acidic
- (4) Last

Correct Answer: (2) Unimportant

Solution: In this context, 'basic' refers to something fundamental or essential. The opposite of 'basic' in this context is 'unimportant,' which means not fundamental or essential.

Quick Tip

Understanding antonyms in context helps clarify the meaning of a word and its opposite.

9. Which of the following is correct according to the passage?

- (1) Cement production capacity is more than usage.
- (2) Cement production capacity is less than usage.
- (3) Cement production capacity is equal to usage.
- (4) Cement production capacity is twice than usage.

Correct Answer: (1) Cement production capacity is more than usage.

Solution: According to the passage, the cement production capacity is less than the actual usage, which is why there are concerns about supply shortages. This imbalance between capacity and demand leads to price increases.

Quick Tip

An imbalance between supply (production capacity) and demand (usage) often results in price fluctuations in the market.

10. What can be presumed from the passage regarding foreign trade in cement?

- (1) The country is exporting cement at present.
- (2) The country is importing cement at present.
- (3) The country is exporting and importing cement at present.
- (4) The country is neither exporting nor importing cement at present.

Correct Answer: (4) The country is neither exporting nor importing cement at present.

Solution: The passage mentions that the rising prices of white cement are partly due to its export, which suggests that the country is currently exporting cement. This is a clear indicator of the country's involvement in the global cement trade.

Quick Tip

Trade dynamics, such as export and import activities, can significantly impact domestic markets and product prices.

PART - A
SECTION-II : LOGICAL AND ANALYTICAL REASONING

Directions (Q.Nos. 11 - 14) :

Study the following information carefully and answer the questions that follow.

There are six members M, N, O, P, Q and R in a family. There are two married couples in family ; N is the businessman and father of Q ; R is the grandfather of O ; and is a property dealer ; P is the grandmother of Q and is a housewife ; O is daughter of M ; There are one businessman, one property dealer, one lady lecturer and two students in the family.

11. Who is father-in-law of M?

- (1) P
- (2) R
- (3) N
- (4) O

Correct Answer: (2) R

Solution: From the given family details, R is the father of Q. As Q is the spouse of M, N is M's father-in-law.

Quick Tip

Father-in-law is the father of your spouse.

12. What is the profession of M?

- (1) Housewife
- (2) Student
- (3) Lecturer
- (4) Property dealer

Correct Answer: (3) Lecturer

Solution: M is the daughter of P (a housewife) and a family member who is not a businessman or property dealer. Given the professions of the others in the family, M's profession must be that of a lecturer.

Quick Tip

Given the constraints of the problem, identifying each family member's profession can help deduce the missing ones.

13. Who is the sister of Q?

- (1) O
- (2) P
- (3) M
- (4) N

Correct Answer: (1) O

Solution: O is the daughter of M, and since Q is the child of N and M, O must be Q's sister.

Quick Tip

Siblings share the same parents, so O, being M's daughter, is Q's sister.

14. Which of the following are two married couples?

- (1) MO and QR
- (2) MN and PR
- (3) PR and OQ
- (4) MN and QR

Correct Answer: (2) MN and PR

Solution: The two married couples are MN (M and N) and PR (P and R). These pairings satisfy the relationships described in the passage.

Quick Tip

The given relationships and professions help in identifying the correct pairings of married couples.

15. Find the missing number:

3 8 9

7 10 4 24 6 5 4

- (1) 46
- (2) 32
- (3) 20
- (4) 16

Correct Answer: (4) 16

Solution: Looking at the number pattern, it appears the sum of the first three numbers in each row is multiplied by a factor to produce the last number. For the second row, $7 + 10 + 4 = 21$, and multiplying by 24 gives $21 \times 24 = 504$. Similarly, we calculate for the missing number.

Quick Tip

Look for patterns in the number series to deduce the missing values.

Directions (Q.Nos. 16 - 19) :

In the following questions a series is being given select from the alternatives the correct term to fill in the missing term.

16. 7, 21, 43, ? , 111, 157, 211

- (1) 73
- (2) 71
- (3) 75

(4) 77

Correct Answer: (1) 73

Solution: The pattern is: $7 + 14 = 21$ $21 + 22 = 43$ $43 + 28 = 73$ $73 + 40 = 111$ Thus, the missing number is 73.

Quick Tip

The differences between consecutive terms seem to follow a pattern, increasing by 8 each time.

17. 6, 24, 60, 114, 186, ?

(1) 276

(2) 290

Correct Answer: (1) 276

Solution: The differences between terms are: $24 - 6 = 18$ $60 - 24 = 36$ $114 - 60 = 54$ $186 - 114 = 72$ Thus, the next difference should be 90 ($72 + 18$). Adding 90 to 186 gives 276.

Quick Tip

Look at the differences between terms to identify the pattern, and predict the next term.

18. 7, 13, 21, 31, 43, ?

(1) 53

(2) 55

Correct Answer: (1) 53

Solution: The differences between the terms are: $13 - 7 = 6$ $21 - 13 = 8$ $31 - 21 = 10$ $43 - 31 = 12$ The difference increases by 2 each time, so the next difference should be 14. Thus, $43 + 14 = 53$.

Quick Tip

The differences between the terms follow an arithmetic sequence with a common difference of 2.

19. 3, 15, 35, 63, ?

- (1) 69
- (2) 79
- (3) 272
- (4) 280

Correct Answer: (4) 280

Solution: The differences between the terms are: $15 - 3 = 12$ $35 - 15 = 20$ $63 - 35 = 28$ Thus, the next difference should be 36. Adding 36 to 63 gives 280.

Quick Tip

The differences between terms follow a sequence of increasing numbers by 8 each time.

20. If PUZZLE is coded as LEPUZZ, then MENTAL will be coded as:

- (1) ZZOPEM
- (2) ZENSOM
- (3) ALMENT
- (4) MOSNET

Correct Answer: (3) ALMENT

Solution: The pattern here is that the first and last letters are swapped. Thus, M becomes M, the last letter (L) comes to the beginning, and the middle part remains unchanged. Hence, MENTAL will be coded as ALMENT.

Quick Tip

Look for the swapping or shifting pattern in the letters to identify how the word is encoded.

21. If CONFRONTATION is coded as 5931793484693, then TORONTO will be coded as:

- (1) 4797347
- (2) 4393743
- (3) 4898348
- (4) 4979349

Correct Answer: (4) 4979349

Solution: Each letter in CONFRONTATION corresponds to a specific number. By following the same mapping for TORONTO, we find the code 4979349.

Quick Tip

Look for letter-to-number mapping patterns to decode the word.

22. Which pair is different in some way from the others in the following?

- (1) Town - Shandy
- (2) Village - Mall
- (3) City - Market
- (4) Arcade - Shop

Correct Answer: (2) Village - Mall

Solution: In all other pairs, the first word refers to a type of area or location, while the second word refers to a place or establishment. However, in "Village - Mall," the second word (Mall) is a specific establishment, which makes it different from the others.

Quick Tip

Identify the relationship between the two words in each pair to spot the one that is different.

Directions (Q.Nos. 23 to 26) :

Read the paragraph and answer the questions that follow.

Geeta, Sita, Promila, Bhavana and Nafisa are five friends. Each one of has six balls : Gita gives 3 balls to Nafisa who gives 4 balls to Promila. Bhavana gives 2 balls to Sita who gives 3 balls to Geeta. Promila gives 4 balls to Bhavana who gives 2 balls each to Nafisa and Geeta.

23. How many balls does Nafisa have?

- (1) 4
- (2) 5
- (3) 6
- (4) 7

Correct Answer: (4) 7

Solution: Initially, Nafisa has 6 balls. - Geeta gives 3 balls to Nafisa, so Nafisa now has $6 + 3 = 9$ balls. - Nafisa gives 4 balls to Promila, so Nafisa now has $9 - 4 = 5$ balls. - Bhavana gives 2 balls to Nafisa, so Nafisa now has $5 + 2 = 7$ balls. - Finally, Nafisa has 7 balls.

Quick Tip

Follow the transactions step by step to track how many balls each person has.

24. How many balls does Sita have?

- (1) 4
- (2) 5
- (3) 6
- (4) 7

Correct Answer: (2) 5

Solution: Initially, Sita has 6 balls. - Bhavana gives 2 balls to Sita, so Sita now has $6 + 2 = 8$ balls. - Sita gives 3 balls to Geeta, so Sita now has $8 - 3 = 5$ balls.

Thus, Sita has 5 balls.

Quick Tip

Track the transactions involving each person and update the count accordingly.

25. Who has the minimum number of balls?

- (1) Bhavana
- (2) Nafisa
- (3) Sita
- (4) Promila

Correct Answer: (1) Bhavana

Solution: After all the transactions, the final number of balls for each person is: - Geeta has $6 - 3 + 3 = 6$ balls. - Sita has $6 + 2 - 3 = 5$ balls. - Promila has $6 + 4 - 4 = 6$ balls. - Bhavana has $6 - 2 + 4 - 2 - 2 = 4$ balls. - Nafisa has $6 + 3 - 4 + 2 = 7$ balls.

Thus, Bhavana has the minimum number of balls (4).

Quick Tip

Carefully track all transactions to determine who ends up with the least or most items.

26. Who has the maximum number of balls?

- (1) Promila
- (2) Nafisa
- (3) Sita
- (4) Geeta

Correct Answer: (4) Geeta

Solution: After all the transactions, the final number of balls for each person is: - Geeta has $6 - 3 + 3 = 6$ balls. - Sita has $6 + 2 - 3 = 5$ balls. - Promila has $6 + 4 - 4 = 6$ balls. - Bhavana has $6 - 2 + 4 - 2 - 2 = 4$ balls. - Nafisa has $6 + 3 - 4 + 2 = 7$ balls.
Thus, Geeta has the maximum number of balls (7).

Quick Tip

After all the exchanges, compare the final numbers to find the person with the most or least items.

Directions (Q.Nos. 27 - 30) :

Read the paragraph and answer the questions that follow.

A and B play Cricket and Hockey, B and D play Tennis, A and C play Volley-Ball and Tennis, C and D and E play Football.

27. Who plays Cricket, Hockey, and Volley-ball?

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

Correct Answer: (4) D

Solution: According to the given information: - A and B play Cricket and Hockey. - A and C play Volley-Ball and Tennis.

Thus, D is the only person who plays Cricket, Hockey, and Volley-ball.

Quick Tip

Carefully analyze the sports that each person plays and find the person who matches all the required criteria.

28. Who plays only Football?

- (1) A

- (2) B
- (3) D
- (4) E

Correct Answer: (4) E

Solution: According to the information: - C and D and E play Football. - However, only E is mentioned as playing only Football, while others play additional sports.

Thus, E plays only Football.

Quick Tip

Look for the person who only plays the sport without engaging in any other activities.

29. Who plays Tennis and Football?

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

Correct Answer: (4) D

Solution: According to the information: - A and C play Volley-Ball and Tennis. - C, D, and E play Football.

Thus, D is the person who plays both Tennis and Football.

Quick Tip

Identify the individuals who play the combination of sports as specified in the question.

30. Who plays Volley-ball and Football?

- (1) A
- (2) B

(3) C

(4) D

Correct Answer: (3) C

Solution: According to the information: - A and C play Volley-Ball and Tennis. - C, D, and E play Football.

Thus, C is the person who plays both Volley-ball and Football.

Quick Tip

Look for the person who plays both sports in the given combination, based on the information provided.

PART - A

SECTION - III : EDUCATIONAL AND GENERAL AWARENESS

31. World Population Day is celebrated on:

(1) 19 July

(2) 11 July

(3) 15 July

(4) 17 July

Correct Answer: (2) 11 July

Solution: World Population Day is celebrated on 11th July every year to raise awareness about global population issues.

Quick Tip

World Population Day was established by the United Nations in 1989 to focus on the importance of population issues.

32. Gandhiji made a dramatic bid for temple entry rights for untouchables in the year:

- (1) 1940
- (2) 1935
- (3) 1930
- (4) 1920

Correct Answer: (1) 1940

Solution: In 1940, Mahatma Gandhi made a significant effort to allow untouchables, referred to as Harijans, to enter temples and participate in religious activities. This movement was part of his larger social reform efforts.

Quick Tip

Gandhi's efforts to improve the lives of untouchables were a significant part of his struggle for social justice.

33. National Repository of Open Educational Resources (NROER) is being managed by:

- (1) IGNOU
- (2) NCERT
- (3) UGC
- (4) NUEPA

Correct Answer: (2) NCERT

Solution: The National Repository of Open Educational Resources (NROER) is managed by the National Council of Educational Research and Training (NCERT) to provide free educational resources to students and teachers.

Quick Tip

NROER provides an online platform to access educational resources such as videos, articles, and other materials.

34. Who was the Editor of the Revolutionary Paper 'Bande Matram'?

- (1) Shyamji Krishan Verma
- (2) Bhikaji Cama
- (3) V. D. Sarvarkar
- (4) G. D. Sarvarkar

Correct Answer: (2) Bhikaji Cama

Solution: Bhikaji Cama , a prominent freedom fighter, was the editor of the revolutionary paper *Bande Matram*, which played an important role in India's struggle for independence.

Quick Tip

Bande Matram was a key part of the nationalist movement, and Savarkar was a significant figure in the struggle for Indian independence.

35. How many nations had signed the charter of the United Nations on 26th June 1945?

- (1) 64
- (2) 61
- (3) 52
- (4) 51

Correct Answer: (4) 51

Solution: The United Nations Charter was signed on 26th June 1945 by 50 nations, and by 1947, 1 more country joined, making the total 51.

Quick Tip

The UN Charter was a significant milestone in post-World War II international cooperation.

36. Who among the following has termed Indian Federalism as "Co-Operative Federalism"?

- (1) K.C. Wheare
- (2) Morris Jones
- (3) Granville Austin
- (4) Jennings

Correct Answer: (3) Granville Austin

Solution: Granville Austin, a prominent political scientist, described Indian federalism as "Co-operative Federalism," emphasizing the need for cooperation between the central and state governments.

Quick Tip

Co-operative Federalism highlights the need for collaboration among various levels of government for effective governance.

37. By which year, the Union Cabinet on June 17, 2015 has proposed to provide 'Housing for All'?

- (1) 2030
- (2) 2025
- (3) 2022
- (4) 2018

Correct Answer: (3) 2022

Solution: The Union Cabinet proposed the goal of providing 'Housing for All' by 2022, which was part of the Pradhan Mantri Awas Yojana (PMAY).

Quick Tip

PMAY aims to ensure affordable housing for everyone, with a focus on urban and rural areas.

38. Which country topped the Global Innovation Index (GIL) 2015 that was released on 17th September 2015?

- (1) Switzerland
- (2) United Kingdom
- (3) Sweden
- (4) The Netherlands

Correct Answer: (1) Switzerland

Solution: Switzerland topped the Global Innovation Index (GIL) in 2015 due to its strong performance in various innovation metrics.

Quick Tip

Switzerland is consistently ranked high for innovation due to its excellent research and development, infrastructure, and institutions.

39. The United Nations Children’s Fund (UNICEF) is headquartered in:

- (1) Paris (France)
- (2) Vienna (Austria)
- (3) New York City (USA)
- (4) Brussels (Belgium)

Correct Answer: (3) New York City (USA)

Solution: UNICEF, the United Nations Children’s Fund, is headquartered in New York City, USA. It works for the rights and welfare of children worldwide.

Quick Tip

UNICEF is a global leader in promoting the welfare of children and providing humanitarian aid.

40. Which city is hosting the 2016 Olympic Games?

- (1) Seoul
- (2) Barcelona
- (3) Rio-De-Janeiro
- (4) Los Angeles

Correct Answer: (3) Rio-De-Janeiro

Solution: The 2016 Summer Olympics were hosted in Rio de Janeiro, Brazil. It was the first time the Olympic Games were held in South America.

Quick Tip

The Olympics are hosted by different cities every four years, with each country bidding to be selected as the host.

41. The main objective of 'Sakshar Bharat' is:

- (1) to promote 'education for all'
- (2) to promote adult education
- (3) to promote vocational education
- (4) to promote education for women

Correct Answer: (4) to promote education for women

Solution: The main objective of the 'Sakshar Bharat' program is to promote adult education, focusing on enhancing literacy levels among adults, especially in rural and remote areas.

Quick Tip

Sakshar Bharat is an initiative by the Government of India to increase adult literacy rates, particularly for women and marginalized communities.

42. Under which article of the Constitution the President of India has been empowered to promulgate ordinance?

- (1) Article 356
- (2) Article 360
- (3) Article 200
- (4) Article 123

Correct Answer: (4) Article 123

Solution: Article 123 of the Indian Constitution empowers the President of India to promulgate ordinances when the Parliament is not in session, allowing for the immediate enactment of laws.

Quick Tip

Ordinances issued by the President have the same effect as laws passed by Parliament but must be approved within six weeks of the Parliament's reassembly.

43. Right to Education Act, 2009 is mainly concerned with:

- (1) Higher Education
- (2) Elementary Education
- (3) Secondary Education
- (4) Higher Secondary Education

Correct Answer: (2) Elementary Education

Solution: The Right to Education (RTE) Act, 2009, focuses primarily on providing free and compulsory education for children aged 6 to 14 years, making it specifically concerned with elementary education.

Quick Tip

The RTE Act aims to ensure that every child has access to education at the elementary level.

44. Who is the author of the book 'Fundamental Unity of India'?

- (1) Radhakumud Mukherji
- (2) Jawaharlal Nehru
- (3) Rajani Kothari
- (4) Max Weber

Correct Answer: (1) Radhakumud Mukherji

Solution: The book 'Fundamental Unity of India' was written by Radhakumud Mukherji, focusing on the cultural and social unity of India.

Quick Tip

This book explores the idea of India's unity despite its vast diversity in terms of culture, language, and geography.

45. In which year the State Reorganisation Commission gave its report on the basis of language?

- (1) 1953
- (2) 1954
- (3) 1955
- (4) 1956

Correct Answer: (3) 1955

Solution: The State Reorganisation Commission (SRC) presented its report in 1955, recommending the reorganization of Indian states on the basis of language.

Quick Tip

The SRC's recommendations led to the creation of states like Andhra Pradesh in 1956 based on linguistic lines.

46. According to the United Nations Report released in July 2015, which of the following countries will become the world's most populous country by 2022?

- (1) India
- (2) China
- (3) Pakistan
- (4) Bangladesh

Correct Answer: (1) India

Solution: According to the United Nations Report, India is expected to surpass China and become the world's most populous country by 2022.

Quick Tip

India's population growth is projected to surpass China's due to higher birth rates and demographic trends.

47. During September 2015, which of the following countries has published the first report written by a 'robot journalist'?

- (1) Japan
- (2) China
- (3) Germany
- (4) Switzerland

Correct Answer: (2) China

Solution: In September 2015, Germany became the first country to publish a report written by a robot journalist, showcasing the use of artificial intelligence in journalism.

Quick Tip

The rise of AI in media and journalism shows the potential of technology to automate content creation.

48. Where did Madam Cama hoist the first tricolour flag in 1907?

- (1) London

- (2) Paris
- (3) Moscow
- (4) Stuttgart

Correct Answer: (4) Stuttgart

Solution: In 1907, Madam Cama hoisted the first tricolour flag of India at the International Socialist Congress in Stuttgart, Germany. This was a significant moment in India's freedom struggle.

Quick Tip

Madam Cama's act was a symbolic gesture of India's independence movement and its growing international presence.

49. Which committee/commission gave its specific recommendations to improve the conditions of Teacher Education in India?

- (1) Hansa Mehta Committee
- (2) Radha Krishnan Commission
- (3) Justice Verma Commission
- (4) National Knowledge Commission

Correct Answer: (3) Justice Verma Commission

Solution: Justice Verma Commission, also known as the University Education Commission (1948-49), made significant recommendations for the improvement of teacher education in India. This was one of the key initiatives aimed at enhancing the quality of education in the country.

Quick Tip

The Radha Krishnan Commission played a major role in shaping India's educational system, especially at the university level.

50. "IEDSS" stands for:

- (1) International Education for Disadvantaged at Social Stage
- (2) Integrated Education for Disabled at Secondary Stage
- (3) Inclusive Education for Disadvantaged at Secondary Stage
- (4) Inclusive Education for Disabled at Secondary Stage

Correct Answer: (4) Inclusive Education for Disabled at Secondary Stage

Solution: IEDSS stands for Inclusive Education for Disabled at Secondary Stage. It is an initiative to provide education to children with disabilities at the secondary school level.

Quick Tip

The IEDSS program aims to promote inclusivity in education and ensure equal opportunities for disabled students at the secondary level.

51. Who among the following shall preside over the joint sitting of the two houses of Parliament?

- (1) President
- (2) Prime Minister
- (3) Chairman of Rajya Sabha
- (4) Speaker of Lok Sabha

Correct Answer: (4) Speaker of Lok Sabha

Solution: According to Article 108 of the Indian Constitution, the Speaker of the Lok Sabha presides over the joint sitting of the two houses of Parliament (Lok Sabha and Rajya Sabha) in case of a deadlock.

Quick Tip

The Speaker of the Lok Sabha plays a crucial role in maintaining order and conducting proceedings in the Parliament, including joint sittings.

52. Which article of the Constitution defines the duties of Chief Minister?

- (1) 162
- (2) 164
- (3) 165
- (4) 167

Correct Answer: (4) 167

Solution: Article 167 of the Indian Constitution outlines the duties of the Chief Minister. It specifically deals with the responsibilities of the Chief Minister in relation to the Governor.

Quick Tip

Article 167 emphasizes the Chief Minister's role in assisting the Governor in ensuring that the governance is carried out according to the Constitution.

53. Light from the Sun reaches Earth in:

- (1) 8 minutes
- (2) 2 minutes
- (3) 6 minutes
- (4) 4 minutes

Correct Answer: (1) 8 minutes

Solution: Light from the Sun takes approximately 8 minutes to travel to Earth. This is because the Sun is about 93 million miles away from Earth, and light travels at a speed of 299,792 kilometers per second.

Quick Tip

The time it takes for light to travel from the Sun to Earth is an important aspect of understanding the Earth's relationship with the Sun.

54. Which one of the following was the last step in the Gandhian strategy of Satyagraha?

- (1) Boycott
- (2) Picketing
- (3) Fast
- (4) Strike

Correct Answer: (3) Fast

Solution: The last step in Gandhian Satyagraha was often fasting as a form of peaceful protest, especially when other methods like boycott, picketing, or strikes were not achieving the desired results.

Quick Tip

Gandhi believed in non-violent resistance, and fasting was used as a tool to invoke moral pressure.

55. Finances are distributed between the centre and the state on the recommendation of:

- (1) Planning Commission
- (2) Public Accounts Committee
- (3) Finance Commission
- (4) National Development Council

Correct Answer: (3) Finance Commission

Solution: The Finance Commission is responsible for recommending the distribution of finances between the Centre and the states in India, as per the provisions of the Indian Constitution.

Quick Tip

The Finance Commission is appointed every five years and plays a vital role in ensuring fiscal federalism in India.

PART - A

SECTION-IV : TEACHING-LEARNING AND THE SCHOOL

56. Determining the aim of education is the responsibility of:

- (1) Parents
- (2) Teachers
- (3) Students
- (4) Society

Correct Answer: (4) Society

Solution: The aim of education is determined by society as a whole, as it reflects the values, norms, and goals that a society believes are important for its future generations.

Quick Tip

Education aims to serve the needs of society, and society shapes its direction to meet its cultural, social, and economic needs.

57. The schools through its programmes help students to:

- (1) Assimilate culture
- (2) Protest culture
- (3) Ignore other cultures
- (4) Make them cultured

Correct Answer: (1) Assimilate culture

Solution: Schools help students to assimilate culture by teaching them the values, practices,

traditions, and customs of their society, enabling them to integrate into the cultural fabric of their community.

Quick Tip

Education plays a key role in preserving and transmitting culture from one generation to the next.

58. To make all students interested in homework, it should be:

- (1) Of equal level
- (2) According to the ability of student
- (3) Only from the book
- (4) Out of the book

Correct Answer: (2) According to the ability of student

Solution: Homework should be designed to suit the ability and understanding level of each student. When tasks are tailored to individual capabilities, students are more likely to engage with and enjoy their homework.

Quick Tip

Differentiated homework helps meet diverse learning needs and keeps students motivated.

59. Navodaya schools have been established to:

- (1) Increase the number of schools in rural areas
- (2) Provide good education in rural areas
- (3) Complete "Sarva Shiksha Abhiyan"
- (4) Check wastage of education in rural areas

Correct Answer: (2) Provide good education in rural areas

Solution: Navodaya Vidyalayas were established with the aim of providing quality education to talented children from rural areas, offering them an opportunity for a better future.

Quick Tip

Navodaya schools aim to bring education of the highest standard to rural and under-served communities across India.

60. The most important quality of an effective teacher is:

- (1) Deep knowledge about the subject taught
- (2) A strict disciplinarian
- (3) Good rapport with the students
- (4) A good motivator

Correct Answer: (3) Good rapport with the students

Solution: While knowledge and motivation are essential, the most important quality of an effective teacher is the ability to build a positive relationship with students, which fosters trust, respect, and a productive learning environment.

Quick Tip

A teacher who connects well with students can inspire and engage them more effectively in the learning process.

61. The idea of basic education was propounded by:

- (1) Dr. Zakir Hussain
- (2) Dr. Rajendra Prasad
- (3) Mahatma Gandhi
- (4) Rabindra Nath Tagore

Correct Answer: (3) Mahatma Gandhi

Solution: Mahatma Gandhi propounded the concept of basic education, which emphasizes learning through hands-on experience and practical work, particularly for rural children.

Quick Tip

Gandhi's idea of basic education was aimed at holistic development and self-reliance for all children, especially in rural areas.

62. Individual attention is important in the Teaching-learning process because:

- (1) Learners always learn better in a group
- (2) Teacher training programmes prescribed it
- (3) It offers better opportunities to teachers to discipline each learner
- (4) Children develop at different rates and learn differently

Correct Answer: (4) Children develop at different rates and learn differently

Solution: Each child learns at their own pace and in their unique way. Providing individual attention ensures that teachers can cater to diverse learning needs and help students at their own level of understanding.

Quick Tip

Individualized attention allows for differentiated instruction, making learning more effective for each student.

63. If a child writes with his/her left hand and is comfortable doing things with it, she/he should be:

- (1) Discouraged
- (2) Made to write with left hand
- (3) Allowed his preference
- (4) Sent to seek medical help

Correct Answer: (3) Allowed his preference

Solution: If a child is comfortable using their left hand, they should be allowed to do so. Forcing a child to use their right hand when they prefer their left can cause unnecessary stress and hinder their natural development.

Quick Tip

Left-handedness is perfectly natural and should be supported rather than discouraged.

64. Which of the following statements is true about "Learning"?

- (1) Errors made by children indicate that no learning has taken place
- (2) Learning is effective in an environment that is emotionally positive and satisfying for learners
- (3) Learning is not affected by emotional factors at any stage of learning
- (4) Learning is fundamentally a mental activity

Correct Answer: (2) Learning is effective in an environment that is emotionally positive and satisfying for learners

Solution: Learning is significantly impacted by emotional factors. A positive, emotionally supportive environment makes it easier for students to engage, retain information, and feel motivated to learn.

Quick Tip

Emotions play a crucial role in learning. A comfortable, encouraging environment can greatly enhance the learning process.

65. It is an advantage of giving homework that students:

- (1) Remain busy at home
- (2) Study at home
- (3) May be checked for their progress
- (4) May develop the habit of self-study

Correct Answer: (4) May develop the habit of self-study

Solution: One of the main advantages of assigning homework is that it encourages students to take responsibility for their own learning and fosters the habit of self-study, which is essential for academic growth.

Quick Tip

Homework helps develop independent learning skills and reinforces concepts learned in class.

66. A field trip is arranged for:

- (1) Making an excursion
- (2) See other people doing things
- (3) Note the meaning of action
- (4) All of the above

Correct Answer: (4) All of the above

Solution: Field trips provide opportunities for experiential learning where students can engage in making excursions, observing others' activities, and understanding the significance of actions and events outside the classroom.

Quick Tip

Field trips are valuable for enhancing practical learning and connecting students to real-world experiences.

67. Students are passive in:

- (1) Project method
- (2) Discovery method
- (3) Lecture method
- (4) Inquiry method

Correct Answer: (3) Lecture method

Solution: In the lecture method, students are typically passive listeners as the teacher conveys information, and students primarily absorb it. This is in contrast to methods like project, discovery, and inquiry, which require more active participation.

Quick Tip

The lecture method is more teacher-centered, whereas other methods like project or inquiry-based learning are more student-centered.

68. Demonstration effect means:

- (1) Effect of advertisement
- (2) Imitating effect of consumption
- (3) Effect of entertainment
- (4) Effect of an experiment

Correct Answer: (2) Imitating effect of consumption

Solution: The demonstration effect refers to the tendency of individuals to imitate others' consumption behaviors after seeing those behaviors demonstrated, often due to advertising or social influences.

Quick Tip

The demonstration effect can lead to changes in consumer behavior, as people often copy what others are doing.

69. Dyslexia is a:

- (1) Physical disability in which the ability to write is affected by dysfunctional fingers
- (2) Form of reading disability linked with weak vision
- (3) Learning difficulty to read fluently and with accurate comprehension despite average intelligence

(4) Language based learning difficulty associated with impaired hearing

Correct Answer: (3) Learning difficulty to read fluently and with accurate comprehension despite average intelligence

Solution: Dyslexia is a learning disorder that involves difficulty in reading, decoding words, and understanding text despite having normal intelligence. It is not linked to vision or hearing problems but rather to cognitive processing challenges related to language.

Quick Tip

Dyslexia can be managed with appropriate interventions, allowing individuals to succeed academically and beyond.

70. If you find a student wearing some odd dress in your class, you will:

- (1) Ask the student not to attend the class
- (2) Make a joke on him
- (3) Counsel him not to wear such clothes in a class
- (4) Not pay any attention

Correct Answer: (3) Counsel him not to wear such clothes in a class

Solution: It is important to maintain decorum and respect in the classroom. If a student's attire is inappropriate, it's best to counsel them gently and privately about the importance of dressing appropriately for class.

Quick Tip

Handling such issues with sensitivity and respect helps maintain a positive classroom environment.

71. Some students are backward in studies. What will be your attitude towards them?

- (1) Harsh
- (2) Sympathetic

- (3) Liberal
- (4) Lovable

Correct Answer: (2) Sympathetic

Solution: It is important to show understanding and empathy towards students who are struggling. A sympathetic approach helps in providing them with the support they need to improve and succeed academically.

Quick Tip

Sympathy, coupled with support, encouragement, and guidance, can help struggling students overcome their challenges.

72. Play therapy is adopted in the study of children in order to:

- (1) Make the educational process joyful
- (2) To understand the inner motives and complexes of children
- (3) Make education more activity centered
- (4) Highlight the importance of play activities in education

Correct Answer: (2) To understand the inner motives and complexes of children

Solution: Play therapy is used to help children express their feelings, emotions, and experiences in a safe and non-threatening environment. It helps understand their inner world, providing insights into their psychological state.

Quick Tip

Play therapy helps in identifying emotional challenges and supports children in dealing with issues through expression.

73. The best remedy for a student's problems related to learning is:

- (1) Suggestion for hard work

- (2) Supervised study in library
- (3) Suggestion for private tuition
- (4) Diagnostic teaching

Correct Answer: (4) Diagnostic teaching

Solution: Diagnostic teaching is the most effective approach as it involves identifying the specific learning challenges and addressing them through targeted interventions and personalized teaching methods.

Quick Tip

Diagnostic teaching helps tailor the learning process to meet the individual needs of students, promoting better understanding and improvement.

74. In a democratic country like India, schools should concentrate on:

- (1) Development of traits to face the hurdles of daily life
- (2) Development of traits of good citizenship
- (3) Preparation for academic excellence
- (4) Inculcation of values cherished by the country

Correct Answer: (2) Development of traits of good citizenship

Solution: In a democratic society, it is essential that schools focus on developing good citizens who understand their rights and responsibilities, contribute to society, and actively participate in democratic processes.

Quick Tip

Education should focus on nurturing responsible and informed citizens who can contribute positively to society.

75. It can safely be assumed that a student understands a principle when He/She can:

- (1) Give more examples of it
- (2) Use it in solving problems to which it applies
- (3) Recognize it again when He/She encounters it again
- (4) Recall the principles as and when asked

Correct Answer: (2) Use it in solving problems to which it applies

Solution: A student's understanding of a principle is best demonstrated when they can apply it in real-world situations or solve problems using the principle. This shows deeper comprehension beyond mere recall.

Quick Tip

Application of knowledge is the true test of understanding. Encouraging students to use principles in problem-solving helps consolidate their learning.

76. Despite your requests as an in-charge of the timetable in the school, a teacher always comes late. In this situation, you will:

- (1) Insult him in the presence of other teachers
- (2) Advise him to come on time
- (3) Report to the principal
- (4) Remain indifferent to it

Correct Answer: (3) Report to the principal

Solution: As an in-charge, it is important to address the issue with professionalism and offer a friendly reminder or guidance to the teacher. Direct confrontation in front of others can create unnecessary tension.

Quick Tip

Open communication and a calm approach to solving problems with colleagues help maintain a positive working environment.

77. Every learner is unique means that:

- (1) No two learners are alike in their abilities, interests, and talents
- (2) Learners do not have any common qualities, nor do they share common goals
- (3) A common curriculum for all learners is not possible
- (4) It is impossible to develop the potentials of learners in a heterogeneous class

Correct Answer: (1) No two learners are alike in their abilities, interests, and talents

Solution: The statement highlights the individual differences in students. Each learner has distinct abilities, interests, and learning styles, which should be acknowledged and accommodated in the educational process.

Quick Tip

Recognizing and catering to individual differences helps in creating an inclusive and effective learning environment for all students.

78. The in-service teacher training can be made more effective by:

- (1) Using training packages which are well prepared in advance
- (2) Making it a residential program
- (3) Using a co-operative approach
- (4) Practicing training follow-up procedures

Correct Answer: (4) Practicing training follow-up procedures

Solution: Follow-up procedures after training help ensure that the concepts learned are effectively implemented in the classroom. Continuous support and feedback make the training process more impactful.

Quick Tip

Follow-up is key in ensuring the long-term effectiveness of teacher training programs.

79. In NCTE - the B.Ed curriculum framework - 2014, which of the following is emphasized in education?

- (1) IT (Information Technology)
- (2) ICT (Information and Communication Technology)
- (3) ET (Educational Technology)
- (4) CT (Communication Technology)

Correct Answer: (2) ICT (Information and Communication Technology)

Solution: The NCTE B.Ed Curriculum Framework 2014 emphasizes the integration of Information and Communication Technology (ICT) in teacher education to enhance teaching methods and learning outcomes.

Quick Tip

ICT is becoming an essential part of modern education, helping teachers and students access a wider range of resources and interactive learning methods.

80. How many senses does a person use while watching a film?

- (1) 1
- (2) 2
- (3) 3
- (4) 4

Correct Answer: (3) 3

Solution: While watching a film, a person primarily uses their sense of sight and hearing. Additionally, the emotional impact and cognitive processing of the film engage the brain, making it a multi-sensory experience.

Quick Tip

Films engage multiple senses, primarily sight and hearing, to create an immersive experience for the viewer.

PART - B
SECTION-V (i) : SCIENCE

81. According to laws of refraction (i = Angle of incidence, r = Angle of refraction):

- (1) $\frac{-i}{r} = \text{constant}$
- (2) $\frac{\sin i}{\sin r} = \text{constant}$
- (3) $\sin i = \sin r$
- (4) i and r are not related

Correct Answer: (2) $\frac{\sin i}{\sin r} = \text{constant}$

Solution: This is Snell's Law of refraction, which states that the ratio of the sine of the angle of incidence to the sine of the angle of refraction is constant for a given pair of media.

Quick Tip

Snell's law helps describe how light bends as it passes through different media, such as from air to water.

82. For photosynthesis, the green plant needs:

- (1) CO₂
- (2) Light
- (3) Chlorophyll
- (4) All of these

Correct Answer: (4) All of these

Solution: Photosynthesis in plants requires carbon dioxide (CO₂), light, and chlorophyll. These components help plants convert light energy into chemical energy stored in glucose.

Quick Tip

Without any of these essential factors, the process of photosynthesis cannot take place efficiently.

83. In aquatic plant Hydrilla, stomata are:

- (1) Present on leaves
- (2) Present on stem
- (3) Present on roots
- (4) Absent

Correct Answer: (4) Absent

Solution: In aquatic plants like Hydrilla, stomata are absent because they do not need to exchange gases through the surface of leaves or stems as they are submerged in water. Gas exchange happens through other parts of the plant.

Quick Tip

Hydrilla and other aquatic plants have adapted to their environment, so they do not have stomata as terrestrial plants do.

84. Convex mirror can form:

- (1) Only real image
- (2) Only virtual image
- (3) Both real as well as virtual images
- (4) Only magnified images

Correct Answer: (2) Only virtual image

Solution: A convex mirror always forms a virtual, erect, and diminished image regardless of the position of the object. The image is formed behind the mirror.

Quick Tip

Convex mirrors are used for wide-angle views, like in rear-view mirrors, because they form smaller, virtual images of distant objects.

85. The unit of Pressure is:

- (1) Newton
- (2) Newton per sq.m
- (3) Per sq.m
- (4) Joule

Correct Answer: (2) Newton per sq.m

Solution: Pressure is defined as force per unit area. The SI unit of force is the Newton (N), and the unit of area is square meters (m^2). Therefore, the unit of pressure is Newton per square meter (N/m^2), also called Pascal (Pa).

Quick Tip

1 Pascal (Pa) is equivalent to 1 Newton per square meter (N/m^2).

86. Polio is:

- (1) Food borne disease
- (2) Water borne disease
- (3) Air borne disease
- (4) None of the above

Correct Answer: (2) Water borne disease

Solution: Polio is caused by a virus that is usually transmitted through contaminated water or food. It can lead to paralysis, especially in children.

Quick Tip

Polio prevention includes vaccination and proper sanitation, particularly in areas with contaminated water.

87. Two wires A and B are made of the same metal and are of equal lengths, but their diameters are in the ratio 1 : 2. Their resistances R_A and R_B have the ratio:

- (1) 1 : 4
- (2) 1 : 2
- (3) 2 : 1
- (4) 4 : 1

Correct Answer: (4) 4 : 1

Solution: Resistance is inversely proportional to the square of the radius of the wire. Since the diameters are in the ratio 1:2, the radii are in the ratio 1:2, and the resistance ratio will be $1 : 2^2 = 4 : 1$.

Quick Tip

Resistance increases as the diameter of the wire decreases, following the formula $R \propto \frac{1}{r^2}$.

88. According to Einstein, the Energy (E), Mass (M), and Velocity of light (C) are related by the equation:

- (1) $E = M \times C$
- (2) $E = MC^2$
- (3) $E = M + C^2$
- (4) $E + M = C$

Correct Answer: (2) $E = MC^2$

Solution: Einstein's famous equation $E = MC^2$ shows the relationship between energy, mass, and the speed of light. It states that energy is equal to mass times the square of the speed of light.

Quick Tip

This equation highlights the incredible energy potential that even a small amount of mass can contain due to the very large value of C^2 .

89. Plant cell can do:

- (1) Breathing and Respiration
- (2) Respiration and Photosynthesis
- (3) Breathing and Photosynthesis
- (4) All of these

Correct Answer: (2) Respiration and Photosynthesis

Solution: Plant cells carry out both respiration and photosynthesis. They use oxygen for respiration and convert carbon dioxide into oxygen during photosynthesis, thus they "breathe" and also carry out photosynthesis to make their food.

Quick Tip

In the day, plants perform both photosynthesis and respiration, but at night they only carry out respiration.

90. The wavelength of X-rays is smaller than that of visible light and:

- (1) Its speed is more than that of visible light
- (2) Its frequency is more than that of visible light
- (3) Its speed is less than that of visible light
- (4) Its frequency is less than that of visible light

Correct Answer: (2) Its frequency is more than that of visible light

Solution: X-rays have a smaller wavelength than visible light, and according to the wave equation $v = f\lambda$, where v is the speed, f is the frequency, and λ is the wavelength, a shorter wavelength results in a higher frequency.

Quick Tip

X-rays have higher frequencies than visible light, allowing them to penetrate materials more easily.

91. The two colours seen at the extreme ends of the pH chart are:

- (1) Red and Blue
- (2) Red and Green
- (3) Green and Blue
- (4) Yellow and Green

Correct Answer: (1) Red and Blue

Solution: The pH chart typically uses red to represent strong acids and blue to represent strong bases, with the colors changing through the spectrum in between.

Quick Tip

Acidic solutions have a red color on the pH scale, and basic solutions are represented in blue or purple.

92. HIV is:

- (1) Disease
- (2) Vaccine
- (3) Virus
- (4) Injection

Correct Answer: (3) Virus

Solution: HIV (Human Immunodeficiency Virus) is a virus that attacks the immune system, specifically the CD4 cells (T cells), leading to the condition known as AIDS (Acquired Immunodeficiency Syndrome).

Quick Tip

HIV is spread through certain bodily fluids, and it weakens the immune system, making individuals vulnerable to infections.

93. A body is weighed in several liquids of relative densities 1.1, 1.2, 1.3, and 1.4. Its weight will be the least in the liquid of relative density:

- (1) 1.1
- (2) 1.2
- (3) 1.3
- (4) 1.4

Correct Answer: (1) 1.1

Solution: The buoyant force, and hence the apparent weight of the object, increases with the relative density of the liquid. Therefore, the object will weigh the least in the liquid with the lowest relative density (1.1).

Quick Tip

The greater the density of the liquid, the higher the buoyant force, which reduces the apparent weight of the object.

94. A concave lens produces:

- (1) Virtual image
- (2) Diminished image
- (3) Erect image
- (4) All of these

Correct Answer: (4) All of these

Solution: A concave lens always produces a virtual, erect, and diminished image, regardless of the object's distance from the lens.

Quick Tip

Concave lenses are commonly used in corrective eyewear for nearsightedness.

95. When two wires of resistances 2 Ohms and 1 Ohm respectively are joined in parallel, their equivalent resistance is:

- (1) 1 Ohm
- (2) 1 Ohm
- (3) 2 Ohm
- (4) 2 Ohm

Correct Answer: (1) 1 Ohm

Solution: For parallel resistances, the reciprocal of the equivalent resistance R_{eq} is the sum of the reciprocals of the individual resistances:

$$\frac{1}{R_{eq}} = \frac{1}{R_1} + \frac{1}{R_2} = \frac{1}{2} + \frac{1}{1} = \frac{3}{2}$$

Thus, $R_{eq} = \frac{2}{3}$ Ohms.

Quick Tip

The equivalent resistance in a parallel circuit is always less than the smallest individual resistance.

96. If red litmus is added to acetic acid solution:

- (1) It changes to green
- (2) It becomes blue
- (3) It remains red
- (4) It becomes colourless

Correct Answer: (3) It remains red

Solution: Acetic acid is an acid, and red litmus paper turns red in acidic solutions. Therefore, it remains red when added to acetic acid.

Quick Tip

Acidic solutions keep red litmus paper red, while alkaline solutions turn it blue.

97. Ultimate main source of energy on the earth is:

- (1) Coal
- (2) Fossil oil
- (3) Sun
- (4) Air

Correct Answer: (3) Sun

Solution: The Sun is the ultimate source of energy on Earth. It provides energy through sunlight, which is the basis for all life processes, including photosynthesis in plants.

Quick Tip

Solar energy is the primary driver of weather, climate, and life on Earth.

98. The commercial unit of electric energy is:

- (1) Horse Power
- (2) Kilo Watt Hour
- (3) Joule
- (4) Watt hour

Correct Answer: (2) Kilo Watt Hour

Solution: The commercial unit of electric energy is the kilowatt-hour (kWh), which is used to measure the energy consumption of electrical devices over time.

Quick Tip

1 kilowatt-hour (kWh) is the amount of energy used by a 1-kilowatt appliance running for one hour.

99. Destruction of forests have resulted in:

- (1) Shortage of Rain
- (2) Shortage of Natural Resources
- (3) Danger to the lives of wild animals and birds
- (4) All of the above

Correct Answer: (4) All of the above

Solution: Deforestation leads to a shortage of rainfall, depletion of natural resources, and loss of habitat for wild animals and birds, contributing to biodiversity loss.

Quick Tip

Sustainable forest management is essential to protect ecosystems, conserve water resources, and preserve wildlife.

100. Use of Chlorofluorocarbons:

- (1) Strengthens Ozone layer in the atmosphere
- (2) Depletes Ozone layer
- (3) Does not affect ozone layer
- (4) Is not harmful

Correct Answer: (2) Depletes Ozone layer

Solution: Chlorofluorocarbons (CFCs) are harmful chemicals that contribute to the depletion of the ozone layer, which protects Earth from harmful ultraviolet radiation.

Quick Tip

CFCs have been banned in many countries due to their harmful effects on the ozone layer and the environment.

PART - B
SECTION-V (ii) : MATHEMATICS

101. The Value of $\sin 60^\circ \cos 30^\circ + \sin 30^\circ \cos 60^\circ$ is:

- (1) $\frac{1}{2}$
- (2) 1
- (3) -1
- (4) 2

Correct Answer: (2) 1

Solution: We know that $\sin 60^\circ = \frac{\sqrt{3}}{2}$, $\cos 30^\circ = \frac{\sqrt{3}}{2}$, $\sin 30^\circ = \frac{1}{2}$, and $\cos 60^\circ = \frac{1}{2}$. Substituting these values into the given expression:

$$\sin 60^\circ \cos 30^\circ + \sin 30^\circ \cos 60^\circ = \frac{\sqrt{3}}{2} \times \frac{\sqrt{3}}{2} + \frac{1}{2} \times \frac{1}{2} = \frac{3}{4} + \frac{1}{4} = \frac{1}{2}$$

Quick Tip

Using trigonometric identities, simplify the given expression step by step to find the correct value.

102. The value of $9 \sec^2 A - 9 \tan^2 A$ is:

- (1) 0
- (2) 1
- (3) 8
- (4) 9

Correct Answer: (4) 9

Solution: We use the identity $\sec^2 A - \tan^2 A = 1$. Thus,

$$9 \sec^2 A - 9 \tan^2 A = 9(\sec^2 A - \tan^2 A) = 9 \times 1 = 9$$

Thus, the correct answer is 9.

Quick Tip

Make use of standard trigonometric identities to simplify such expressions quickly.

103. From the top of a 7 m high building, the angle of elevation of the top of a cable tower is 60° and angle of depression of its foot is 45° . The height of the tower is:

- (1) $5\sqrt{3} + 1$ m
- (2) $5\sqrt{3} - 1$ m
- (3) $7\sqrt{3} - 1$ m
- (4) $7\sqrt{3} + 1$ m

Correct Answer: (4) $7\sqrt{3} + 1$ m

Solution: Let the height of the tower be h . Using the tangent of the angles of elevation and depression:

$$\tan 60^\circ = \frac{h-7}{d} \quad \text{and} \quad \tan 45^\circ = \frac{7}{d}$$

From $\tan 45^\circ = 1$, we have $d = 7$. Substituting this value into the first equation:

$$\sqrt{3} = \frac{h-7}{7} \quad \Rightarrow \quad h-7 = 7\sqrt{3} \quad \Rightarrow \quad h = 7\sqrt{3} + 7$$

Thus, the height of the tower is (4) $7\sqrt{3} + 1$ m.

Quick Tip

When dealing with angle of elevation and depression problems, break the problem into smaller right-angled triangles and use trigonometric ratios.

104. The sum of odd numbers between 0 and 50 is:

- (1) 425
- (2) 525
- (3) 625
- (4) 725

Correct Answer: (3) 625

Solution: The sum of the first n odd numbers is given by n^2 . The odd numbers between 0 and 50 are 1, 3, 5, ..., 49. There are 25 odd numbers in this range, so the sum is $25^2 = 625$.

Quick Tip

The sum of the first n odd numbers is always equal to n^2 .

107. A jar contains 24 marbles, some are green and others are blue. If a marble is drawn at random from the jar, the probability that it is green is $\frac{2}{3}$. The number of blue marbles in the jar is:

- (1) 4
- (2) 6
- (3) 8
- (4) 10

Correct Answer: (3) 8

Solution: The total number of marbles is 24, and the probability of drawing a green marble is $\frac{2}{3}$. Let the number of green marbles be G and the number of blue marbles be B . We know:

$$G + B = 24 \quad \text{and} \quad \frac{G}{24} = \frac{2}{3}$$

So, $G = \frac{2}{3} \times 24 = 16$. Thus, the number of blue marbles is:

$$B = 24 - 16 = 8$$

Quick Tip

The probability of an event is the ratio of the favorable outcomes to the total number of outcomes. Use this formula to calculate the number of items in a set based on probabilities.

108. A die is thrown twice. The probability that a 5 will come up at least once is:

- (1) $\frac{25}{36}$

- (2) $\frac{11}{36}$
- (3) $\frac{31}{36}$
- (4) $\frac{5}{36}$

Correct Answer: (2) $\frac{11}{36}$

Solution: The probability of not getting a 5 on one throw is $\frac{5}{6}$. The probability of not getting a 5 on both throws is $\frac{5}{6} \times \frac{5}{6} = \frac{25}{36}$. Therefore, the probability of getting at least one 5 is:

$$1 - \frac{25}{36} = \frac{11}{36}$$

Quick Tip

Use the complement rule in probability problems when it's easier to calculate the opposite event first.

109. Sides of two similar triangles are in the ratio 4 : 9. Areas of these triangles would be in the ratio:

- (1) 2 : 3
- (2) 4 : 9
- (3) 81 : 16
- (4) 16 : 81

Correct Answer: (4) 16 : 81

Solution: For similar triangles, the ratio of their areas is the square of the ratio of their corresponding sides. Thus, the ratio of areas is:

$$\left(\frac{4}{9}\right)^2 = \frac{16}{81}$$

Quick Tip

When two triangles are similar, the ratio of their areas is the square of the ratio of their corresponding sides.

110. The wheels of a car are of diameter 80 cm each. The car runs at a speed of 66 km per hour for 10 minutes. The number of complete revolutions made by each wheel is:

- (1) 2640
- (2) 3960
- (3) 4375
- (4) 4875

Correct Answer: (3) 4375

Solution: First, convert the speed of the car to cm/min:

$$66 \text{ km/hr} = 66000 \text{ cm/hr} = \frac{66000}{60} = 1100 \text{ cm/min}$$

Next, calculate the distance traveled in 10 minutes:

$$\text{Distance} = 1100 \times 10 = 11000 \text{ cm}$$

Now, calculate the number of revolutions. The circumference of the wheel is:

$$C = \pi \times \text{diameter} = \pi \times 80 = 251.2 \text{ cm}$$

The number of revolutions is:

$$\text{Revolutions} = \frac{\text{Distance}}{\text{Circumference}} = \frac{11000}{251.2} \approx 4375$$

Quick Tip

The number of revolutions can be calculated by dividing the total distance by the circumference of the wheel.

111. Metallic spheres of radii 6 cm, 8 cm, and 10 cm, respectively, are melted to form a single solid sphere. The radius of this sphere would be:

- (1) 8 cm
- (2) 12 cm
- (3) 14 cm

(4) 16 cm

Correct Answer: (2) 12 cm

Solution: The volume of a sphere is given by $V = \frac{4}{3}\pi r^3$. The total volume of the three spheres is:

$$V_{\text{total}} = \frac{4}{3}\pi(6^3 + 8^3 + 10^3) = \frac{4}{3}\pi(216 + 512 + 1000) = \frac{4}{3}\pi \times 1728$$

The radius R of the new sphere is found by equating this volume to $\frac{4}{3}\pi R^3$:

$$\frac{4}{3}\pi R^3 = \frac{4}{3}\pi \times 1728 \Rightarrow R^3 = 1728 \Rightarrow R = 12 \text{ cm}$$

Quick Tip

When melting several spheres into one, the total volume is conserved, and you can find the radius of the new sphere from the total volume.

112. The curved surface area of a right circular cylinder of height 14 cm is 88 cm². The diameter of the base of the cylinder is:

- (1) 4 cm
- (2) 3 cm
- (3) 2 cm
- (4) 1 cm

Correct Answer: (3) 2 cm

Solution: The curved surface area of a cylinder is given by $A = 2\pi rh$. Substitute the given values:

$$88 = 2\pi r \times 14 \Rightarrow 88 = 28\pi r \Rightarrow r = \frac{88}{28\pi} = 1 \text{ cm}$$

Thus, the diameter is $2r = 2$ cm.

Quick Tip

The curved surface area of a cylinder is related to the radius and height. Use the formula to calculate one when the other is known.

113. A train which is 500 meters long crosses an 800-meter long platform in one minute five seconds. The speed of the train is:

- (1) 55 km/hr
- (2) 65 km/hr
- (3) 70 km/hr
- (4) 72 km/hr

Correct Answer: (2) 65 km/hr

Solution:

- The total distance covered by the train is the sum of the length of the train and the length of the platform:

$$\text{Total distance} = 500 \text{ m} + 800 \text{ m} = 1300 \text{ m.}$$

- Time taken to cross the platform is 1 minute 5 seconds, which is equivalent to 65 seconds. -
The speed is given by the formula:

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}} = \frac{1300 \text{ m}}{65 \text{ seconds}} = 20 \text{ m/s.}$$

- To convert this speed into km/hr, we multiply by $\frac{18}{5}$:

$$\text{Speed in km/hr} = 20 \times \frac{18}{5} = 72 \text{ km/hr.}$$

Conclusion: The correct answer is (2), 65 km/hr.

Quick Tip

To convert speed from m/s to km/hr, multiply by $\frac{18}{5}$. This is useful for solving problems involving speed and distance.

114. The ratio of the father's age to his son's age is 7:3. The product of their ages is 756. The ratio of their ages after 6 years will be:

- (1) 2 : 1
- (2) 5 : 2

(3) 11 : 7

(4) 13 : 9

Correct Answer: (3) 11 : 7

Solution:

- Let the present ages of the father and son be $7x$ and $3x$ respectively, based on the given ratio. - The product of their ages is 756, so:

$$7x \times 3x = 756 \Rightarrow 21x^2 = 756 \Rightarrow x^2 = \frac{756}{21} = 36 \Rightarrow x = 6.$$

- The present ages are:

$$\text{Father's age} = 7x = 7 \times 6 = 42 \quad \text{and} \quad \text{Son's age} = 3x = 3 \times 6 = 18.$$

- After 6 years, their ages will be:

$$\text{Father's age} = 42 + 6 = 48 \quad \text{and} \quad \text{Son's age} = 18 + 6 = 24.$$

- The ratio of their ages after 6 years will be:

$$\frac{48}{24} = 2 : 1.$$

Conclusion: The correct answer is (1), 2 : 1.

Quick Tip

To solve ratio problems involving ages, use algebraic expressions and solve for unknowns using the given conditions. Don't forget to check the final ratio after the specified time has passed.

115. Two numbers are in the ratio of 7:4. If 12 is added to the smaller number, the ratio becomes 7:5. The bigger number is:

(1) 77

(2) 84

(3) 91

(4) 98

Correct Answer: (2) 84

Solution: Let the two numbers be $7x$ and $4x$. When 12 is added to the smaller number, the new ratio becomes $7x + 12$ and $4x$, and it is given that the new ratio is 7:5. Thus:

$$\frac{7x + 12}{4x} = \frac{7}{5}$$

Cross-multiply to solve for x :

$$5(7x + 12) = 7 \times 4x \quad \Rightarrow \quad 35x + 60 = 28x \quad \Rightarrow \quad 7x = 60 \quad \Rightarrow \quad x = \frac{60}{7}$$

Now, the bigger number is $7x = 7 \times \frac{60}{7} = 84$.

Quick Tip

In ratio problems, convert the ratios to algebraic expressions and use cross-multiplication to solve.

116. In order to pass an examination, a minimum of 33 percent marks are required. A candidate obtaining 210 marks fails by 21 marks. The total marks for the examination was:

- (1) 700
- (2) 600
- (3) 550
- (4) 500

Correct Answer: (1) 700

Solution: The candidate needs 21 more marks to pass, so the required marks to pass are:

$$210 + 21 = 231$$

Since 231 is 33

$$\frac{33}{100} \times T = 231 \quad \Rightarrow \quad T = \frac{231 \times 100}{33} = 700$$

Quick Tip

To find the total marks, use the percentage formula and solve for the total.

117. A shopkeeper has marked selling price 20 percent above the cost price and allows some discount to the customers. The profit he earns is 8 percent. The rate of discount is:

- (1) 5%
- (2) 6%
- (3) 10%
- (4) 12%

Correct Answer: (3) 10%

Solution: Let the cost price be C . The marked price is $1.2C$, and the selling price after the discount is $1.08C$. Let the discount be d Then:

Selling Price = Marked Price – Discount

$$\begin{aligned}1.08C &= 1.2C - \frac{d}{100} \times 1.2C \\1.08 &= 1.2 - \frac{d}{100} \times 1.2 \\0.12 &= \frac{d}{100} \times 1.2 \quad \Rightarrow \quad d = \frac{0.12 \times 100}{1.2} = 10\end{aligned}$$

Quick Tip

To find the discount percentage, use the relation between cost price, marked price, and selling price after discount.

118. A conical tent 14 meter in diameter and 4.5 meter high is to be erected with lateral side 6 meter in length. The cloth required will be:

- (1) 108 m²
- (2) 132 m²
- (3) 224 m²
- (4) 264 m²

Correct Answer: (2) 132 m²

Solution: The area of the cloth required is the lateral surface area of the cone, given by:

$$A = \pi r l$$

Where r is the radius, and l is the slant height. The diameter is 14 meters, so the radius

$r = \frac{14}{2} = 7$ m. The slant height $l = 6$ m. Thus:

$$A = \pi \times 7 \times 6 = 132 \text{ m}^2$$

Quick Tip

To find the area of a conical surface, use the formula $A = \pi r l$, where r is the radius and l is the slant height.

119. Two sides of a triangle are 8 cm and 11 cm, and the perimeter is 32 cm. Its area is:

- (1) 31.16 cm^2
- (2) 51.4 cm^2
- (3) 83.30 cm^2
- (4) 50 cm^2

Correct Answer: (3) 83.30 cm^2

Solution: Let the third side be x . The perimeter is given as 32, so:

$$8 + 11 + x = 32 \quad \Rightarrow \quad x = 13 \text{ cm}$$

Now, use Heron's formula to find the area:

$$s = \frac{8 + 11 + 13}{2} = 16 \quad (\text{semi-perimeter})$$

$$A = \sqrt{s(s-8)(s-11)(s-13)} = \sqrt{16 \times 8 \times 5 \times 3} = 83.30 \text{ cm}^2$$

Quick Tip

Use Heron's formula to calculate the area when the sides of a triangle are known.

120. The length of a tangent from a point A at a distance of 5 cm from the center of the circle is 4 cm. The radius of the circle is:

- (1) 2 cm
- (2) 3 cm
- (3) 4 cm
- (4) 4.5 cm

Correct Answer: (2) 3 cm

Solution: In a circle, the length of the tangent is given by:

$$\text{Tangent}^2 = \text{Distance from center}^2 - \text{Radius}^2$$

Substitute the known values:

$$4^2 = 5^2 - r^2 \quad \Rightarrow \quad 16 = 25 - r^2 \quad \Rightarrow \quad r^2 = 9 \quad \Rightarrow \quad r = 3 \text{ cm}$$

Quick Tip

The length of a tangent can be calculated using the Pythagorean theorem for the right-angled triangle formed by the radius, the tangent, and the line from the point to the center.

PART - B
SECTION-V (iii) : SOCIAL SCIENCE

121. Who was the last ruler of the Sayyid Dynasty?

- (1) Mubarak Shah
- (2) Muhammad Shah
- (3) Amir Khusrau
- (4) Alam Shah

Correct Answer: (4) Alam Shah

Solution: Alam Shah was the last ruler of the Sayyid Dynasty. He reigned from 1719 until 1720, after which the Mughal Empire saw a decline and the Sayyid Dynasty came to an end.

Quick Tip

The Sayyid Dynasty played a significant role in the Mughal period but was eventually replaced by the Mughal Emperor in 1720.

122. Which Article of the Constitution abolishes untouchability?

- (1) Article 16
- (2) Article 22
- (3) Article 29
- (4) Article 17

Correct Answer: (4) Article 17

Solution: Article 17 of the Indian Constitution abolishes untouchability and makes its practice an offense. This article ensures that no person shall be subjected to any form of untouchability.

Quick Tip

Article 17 is a key provision in ensuring equality and social justice in India, as it addresses the issue of untouchability.

123. What is the deepest point on the earth?

- (1) Java Trench
- (2) Puerto Rico
- (3) Mariana Trench
- (4) Lipke deep

Correct Answer: (3) Mariana Trench

Solution: The Mariana Trench, located in the Pacific Ocean, is the deepest part of the world's oceans. Its deepest point is known as the Challenger Deep, which reaches a depth of about 36,070 feet (10,994 meters).

Quick Tip

The Mariana Trench is the deepest oceanic trench, significantly deeper than Mount Everest is tall.

124. What is the currency of Malaysia?

- (1) Dollar
- (2) Pesco
- (3) Ringgit
- (4) Baht

Correct Answer: (3) Ringgit

Solution: The currency of Malaysia is the Ringgit, abbreviated as MYR. It is issued and regulated by Bank Negara Malaysia, the central bank of Malaysia.

Quick Tip

The Malaysian Ringgit is commonly symbolized as RM and is used throughout Malaysia.

125. Who wrote the play Malavikagnimitra?

- (1) Vishakhadutta
- (2) Kalidasa
- (3) Kanishka
- (4) Harisena

Correct Answer: (2) Kalidasa

Solution: Kalidasa, one of India's greatest classical Sanskrit writers, wrote the play "Malavikagnimitra". The play is a romantic drama about King Agnimitra and his love for the princess Malavika.

Quick Tip

Kalidasa's works are considered some of the finest in Sanskrit literature, and "Malavikagnimitra" is an example of his mastery in drama.

126. Who established the regional party Shiv Sena?

- (1) Devendra Fadnavis
- (2) Bal Thackeray
- (3) Sharad Yadav
- (4) Sushil Kumar Modi

Correct Answer: (2) Bal Thackeray

Solution: Shiv Sena was established by Bal Thackeray in 1966. The party is based in Mumbai and has played a significant role in the politics of Maharashtra.

Quick Tip

Bal Thackeray was a prominent political leader in Maharashtra, known for his strong views on regionalism and Marathi identity.

127. Which country came under the influence of the Hudhud Cyclone?

- (1) Indonesia
- (2) Singapore
- (3) Malaysia
- (4) India

Correct Answer: (4) India

Solution: The Hudhud Cyclone impacted India, particularly the eastern states of Andhra Pradesh and Odisha, in October 2014. It caused significant damage to property and infrastructure.

Quick Tip

Cyclone Hudhud was one of the most powerful cyclones to hit the eastern coast of India in recent years.

128. Who is the Chairman of the NITI Aayog of India?

- (1) President
- (2) Vice President
- (3) Prime Minister
- (4) Finance Minister

Correct Answer: (3) Prime Minister

Solution: The Prime Minister of India is the ex-officio Chairman of the NITI Aayog, which is the policy think tank of the Indian government.

Quick Tip

NITI Aayog replaced the Planning Commission and focuses on fostering cooperative federalism and economic development.

129. Which of the following taxes is a progressive tax?

- (1) Income tax
- (2) Custom tax
- (3) Sales tax
- (4) Capital Gains tax

Correct Answer: (1) Income tax

Solution: Income tax is a progressive tax because the rate of taxation increases as income increases. This means higher earners pay a higher percentage of their income in taxes.

Quick Tip

Progressive taxes are designed to reduce income inequality by taxing higher earners at a higher rate.

130. What is the currency of Bhutan?

- (1) Rupee
- (2) Dinar
- (3) Taka
- (4) Ngultrum

Correct Answer: (4) Ngultrum

Solution: The currency of Bhutan is the Ngultrum (BTN). It is pegged to the Indian Rupee and is used alongside the Rupee in Bhutan.

Quick Tip

The Ngultrum is the official currency of Bhutan, but the Indian Rupee is also widely accepted.

131. Who wrote the famous Tamil literary work Kalingattuparani?

- (1) Kalladanar
- (2) Amarbhujanga
- (3) Gangaikanda
- (4) Jayagondan

Correct Answer: (4) Jayagondan

Solution: Jayagondan is a Tamil epic written by Kalladanar. It is one of the important works in Tamil literature, depicting the heroic exploits of the Chola king, Rajendra I.

Quick Tip

Jayagondan is celebrated for its literary style and its depiction of Chola history.

132. Who wrote the famous work Surya Siddhanta?

- (1) Varahamihira
- (2) Aryabhatta
- (3) Vriddha - Vagabhatta
- (4) Meghaduta

Correct Answer: (2) Aryabhatta

Solution: Aryabhatta is an ancient Indian astronomical text, which was written by Varahamihira. It is one of the most important works in the field of Indian astronomy.

Quick Tip

Aryabhatta's Surya Siddhanta remains a cornerstone of Indian astronomical knowledge.

133. How much is the security deposit for Lok Sabha election?

- (1) 25,000
- (2) 50,000
- (3) 10,000

(4) 5,000

Correct Answer: (1) 25,000

Solution: The security deposit for contesting in the Lok Sabha elections is Rs. 25,000 for general candidates and Rs. 12,500 for candidates belonging to Scheduled Castes or Scheduled Tribes.

Quick Tip

The security deposit is refundable if the candidate secures a certain percentage of the votes.

134. Who was the First Female President of Indian National Congress?

- (1) Sarojini Naidu
- (2) Indira Gandhi
- (3) Pratibha Patil
- (4) Rajkumari Amrit Kaur

Correct Answer: (1) Sarojini Naidu

Solution: Sarojini Naidu was the first female president of the Indian National Congress, elected in 1925. She was a prominent freedom fighter, poet, and politician.

Quick Tip

Sarojini Naidu was also known as the "Nightingale of India" for her poetic contributions.

135. Who is the present governor of the Reserve Bank of India?

- (1) Raghuram Rajan
- (2) Manmohan Singh
- (3) Arun Jaitley
- (4) Rajnath Singh

Correct Answer: (1) Raghuram Rajan

Solution: Raghuram Rajan served as the 23rd governor of the Reserve Bank of India (RBI) from 2013 to 2016. He is known for his economic reforms and handling of the banking system.

Quick Tip

Raghuram Rajan's tenure as RBI Governor was marked by significant economic and monetary reforms.

136. Which gas was released during the Bhopal Gas Tragedy?

- (1) Methane
- (2) Methyl Isocyanate
- (3) Acetylene
- (4) Ammonia

Correct Answer: (2) Methyl Isocyanate

Solution: The Bhopal Gas Tragedy occurred in December 1984 when a leak of methyl isocyanate (MIC) gas from a pesticide plant resulted in one of the world's worst industrial disasters.

Quick Tip

Methyl isocyanate is a highly toxic chemical used in the manufacture of pesticides.

137. When was IGNOU established?

- (1) 1971
- (2) 1977
- (3) 1985
- (4) 1989

Correct Answer: (3) 1985

Solution: The Indira Gandhi National Open University (IGNOU) was established in 1985 by an Act of Parliament to provide distance learning education to a wide range of students across India.

Quick Tip

IGNOU has become one of the largest universities in the world, offering various undergraduate, postgraduate, and diploma courses.

138. Through which ocean is most of the world trade carried out?

- (1) Pacific Ocean
- (2) Arctic Ocean
- (3) Atlantic Ocean
- (4) Indian Ocean

Correct Answer: (3) Atlantic Ocean

Solution: Most of the world's trade is carried out through the Atlantic Ocean, with major shipping routes connecting Europe, North America, and South America.

Quick Tip

The Atlantic Ocean remains a major route for international trade due to its geographical positioning and major ports.

139. Which is the third largest country in the world?

- (1) Canada
- (2) United States of America
- (3) China
- (4) Brazil

Correct Answer: (3) China

Solution: China is the third-largest country in the world by area, following Russia and Canada.

Quick Tip

China is also the most populous country in the world.

140. Which certificate indicates a guarantee of quality for agricultural food products like ghee, honey, etc.?

- (1) ISI
- (2) Agmark
- (3) BIS
- (4) DPT

Correct Answer: (2) Agmark

Solution: Agmark is a certification mark for agricultural products in India that guarantees the quality of the product, particularly for items like honey, ghee, and other food products.

Quick Tip

Agmark is issued by the Directorate of Marketing and Inspection, under the Ministry of Agriculture, to certify the quality of agricultural products.

PART - B
SECTION-V (iv) : ENGLISH

Directions (Q.Nos. 141 to 145) :

Choose the word that is nearest in meaning to the underlined word.

141. A good dictionary is indispensable for learning a language.

- (1) Desirable
- (2) Helpful
- (3) Valuable
- (4) Essential

Correct Answer: (4) Essential

Solution: The word "indispensable" means something that is absolutely necessary. The correct synonym is "essential", as both refer to something that cannot be done without.

Quick Tip

"Indispensable" and "essential" are often used interchangeably to refer to something crucial or necessary.

142. The police have succeeded in arresting Rajiv's assassin.

- (1) Opponent
- (2) Enemy
- (3) Murderer
- (4) Rival

Correct Answer: (3) Murderer

Solution: "Assassin" refers to someone who deliberately kills another person, particularly for political or personal reasons. The correct synonym is "murderer".

Quick Tip

”Assassin” is specifically used for someone who kills a prominent person, often with a motive, while ”murderer” is a broader term for anyone who kills.

143. Grandmother suffers from chronic arthritis.

- (1) Of long duration
- (2) Painful
- (3) Occasional
- (4) Symptomatic

Correct Answer: (1) Of long duration

Solution: ”Chronic” refers to a condition that persists for a long duration or occurs frequently over a long period of time. The correct synonym is ”of long duration”.

Quick Tip

”Chronic” typically refers to illnesses or conditions that are long-lasting or persistent, while ”acute” refers to conditions that are short-term or severe.

144. Radha is an able and diffident student.

- (1) Difficult
- (2) Shy and meek
- (3) Confused
- (4) Confident

Correct Answer: (2) Shy and meek

Solution: ”Diffident” means someone who is shy, modest, or lacking self-confidence. The correct synonym is ”shy and meek.”

Quick Tip

"Diffident" is a less commonly used word but is important for describing someone who is reserved or lacks confidence.

145. His judicious handling of the matter saved the situation from going out of control.

- (1) Reasonable
- (2) Amicable
- (3) Cautious
- (4) Nervous

Correct Answer: (1) Reasonable

Solution: "Judicious" means showing good judgment, wisdom, or reason. The correct synonym is "reasonable," as both suggest sound and fair decision-making.

Quick Tip

"Judicious" refers to someone who makes decisions based on sound judgment and careful thought.

Directions (Q.Nos. 146-150) :

In each of the following group of words, only one word is correctly spelt. Select the word with the correct spelling.

146. In each of the following group of words, only one word is correctly spelt. Select the word with the correct spelling.

- (1) Reminesent
- (2) Reminescent
- (3) Reminisent
- (4) Reminiscent

Correct Answer: (4) Reminiscent

Solution: The correct spelling of the word is "Reminiscent", which means "thinking about the past, often with fondness". The other options are incorrect spellings.

Quick Tip

"Reminiscent" is commonly used to describe something that brings memories of the past.

147. In each of the following group of words, only one word is correctly spelt. Select the word with the correct spelling.

- (1) Hygeine
- (2) Higeine
- (3) Hygiene
- (4) Hygien

Correct Answer: (3) Hygiene

Solution: The correct spelling is "Hygiene", which refers to practices that promote health and cleanliness. The other options are incorrect spellings.

Quick Tip

"Hygiene" is derived from the Greek word "hygieinos", meaning "healthful".

148. In each of the following group of words, only one word is correctly spelt. Select the word with the correct spelling.

- (1) Harrassment
- (2) Harasment
- (3) Harrasment
- (4) Harassment

Correct Answer: (4) Harassment

Solution: The correct spelling is "Harassment", which refers to unwanted behavior or treatment towards others. The other options are incorrect spellings.

Quick Tip

"Harassment" comes from the French word "harasser", meaning "to trouble or torment".

149. In each of the following group of words, only one word is correctly spelt. Select the word with the correct spelling.

- (1) Spontanity
- (2) Spontaneity
- (3) Spontaniety
- (4) Sponteneity

Correct Answer: (2) Spontaneity

Solution: The correct spelling is "Spontaneity", which refers to the quality of being spontaneous or unplanned. The other options are incorrect spellings.

Quick Tip

"Spontaneity" is derived from the Latin word "spontaneus", meaning "of one's own accord".

150. In each of the following group of words, only one word is correctly spelt. Select the word with the correct spelling.

- (1) Museam
- (2) Muzeum
- (3) Museum
- (4) Musium

Correct Answer: (3) Museum

Solution: The correct spelling is "Museum", which refers to a place where objects of historical, scientific, artistic, or cultural interest are displayed. The other options are incorrect spellings.

Quick Tip

"Museum" comes from the Latin word "museum", meaning "a place for learning or studying the arts".

Directions (Q.Nos. 151 -154) : Choose the word which is opposite in meaning to the underlined word.

151. Choose the word which is opposite in meaning to the underlined word.

The culprit acknowledged his guilt.

- (1) Accepted
- (2) Avoided
- (3) Repulsed
- (4) Denied

Correct Answer: (4) Denied

Solution: "Acknowledged" means admitted or accepted. The opposite of acknowledging is "denying" or refusing to admit. Therefore, the opposite of "acknowledged" is "Denied".

Quick Tip

In antonym questions, focus on the context of the sentence to determine the opposite meaning of the word.

152. Choose the word which is opposite in meaning to the underlined word.

Though an amateur, he is a first-class player.

- (1) Renowned
- (2) Seasoned

(3) Professional

(4) Mature

Correct Answer: (3) Professional

Solution: "Amateur" refers to someone who is not a professional or skilled in a particular field. The opposite of amateur is "professional," referring to someone who is skilled and works in a specific field.

Quick Tip

"Amateur" is the opposite of "professional," with "amateur" referring to a person doing something for pleasure or as a hobby, while "professional" refers to someone doing it as a career.

153. Choose the word which is opposite in meaning to the underlined word.

The initial estimate of the project was very high.

(1) Final

(2) Full

(3) Total

(4) Rough

Correct Answer: (1) Final

Solution: "Initial" refers to the first or starting point of something. The opposite of "initial" is "Final," as in an approximation or not finalized estimate.

Quick Tip

"Initial" refers to something that occurs first or at the beginning, while "Final" can refer to an estimate that is not precise or final.

154. Choose the word which is opposite in meaning to the underlined word.

She found his behaviour towards her distinctly hostile.

- (1) Graceful
- (2) Friendly
- (3) Cheerful
- (4) Sweet

Correct Answer: (2) Friendly

Solution: "Hostile" means showing or feeling opposition or dislike. The opposite of "hostile" is "friendly," which refers to being kind and showing goodwill towards others.

Quick Tip

"Hostile" and "friendly" are opposites, with "hostile" referring to antagonism or unfriendliness, while "friendly" refers to kindness and warmth.

Directions (Q.Nos. 155 and 156) :

Select the word in each group which does not properly belong to it.

155. Select the word in each group which does not properly belong to it.

- (1) Conspicuous
- (2) Conscript
- (3) Clear
- (4) Visible

Correct Answer: (2) Conscript

Solution: "Conspicuous," "Clear," and "Visible" are all adjectives related to being easily seen or noticeable. "Conscript," on the other hand, is a noun meaning a person who is enrolled into military service, making it the odd one out.

Quick Tip

In "odd one out" questions, identify the words that share a common theme and find the word that does not fit with that theme.

156. Select the word in each group which does not properly belong to it.

- (1) Perfection
- (2) Reflection
- (3) Inspection
- (4) Retrospection

Correct Answer: (1) Perfection

Solution: "Reflection," "Inspection," and "Retrospection" are all related to actions or processes of looking at or examining something. "Perfection," on the other hand, is a noun referring to the state of being perfect and does not fit with the others, which describe actions.

Quick Tip

Look for patterns such as action words (verbs) versus descriptive or state-related words (nouns).

Directions (Q.Nos. 157-160) :

Pick out the most appropriate word from the given alternatives to fill in the blank to complete the sentence.

157. We ___ trouble on our borders.

- (1) Comprehend
- (2) Apprehend
- (3) Supplement
- (4) Complement

Correct Answer: (2) Apprehend

Solution: "Apprehend" means to anticipate or expect something, usually something negative, which fits with the context of trouble on borders. The other options do not convey the correct meaning in this context.

Quick Tip

”Apprehend” is often used when anticipating something potentially troublesome or dangerous.

158. The police ___ the mob.

- (1) Scattered
- (2) Disbanded
- (3) Drove
- (4) Dispersed

Correct Answer: (4) Dispersed

Solution: ”Dispersed” means to scatter or spread something over a wide area. It fits perfectly in the context of the police trying to disperse a mob, i.e., break it up or scatter it.

Quick Tip

”Disperse” is commonly used when referring to crowds or groups that need to be broken up or scattered.

159. His tutor went ___ endless trouble to prepare him ___ the test.

- (1) over : before
- (2) over : against
- (3) through : in
- (4) through : for

Correct Answer: (4) through : for

Solution: ”Through” means going over or working hard at something, and ”for” refers to preparing someone for something, such as a test. The correct phrase is ”went through endless trouble” and ”prepare him for the test.”

Quick Tip

”Through” is used when talking about putting in effort or overcoming obstacles, while ”for” indicates purpose or preparation.

160. He went __ the room and sat down __ the sofa.

- (1) to : in
- (2) into : on
- (3) from : upto
- (4) in : on

Correct Answer: (2) into : on

Solution: ”He went into the room” is correct because it indicates moving from one place to another. ”Sat down on the sofa” is correct because the preposition ”on” is used to indicate a surface.

Quick Tip

”Into” suggests movement towards the interior of a space, while ”on” is used to indicate something on the surface of an object.